SCALE AND LOCATIONAL EFFECTS ON TOURISM MULTIPLIERS
Tourism and Regional Development in Indonesia

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ABSTRACT

The purpose of this research is to examine the influence of scale and location on the multiplier values associated with tourism expenditure in each of the regions of Indonesia. Furthermore, various factors are examined that determine the economic impacts of tourism to better understand how scale of accommodation and location can be used as a conceptual framework to help comprehend the patterns and interactions across regions.

These concepts may be used to reveal the complexities underlying the fundamental structures in developing countries to show to what extent development facilitates tourism, and to what extent tourism encourages development.

The specific objectives of the research are as follows:

1. To examine the effects of scale of accommodation on the multiplier values within the framework of similarities and differences in the levels of development, density and accessibility in the regions. The results can be used to identify the factors that influence the economic impact of tourism.

   This perspective examines tourism not only as a source of demand but also the simultaneous relationship between supply and demand within the intersectoral linkages of the national-regional Indonesian economic structure.

2. To examine the locational effects on the characteristics of multiplier values associated with tourism within the core-periphery relationship of the 27 regions of Indonesia.

   The study analyses the different locations of these regions as tourism destinations and compares how they act as a mediating absorption force for tourism's contribution to regional development.

3. To determine the characteristics of the economic impact of tourism in order to aid regional development planning with a better understanding of the concept of intersectoral and interspatial systems by treating tourism in a holistic manner and putting it in a broader context.

Tourism, similar to other export industries, involves intersectoral activities, which is based on the recognition that the various sectors that make up the structure of the economy are interdependent. What makes tourism a unique phenomenon compared to other consumer-production relationships is that tourists must travel to the location of the destination in order to consume its product. It is this essential characteristic of tourism that ensures that it has a simultaneous effect not only on economic but also social, environmental and cultural structures in the region concerned. However, the impacts on environment and socio-cultural matters are outside the scope of the thesis.

Due to these complex realities, tourism in developing countries can not be approached only in terms of master planning or marketing, rather it is fundamentally a problem of development.

The main findings of this research indicate that each region has its own regional differentiation and unique characteristics. These differences involve location or accessibility, proximity to the centres of economic activities, regional economic structures, type and characteristics of tourist activities, and spending patterns.

These findings seem to confirm the combined input/output and deductive gravity principles whereby the effects of interlinkages and interspatial factors are strongly intertwined in determining multiplier values of tourism across regions.

In brief, the less developed the regions, and the farther the accessibility from the centre, the smaller the resulting multiplier values. There is a concept of 'absorption' involved in these relationships, in that multiplier values are gradually absorbed in proportion to flow per unit of economic distance. This evidence suggests that tourism in Indonesia is strongly related not only to development disparities but also to locational constraints.

It is hoped that these findings, which offer an understanding of the contribution of scale and location in tourism and regional development, may help address national and regional tourism development policy-making and strategies in developing countries.

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Scale, location and interdependency are all important concepts not only in tourism, but also in all aspects of human life. I am very proud to have had this opportunity to learn more about this area of knowledge within the specific context of tourism and development in Indonesia. Tourism has brought a multi-dimensional aspect to the quality of Indonesia's overall national development, its culture, and its people – beyond economic calculation and moving into the realm of spirit. This interaction between people has brought a multitude of cross-cultural benefits to Indonesia that are not easy to measure, but are valued nonetheless.

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PART ONE

GENERAL INTRODUCTION

CHAPTER 1. INTRODUCTION

1.1 Background

The relationship between tourism and regional development is a complex phenomenon. It can be defined and viewed from different ways and several perspectives but essentially they are basically derived from the two core concepts: tourism and development.

The varied meanings offered by the word 'development' highlight the many ways in which development has been used, and the numerous interpretations that continue to be given to it. However, much of the literature on tourism and development has largely focused on developing countries, with an emphasis on the interrelationships between development and underdevelopment. The core emphasis in this interrelationship has focused on developed and central regions becoming enriched at the expense of underdeveloped or peripheral regions (Mabogunje, 1980; Lea, 1988; Pearce, 1989; Gartner, 1996).

The later application of the concept of tourism within the context of development brings forth the need to incorporate benefits as an integral part of the development process or state. Thus, the emphasis has moved more towards development as a socio-economic transformation within the total spectrum of society rather than simply economic growth per se. Incorporating the concept of 'distributional justice' (Mabogunje, 1980) is considered an important strategy in order to narrow the gap within regions.

In short, this is where it is recognised that there is a need for a simultaneous *regional approach* within the goals and framework of broader national development.

Tourism may constitute a powerful strategy for regional development in many developing countries for a variety of reasons especially where the main objectives are concerned with addressing the main issues of *narrowing the gap* in the broadest sense between different levels of development across regions. Tourism may be considered to serve as a strategic means to redistribute benefits from higher developed or more central regions, to peripheral regions. For these reasons, both national and regional government authorities include tourism as one of their main strategies to address their regional development goals and objectives (De Kadt, 1979).

However, the relationship between tourism and regional development is a complex one. On the one hand, tourism can function to distribute benefits and stimulate sectoral interdependence into less developed regions' economies. However, on the other hand, tourism may also have the power to create leakages and dependencies on external inputs from more developed regions.

Tourism leakages can occur at a regional as well as national level, and the degree of these leakages in the region is determined by a number of key factors, including the relationship between the nature and level of the regional development itself; the level of accessibility or locational constraints of the region; and the nature and density of tourist activities.

It may be argued that, in regions where most of the input required can be provided from within the region itself through the networks of regional entrepreneurs supplying goods and services, many of tourism's benefits will remain within the region concerned.

Conversely, tourism in regions where tourist development depends primary on external inputs for capital, labour, technology, resources, expertise and infrastructure, then leakages from regional economies can be very high and may lead to dependence. This dependence, if it occurs over a longer term, can lead to regional instability and imbalances, rather than generate development.

In developing countries, where regional levels of development vary and they are often characterised by disparities and imbalances, the role of tourism, as an external force, becomes even more essential. This is especially true with the trend towards an increasing scale of tourism of enterprises in key sectors such as accommodation, which in turn reflects the increasing diversity of different sectors in the tourism industry. Due to these complex realities, tourism in developing countries can not be approached just in the narrow terms of master planning and marketing, it is fundamentally a problem of development.

Moreover of all export sectors that developing countries may attempt, the relationship between tourism and development is unique. This is because tourism involves a wider spectrum of intersectoral activities, which is based on the recognition that the various sectors that make up the structure of the economy are interdependent. All export industries share this characteristic, but only with tourism must the consumer visit the destination in order to consume. It is this essential characteristic of tourism that ensures it has a simultaneous interaction on not only economic but also social and cultural structures in the region concerned (Fletcher, 1989; Archer & Fletcher, 1990; Fletcher and Latham, 1990; and Fletcher & Archer, 1991).

Given its composite and multi-faceted nature, examination of aspects of tourist development involves a disaggregate approach, one in which the elements and agents of development in the regions or with regard to a specific location and scales which form tourism in the regions are decomposed and then reconstructed. It is essential, therefore, to recognise the composite nature of tourism and the multiplicity of all players involved in its development, in order to understand how tourism behaves itself within the national-region relationship.

Using Indonesia with its twenty seven regions (provinces) as a study area, scale and locational effects of the generation of multiplier values in each region as well as nationally are assessed. It is hoped that the findings will be useful for a broader and more complete understanding not only of tourism development in Indonesia, but elsewhere where similar issues may be faced.

It is hoped that these findings may be applied to other developing countries facing similar challenges of interregional development and with regions dependent on tourism to varying degrees.

1.2 Objectives

The purpose of this research is to examine the effects of scales of accommodation and location of tourism destinations on the characteristics of multiplier values across regions. Furthermore, factors are examined that determine the economic impacts of tourism and used to develop a theory concerning how scale and location of tourism establishments, used as a conceptual framework, can help reveal the patterns and interactions across regions. As well, the framework will enable an examination of the variety of development characteristics at various levels of regional development within Indonesia.

These concepts may be used to reveal and better understand the complexities underlying the fundamental structures showing to what extent development facilitates tourism, and to what extent tourism encourages development.

The objectives of the research are as follows:

1. To examine the influences of scale and location on the multiplier values associated with tourism expenditure in each of the regions of Indonesia. This is carried out within the frameworks of similarities and differences of the levels of development, tourism density and accessibility in the regions. The results can be used to identify the factors that influence economic impact of tourism. This perspective examines tourism not only as a source of demand but also the interrelationship between supply and demand as well as the intersectoral linkages within the structure of the Indonesian economy.
2. To examine the locational effects on the characteristics of multiplier value generation within the core-periphery relationship. The study reveals whether different levels of locations of regions of tourism destinations can act as a mediating absorption force on how the economic impact of tourism can contribute to regional development.
3. To determine the characteristics of the economic impact of tourism in order to aid regional development planning with a better understanding of the concept of intersectoral and interspatial systems by treating tourism in a holistic manner and putting it in a broader context.

1.3 Relevance to the Literature

What is the proper sequence of development and tourism? Should development precede tourism, or vice versa? It is a complex issue to understand to what extent the level of development facilitates tourism and to what extent tourism encourages development. A review of the research literature indicates that the relationship between tourism and development in developing countries is a phenomenon that has undergone a process of metamorphosis.

In terms of tourism, the second half of the 20th century can be broadly portrayed as the era of mass tourism with modern and large scale international tourism systems. For developing countries, tourism has been viewed as a powerful catalyst for economic development and social change. As we approach the 21st century, tourism is more characterised by movement towards segmented markets including a new era of global awareness which underlies the concept of "putting local people first" as a central notion of an alternative form of development.

This new framework has a series of implications for the development of tourism in developing countries which have usually been centrally planned and are now moving towards decentralisation to the regional level.

A review of the research literature indicates that in the era of mass tourism, the relationship between tourism and development was seen to be a positive one; more tourists will generate more development and then more development will generate more tourists and so forth (Sessa, 1983; Pye and Lin 1983).

To examine what is meant by the term 'development', it is necessary to define economic development as a whole before turning to tourism development in particular. Economic development is economic growth (an increase in per capita output) which leads to an improvement in the economic welfare of the poorest segment of the population; a decrease in agriculture's share of total output; an increase in the educational level of the labour force; and indigenous technological change (Nafziger, 1990).

For most large developing countries, a key government goal is usually to improve the economic welfare of its population throughout the various regions of the country in an equitable manner. Therefore, many policy-makers have come to view tourism as a vital tool for regional development. This is because the economic effects of tourism development in a region can be seen in the creation of job opportunities; an increased standard of living through jobs with higher pay; infrastructure improvement; various spill-over benefits; and foreign exchange inflow.

Development has theoretically been considered to be both a process and a state (Pearce, 1989). In terms of tourism development as a process, the emphasis is on the way which tourism develops or evolves. Tourism, however, might also be seen as a means of development in a much broader sense--the path to achieve some state or conditions (Voughan, 1977, De Kadt, 1979; Pearce, 1989).

In this study, the relationship between tourism and development seen as a process and a state is examined simultaneously through the interplay of both external linkages and internal linkages.

This view has been elaborated by a number of researchers who have felt that tourism as an industry should be critically viewed not only from the perspective of economic contribution but also the opportunity costs of its development (Williams and Shaw, 1988; Singh, Theuns and Go, 1989).

A series of issues that should be considered in developing strategies of tourism development have been put forward including: *structural constraints* (Diamond, 1974; Nafziger,1990; Harrison, 1992 and Hitchcock, King and Parnwell, 1993), *political economy, leakages, dependency generation, cultural complexities* (Rodernburg, 1980; Seers, 1981; Britton, 1982 and 1987; Lea 1993) as well as a lack of vision regardingg the external characteristics of tourism (Jenkins, 1982; and 1991; Witt, Brooke and Buckley, 1991).

Based on this theoretical framework, the relationship between tourism and development is more than linear and one-dimensional. It is multidimensional in that tourism may play a different role in different regions.

Throughout the history of economic change in Indonesia, the driving force has consistently been neither local trade nor local manufacture but rather linkages with external trade including flow of goods, services, capital, information and foreign exchange earnings (Geertz, 1963). In this research study, therefore, tourism as a service export activity is an ideal case to be studied as a form of these external linkages within larger interregional systems.

Tourism will be viewed as a function of the differentiation found between economic linkages within an interregional system. A certain level of differentiation of regional development must take place in order for interregional and intersectoral trade to develop, and tourism will play its own role in this dynamic structure.

However, from a national development planning point of view, there is a need for the regions to encourage the internal linkages among themselves in order that tourism generates development instead of leading to more dependency.

It is very important, therefore, to balance the interdependencies within the system of the internal linkages so that each region develops economically according to its own internal resources and characteristics. Ideally from a national development perspective, no one region should develop at the expense of another but rather they should have complementary activities.

The importance of tourism with its external linkages contributing to the socio-cultural and economic structure of communities is apparent. It therefore follows that the factors initiating growth and determining its extent are export-based factors. The process of regional development can be seen as a response to the demand for products and services arising outside the region itself. However, internal linkages that occur are seen primarily as an evolution of resource specialisation within the interregional economic system as well as the socio-cultural conditions of each region.

In order to reveal the complex nature of these linkages, an analytical model based on a combination of input-output and gravity principles is used to illustrate the way tourism fits into the regional economic structure. This framework helps not only to determine the research problem but also to identify the main variables of the research. These include the level of tourism development, level of accessibility in the region, regional differentiation in terms of characteristics of tourism economic impact, and the characteristics of tourism development.

1.4 Methodological Approach

Given this framework, the methodology used will be based largely on quantitative data but complemented by some qualitative appraisal. The quantitative aggregate data is statistical in nature and complemented by qualitative approaches that include in-depth interviews, observations and previous studies, or policy reviews with key players both from the public and privates sectors.

Three independent variables are constructed from statistical data as factors that influence the development of tourism. These are the levels of development, density and accessibility across regions.

The two dependent variables used are the characteristics of multiplier values and tourism development characteristics. The multiplier values analysed in the thesis are income, employment, government revenue, output, and imports. Development characteristics for the three different scales of accommodations (hotels, bungalows and homestays) are reflected by intensity, quality and progress of development.

In developing countries, tourism accommodation becomes one of the most tangible components and visible symbols in representing tourism activity. Therefore, an assessment of accommodation's role is an important starting point in order to evaluate the contribution of tourism to the economy. The economics of scale of the accommodation actually closely reflects the general condition of regional development and economy where the sector is located.

The above variables can be described as follows:

- *Level of Development*

The degree to which tourism functions as an agent of development depends upon a wide range of economic activities and whether the region can supply a greater proportion of goods and services required which can function as import substitutions for the tourism industry. The economic indicators were measured through the regional degree of GDP rate without/with oil production; productivity rate of change; tourism related investment rate; and regional mobility rate.

The socio-cultural indicators were measured as population per square kilometre of the province; degree of education levels; degree of industrial labour force; degree of access to information such as TV, radio networks and newspapers; and cultural activities or cultural institutions/associations.

These indicators were used to classify the 27 provinces into three groups -- high, medium and low level of development, based on the proximity to the distribution mean. In order to make sure that these limits are not arbitrary, a t-test of difference of group means of the provinces was conducted so that the indicators chosen were statistically significant.

- *Level of Accessibility*

The accessibility level is constructed as a function of economic distance represented by two indicators: the average price and time of air access both from and to the five main international gateways in the country to the 27 regions in Indonesia. The accessibility level is used to classify the type of provinces into three groups: high, medium and low level of accessibility.

As Indonesia is an archipelago, air access was chosen as the key factor in the accessibility level rather than sea travel. This was due to the small percentage of total visitor arrivals by sea and land (less than 10% of the annual total, with the exception of the Batam-Singapore link which reflects special conditions) and the data availability across regions.

- *Level of Tourism Density*

The level of tourism density measures the scale of tourism activities in each province proportional to the total population in each province, and its distribution within each province.

To calculate this, the number of annual visitor nights in various scales of accommodation is divided by the provincial population nights in each province. This latter term refers to the total provincial population x 365, a scale that assumes the population are resident for the year in the province.

To assess the dispersion of tourism development within each province, the number of people living within each province's tourism development zones are calculated relative to the amount of people living within the same province's leading economic growth centre.

This construction of the level of tourism density involves data such as: number of annual foreign visitor nights in various types of accommodation; length of stay; and total population in each of the 27 provinces in Indonesia.

Two dependent variables are measured in the following areas:

- *Characteristics of Tourism Multiplier Values*

Given the different levels of development, accessibility and density for each region, it is essential to analyse the characteristics of economic impacts of tourism which exist between various economic sectors in each type of region.

This approach assesses the characteristics of economic impact of tourism on income, employment, public sector revenue, output and imports. The impact assessment is based on the Input-Output model, which is used as the basis of the multiplier analysis. Multiplier values will vary from region to region due to the different levels of economic development and the sectoral diversity of the regional economies. The development characteristics of each region are used in an attempt to explain such differences in multiplier values.

- *Characteristics of Tourism Development*

The characteristics of tourism development in each province will be measured through the following data:

- The average number of rooms per hotel multiplied by the number of hotels in each category, which represents the scale of the superstructure
- The growth of hotel rooms within a 10-year time frame (1984-1994), which represents the dynamics of the establishment of tourism within the province.
- The percentage of higher star-rated accommodation over total numbers of rooms, which represents an indicator of the level of the quality of tourism development.

These three variables will be analysed using multiple regression analysis together with the characteristics of each province in order to do comparison between the similarities and differences among levels of development, accessibility and density across regions.

1.5 Main Findings

- Each region has its own regional differentiation, uniqueness, and similarity in characteristics. These differences involve location or accessibility, proximity to the centres of economic activities, regional economic structures, type and characteristics of tourist activities and spending patterns. These main characteristics have all influenced the patterns of the generation of multiplier values found within the twenty-seven regions and at the national level.
- Within the different types of multipliers, the similarities and differences play a variety of roles. Income, output and import multiplier values are influenced mainly by the size of the economic structure and the location of the tourism destination. Employment and government revenue multipliers are more independent and are mainly influenced by the balance in size and location factors but not by the tourist density.
- In almost all cases within regions, the medium scale of accommodation, such as bungalows, tend to be responsible for higher sectoral income and output multiplier values. They also have the lowest import multiplier values.

The values for employment and government revenue multipliers seem to less sensitive to variation in scale and location.

- The less developed regions were found to generate higher direct multipliers relative to indirect and induced values.
- The complexity of estimating the values of employment multipliers is shown to be extremely difficult. This is especially true when attempting to calculate one FTE (full time employment) within the Indonesian context where the combination concepts of extended family and helpers (*'pembantu'*) are strongly applied. The employment impacts, however, tend to concentrate in the regions where the direct income values are higher or where tourists spend money directly (e.g. in hotels).
- The seasonal nature of tourism activities from region to region makes it even more difficult to assess employment generation. This is especially true in terms of full-time permanent jobs, which can be compared with those created by most other industries. Therefore, the assessment of employment multipliers was not entirely satisfactory since there is a considerable degree of arbitrariness in weightings used. As well, the method conceals qualitative differences between the type of job created, whether full-time, permanent or seasonal, or whether it is even called a 'job'.
- At the regional and national levels, there has been some contrast. While the average regional income values are about 0.49, this is less than half compared to the national value of 1.05. This implies that the Indonesian economic structure as a whole is able to absorb considerable levels of benefits from the flows of tourism related business turnover, while it leaves substantial disparity within the regions.
- In regards to the location effects from a demand point of view, on average as the access or distance from the centre increases, the total number of tourists decreases. A similar pattern occurs within income multiplier values when the distance from the centre increases, there is simultaneously a significant pattern whereby there is a decrease in the generation of income multiplier values and an increase of import multiplier values.
- This seems to confirm both the combined input/output and deductive gravity principles whereby the effects of interlinkages and interspatial factors are strongly intertwined in determining multiplier values of tourism across regions.

The less developed the regions, the further the accessibility from the centre, the smaller multiplier values. There is a concept of 'absorption' involved in these relationships, in that multiplier values are gradually 'absorbed' in proportion to flow per unit economic distance.

- In conclusion, the deductive gravity model is applied within the spectrum of tourism multiplier values generations. This becomes a fundamental principle because the basic nature of tourism demands that the visitors must come to destinations in order to consume the product. Therefore, the role of inter-systems -- both intersectoral as well as interspatial -- are essential. It is suggested that these findings, with the importance and understanding of the concept of location, may be one of key starting points to address national and regional tourism development planning for better impact generation.

In developing countries, where regional levels of development vary and they are even typically characterised by disparity and imbalances, the role of tourism become even more essential. Due to these realities, tourism can not be approached only in terms of master planning and marketing, it is fundamentally the problem of development.

Tourism within the structural adjustment framework takes the forms of more market-determined over politically inspired and administratively guided allocation and shrinking the range of centrally planned economic activities by the government. It thereby reduces the political or administrative scope for decision making on resource allocation and the supply of goods and services for tourism.

1.6 Contribution of the Research

The results of this research will be useful in a number of ways:

- The findings may assist tourism planners, and offer input to policy makers, to consider the complexities and contradictions of developing tourism in developing countries. This can be seen not only as a planning and management problem but also as a challenge to restructuring an economy and the problems of development.

- This investigation may be of benefit not only to tourism planners and managers, but also to individuals in the private sector to help with planning and resource allocation, as well as for the public sector who are responsible for the formulation of policies.
- It will assist tourism development planning in developing countries by taking a more holistic, in terms of an intersectoral and interspatial approach, especially regarding the effects of scale of accommodations and location and on how they generate different benefits.
- For Indonesia, and other countries which face similar situations, by understanding better some of the key concepts in tourism and regional development planning. Then lessons might be learnt which could be incorporated into future planning for the tourism sector incorporating its interdependent role with other sectors in the national-regional development planning system.
- Finally, the cross-sectional framework that is involved in an inter-regional and interspatial system requires an interdisciplinary approach. Therefore, this will hopefully provide a richer and deeper contribution to the body of knowledge of tourism and encourage more studies and discovery within this area further.

1.7 Indonesia as a Study Area

Indonesia is a developing country which, until the recent Asian economic crisis, has had a rapidly growing tourism sector over a number of decades and which is already one of the leading sectors in the national economy. Policy makers in government have set as a key goal that tourism should become the leading sector for the country's national economic development.

The Indonesian Development Planning System is based on an intersectoral approach and (as in many other developing countries) has been based on centrally planned development. Now, it is moving toward decentralisation with an emphasis on regional development. With regional differentiation across regions, therefore this research is able to compare the economic impact of tourism in different types of regions through input-output analysis.

Indonesia consists of 27 provinces, which can be categorised and compared culturally, economically and geographically. In terms of tourism development, these regions have a wide variety in terms of level of development, accessibility and tourists density.

Finally, the author has familiarity with these areas through nationality; more than ten years experience both as an academic and consultant to the Ministry of Tourism, Post and Telecommunication; and as a tourism planning consultant to provincial governments and local communities.

1.8 Limitations of the Study

Data availability and collection are the first obvious limitations. It took approximately two years devoted to data collection, structuring and interpretation. The many layers of tourism related authorities in Indonesia (national, regional and local) meant that data did not only have to obtained but had to be cross-checked sectorally in order to determine its consistency and reliability.

Moreover, the involvement of the author within the day to day activities of tourism development in Indonesia can distort perspective. This can lead to intellectual judgements that sometimes may make it difficult for the author to disentangle one's role of being a participant or a researcher.

1.9 Thesis Outline

The structure of the thesis outline is divided into four parts and thirteen chapters.

Part one consists of one chapter, which is a general introduction to the whole thesis. Chapter one consists of the problem delineation; problem statements and objectives of the study; the contribution of research findings; the limitations of the study; and the structure of the outline.

Part two consists of three chapters, which function as a theoretical background of the study.

- Chapter two is the main general theoretical framework, which describes the complexities of tourism and development in developing countries and where regional development is an integral part of the national development system. Given that tourism is an interdependent activity, it is necessary to illustrate the theoretical background regarding structural constraints and dependency paradigms.
- Chapter three describes the importance of the accommodation sector within the chains of tourism components. The delineation of scales and measurements is explained which result in the categorisation of accommodation into large, medium and small scale categories.
- Chapter four focuses on location theory within the context of tourism and regional development. Three main issues are derived and elaborated further such as the relationship between centre-periphery, gravity principles and economic distances.

Part Three consists of two chapters on Indonesia as a study area focusing on the history, evolution and role of international tourism as a development strategy in the country.

- Chapter five gives a basic background of Indonesian history and geography in order that tourism may be understood in its national and regional context. It describes the evolution of the profile of tourism resources and international demand in a socio-cultural and historical context as the

baseline for tourism development across regions. This resource-demand profile of tourism development in Indonesia emphasises the evolution from different time periods: prior to the 20th century, through Independence, post-Independence and under the New Order government (to 1998).

- Chapter six focuses in detail and with an analytical description on the role of tourism as a strategy for economic development both nationally and across regions through the comparison of the expenditure and performance of the accommodation sector.

Part Four focuses upon the methodology used in the research. It consists of only one chapter (Chapter seven) illustrating the theoretical background; the constructions and measurement of variables; understanding the Input-Output model and concept; as well as the uses and types of multiplier analysis.

Part Five is the analysis and findings which consists of three chapters.

- Chapter eight is the general comparison for the characteristics of multiplier values generated across twenty-seven regions in comparison with the national values. Five sectoral multipliers are described; income, employment, government revenue, output and import.
- Chapter nine describes the effects of scale of tourism accommodations on the characteristics of multiplier values generators within a comparison of similarities and differences of the levels of development, density and accessibility.
- Chapter ten analyses the effects of location on the characteristics of multiplier values generators across regions. This resulted in the gradation of the distribution of regions according to economic distances.

Part Six consists of three chapters that cover general comparison, syntheses, implications, conclusion and recommendations.

- Chapter eleven describes a general comparison of multiplier values which lead to the main issues representing tourism development in Indonesia and across regions. The main issues include locational constraints; low volume tourism development; regional imbalances and disparity; and characteristics of tourism development.

- Chapter twelve illustrates the implications of the syntheses and findings on tourism resources, demand and policy planning approaches.
- Chapter thirteen consists of the conclusion and recommendations for policy-making and further study.

PART TWO

THEORETICAL FRAMEWORK

CHAPTER 2. TOURISM AND REGIONAL DEVELOPMENT IN DEVELOPING COUNTRIES

2.1 Introduction

Tourism and development are human activities that therefore benefit from a holistic approach in analysing them as phenomena. This is the approach taken to the three areas relevant to the research which are reviewed here -- tourism, development and developing countries. First, however, it is important to look at tourism conceptually, in order to set the perspectives for a deeper understanding of the research subject in terms of development and developing countries.

Jafari (1978) states that the study of tourism must be traced to its roots which lie in social science. Furthermore, he defined tourism as ' a study of man away from his usual habitat, of the industry which responds to his needs and of impacts that both he and the industry have on the host socio-cultural, economic and physical environment'. Graburn (1984) stated that the main issues related to tourism definitions should be viewed as a human 'modern consciousness'. While Cohen (1984) brings together the key issues underlining the concept of tourism as 'commercialised hospitality', 'modern leisure activities' and 'a form of cultural acculturation'.

With respect to travel and tourism as an 'industry' or 'industries', tourism consists of organizations supplying goods and services to tourists, as parts of the tourist needs.

These involve a chain of components and process or 'processes', which encompass an entity of major *tourism products* such as attractions, accommodation, travel/transportation and amenities, as well as the almost infinite variety of supporting components such as public facilities, tourism information centres, souvenir entrepreneurs, business retailers (brokers/middlemen), brochure distribution and so forth.

Holloway (1989) classified the tourism industry into sectors including carriers in any form of transport for tourist travel, accommodation in any scales (hotels, bungalows or homestays), man-made attractions, private and public sectors services, 'middlemen' or 'brokers' such as wholesalers and travel agents.

While Smith (1988) proposed what he called a supply-side definition of tourism in that tourism is the aggregate of all business that directly provide goods and services to facilitate business, pleasure, and leisure activities away from home environment. The implication of a supply side approach to tourism is that the definition would be fundamental to any consideration of tourism as an industry.

However, data required to measure tourism must come from demand side sources because only then can supply be effective (Leiper, 1990). According to Leiper's approach, a firm is in the tourism business activity or industry merely because it has customers, who can be described as tourists. The complexity of tourism as an industry reflects the fact that the commodities support the activities of people temporarily away from their usual environment and is a fragmented collection of industries which rally together to promote their common interests. Thus tourism has a collective production process.

Within the above illustration, it is significant to question whether tourism is an industry and if so what is the product of its industrial process? The nature of tourism as an 'industry' or 'industries' are concerned with the reality that their products are multifaceted industries reflecting interlinkages between sectors. Tourism related sectors such as transportation or accommodation may be worthy of policy consideration because they are industries in the more conventional sense. While tourism is not an industry in the 'conventional' sense as there is no single production process, tourists have to come to the destination in order to consume the products.

To make matters even more complex, in tourism there may be no 'tradeable' products at all at the end of the process (Bull, 1991). For example, some tourists may wish to go to a tourist destination for holiday in an 'all inclusive' product in order to totally relax, lie in the sun, or to escape from the routine of daily life. While other tourists may go to the same destination to dream and take part in a totally new experience such as living with the local villagers and doing what the villagers do.

There are two distinctive 'product perceptions' on different sides of the markets for the same destination that very often is a mismatch. As there is frequently a mismatch between producers and consumer perceptions of what constitutes the tourism 'products', there may be conflict in terms of which resources are perceived to be involved.

The problem in defining the concept of tourism reflects the difficulty in identifying who actually is a tourist. Criteria for inclusion as a tourist vary from state to state, data are collected in different ways, and double counting is very common.

It is necessary, however, to have a working definition of tourism in order to provide identifiable and preferably measurable, variables with which to undertake analysis. For statistical purposes, the most widely accepted baseline definitions for international visitors were first agreed upon by the United Nations Conference on International Travel and Tourism, in Rome 1963 which were subsequently adopted and updated by WTO (World Tourism Organization, 1983b, 1996).

According to the basic WTO definition, a tourist is a temporary visitor staying at least twenty-four hours in any country that is not their normal place of residence; whereas excursionists, the second category of visitor, do not spend the night in the destination country.

Such a definition includes people visiting for leisure purposes and business visitors, and incorporates most visitors not paid from within the country being visited (Mathieson and Wall, 1982, pg.11; Witt, Brooke and Buckley, 1991, pg.3).

Leisure tourism is normally held to include travel for recreation or holiday, sport, health, religion or study. The majority of the world's tourists are vacationers, but one could still include here visiting sports teams or Muslims on pilgrimage to Mecca. Business tourism can include business persons travelling, convention delegates. Another major category commonly agreed upon is those visiting friends or relatives (VFR). Business travellers are generally less numerous than vacationers, but usually spend more per head, whilst VFR travel is very important to particular countries. Diplomats and expatriate foreign workers are not counted as tourists which implies that tourists generally brings money earned at home to spend at their destination in which is an important point in analysing tourism's contribution to an economy.

A tourism destination may be a country, region or city to which visitors come. Tourists may visit only a single destination, or travel on a multi-destination tour. A country, region or city where visitors normally live is often known as a generator or generating area which is the market for a given destination. Cohen (1974:533) defined the tourist as 'a voluntary, temporary, traveller, travelling in the expectation of pleasure from the novelty and change experienced on relatively long and non-recurrent trips'. Furthermore, he identified six major aspects which characterised tourists such as permanency, voluntariness, direction, distance, recurrence and purpose.

Nevertheless, there is a case for an overall classification, as in the course of journey a traveller may fulfil several different tourist activities (even if ostensibly formally on a 'business trip'), and tourist impacts may not be directly related less to tourists' ostensible motivation.

There are three key elements in defining the 'tourist' with respect to the impact assessment issue: purpose or motivation of travel, duration or length of stay, and distance travelled. Such criteria are important for data collection purposes which usually involves different ways of counting. These difficulties become even greater when it comes to assessing tourist expenditures and receipt.

Data provided by sources of information such as banks, do not have a wide range of breakdowns of goods and services transactions. As well, bank information is often imperfect because of alternative forms of payment that do not always pass through central bank channels. Therefore, in order to estimate the impact, a certain degree of information needed such as the transactions based on motivation, length of stay, type of accommodation etc.

Based on the above illustration, tourism is neither a phenomenon nor a simple set of industries. Conceptually, tourism is a human interaction that encompasses human' behaviour, resource allocations and uses as well as involving physical movement outside habitual living spaces. It is less generally agreed, however, to what degree travel and tourism also includes motivations, segmentation, behaviour, market interactions and impacts. However, economics and culture play a very important role in many of these areas, particularly where there is a need to analyse whether tourism impacts will be seen as a sign of development for the region concerned.

From an economic point of view, there are three main principles that underlie the concept of tourism. First, as an industry/ industries, tourism generates income, revenue, and employment. Second, tourism is a form of an international trade, which provides a source of foreign exchange as an important component for many countries' national balance of trade. Third, tourism acts according to the principles of demand and supply.

Tourism, as a composite industry, requires planning, management and operational enterprises as well as marketing. There are distinct characteristics which relate to this concept such as resource immobility, capacity constraints, seasonality, and consumers' inability to experience the product before purchase. (Aislabie, 1988).

The demand for tourism comprises the total number of persons who travel, or wish to travel, to use tourist facilities and services at places away from their places of work and residence. Mathieson and Wall (1982, p.16) furthermore suggest that the demand for tourism consists of three major components: actual demand, potential demand and deferred demand.

2.2 Tourism and Regional Development

To examine what is meant by the term 'development', it is necessary to define economic development as a whole before turning to tourism development in particular.

There are good reasons for focusing on tourism in developing countries. The governments from such countries are anxious to promote economic growth and tourism — especially international tourism-- is seen as an important tool for national development strategy as it is perceived as a powerful means for generating foreign exchange. Furthermore, for most large developing countries, a key government goal is usually to improve the economic welfare of its population throughout the various regions of the country in an equitable manner.

The economic growth here refers to increases in a country's production or income per capita, which is usually measured by gross national product (GNP), an economy's total out put of goods and services (Nafziger, 1990, pg. 8). Economic development refers to economic growth accompanied by changes in output distribution and economic structure. These changes may include the following (Fletcher, J., 1996 – *personal communication*):

- Improvement in the material well-being of the poorer segment;
- A decline in agriculture's share of GNP and a corresponding increase in the GNP share of manufacturing, finance, construction, and government administration;
- An increase in the education and skills of the labour force;
- Substantial technical advances originating within the country.

Within this conceptual framework, then tourism development will be examined. The interrelationship between tourism and development can be defined in different ways and viewed from several perspectives. There are two distinct views that have dominated the research literature of tourism and development.

The first view suggests that tourism is a form of direct economic exploitation and neo-colonial domination (Matthews, 1977). As well, it brings hordes of outsiders to smaller communities and destroys the indigenous culture and environment (Turner and Ash, 1975). The alternative view is that tourism brings mixed socio-cultural and economic changes and that it encourages modernisation as well as development (Schneider and Hanson, 1972).

The importance of tourism as an external linkage contributing to changes in the socio-cultural and economic structure of countries is apparent. The scale of this phenomenon is shown in the amount of space that the literature devotes to the impacts of tourism in development. However, relatively little research focuses on the impacts of tourism in regional development.

Defining a region is not simple and there is no internationally agreed method of defining what constitutes a region. Another aspect in which the analysis of a region within a country is more difficult is in terms of the identification of the area and its inhabitants. A region that is part of a nation or a country tends to have common political institutions, a common taxing and spending authority and a common currency, all of which have important implications on the manner in which its external economic relations are conducted. While geography and economy play a part, so equally does history, language, and other parts of the cultural 'glue' that binds a region together that all make up part of the intangible as well as tangible boundaries.

The term 'development' has evolved through four main trends that lead to regional development, reflecting increasing sophistication and wider fields of interest (Rostow, 1960; Seers, 1969, and Mabogunje, 1980):

- *Development as economic growth*, which was interpreted narrowly in terms of economic growth with priority given to increased commodity output rather than to the human beings involved in the production.
- *Development as a form of modernisation*, which emphasised the wider process of social changes described as modernisation.
- Development as a spatial plan and organisation, which emphasised the need for a pattern of social relations which requires the reconstruction of spatial structures.
- Development as a form of decentralisation that focuses on reducing the poverty level among the masses. Three major issues are brought to the forefront in this definition: accessibility (the accessibility of these benefits and resources to different social classes); distribution of good and services; and the externalities factor that can be shared among these classes.

Regional development emerged as an important strategy for this latter form of development. This broadening of the concept of development (both as a process and a state) away from only narrow considerations of economic growth to encompass wider economic and social concerns that have contributed to enrich the range of definitions of the term in the last two decades.

Regional development has traditionally been considered to be a process that operates with two complementary characteristics. First is the linkage with the exterior (or external linkages), including flows of goods, services, capital, information and foreign exchange earnings. Second is the internal differentiation or internal structural change reflecting the system's capacity to process the external linkages such as skills improvement and organisational development (Young, 1960; Capener and Jones; 1969). Regional development, therefore, may be considered to be a function of the interplay between these two linkages.

2.3 Tourism in Developing Countries

In this context, the reference to 'developing countries' refers to less developed countries (LDCs) or 'underdeveloped' societies, rather than the 'Third World'. In fact, whether the reference to LDCs, the Third World or to Low-and Middle-Income economies, the list will be much the same, and most countries of world, including Indonesia, will be on it.

Characteristics of the developing world which are important to be understood as the framework in which tourism will be analysed include (Nafziger, 1990, pg. 62-67):

- Varying income inequality;
- Varying political systems typically with a small political elite, low political institutionalisation, experience of colonial domination;
- Extended family;
- Agriculture society;
- Inadequate technology and capital;
- Low saving rates;
- Dual economies (subsistence & semi-subsistence level of economies);
- Dependence on international trade;
- Large population;
- Low skilled labour force.

While not all of these characteristics apply to Indonesia (e.g. it has a high rather than a low savings rate), some of the essential factors for tourism to grow and function as an agent of change include political stability, structural dependence and skilled labour.

Much of the past literature on tourism in developing countries has discussed the growth in tourism's contribution to income, employment and foreign exchange earnings as well as the economic and socio-cultural cost associated with tourism (Turner and Ash, 1975; Mathhews, 1977; de Kadt, 1979; Harisson, 1992, 1994).

Three distinct views have been put forward regarding the role of tourism in development in developing countries -- to some extent, these views examine the same phenomenon but from different political perspectives.

- First, tourism brings positive socio-economic change and encourages development.
- Second, tourism brings 'hordes of invaders' to small communities, thus damaging or destroying the indigenous culture and environment.
- Third, tourism is a form of direct economic exploitation and neo-colonial domination.

Cohen (1979) stresses the importance of comparative analysis and the need to specify the economic, social, and cultural conditions under which tourism generates development and those that instead lead to more dependency.

Development has theoretically been considered to be both a process and a state. In term of tourism development as a process, however, the emphasis has been on the way in which tourism develops or evolves. Tourism, however, might also be seen as a means of development in a much broader sense -- the path to achieve a given state or condition (De Kadt, 1979a; Pearce, 1989). In this study, the relationship between tourism and development seen as both a process and a state will be examined simultaneously.

This view has been elaborated by a number of researchers that tourism as an industry should be critically viewed not only from the perspective of economic contribution but also the opportunity cost of its development (Williams and Shaw, 1988). Based on this theoretical framework, the relationship between tourism and development is more than linear and one-dimensional. It is multi-dimensional in that tourism may play a different role in different economic structures, depending on the condition of the structural changes and constraints existing in the given economic structure.

2.4 Structural Constraints

It is important to understand the structural constraints indicating the main areas of tourism conflict and compatibility in developing economies. Tourism, as a key industry, becomes a crucial feature due to its ability to call forth a relatively large increase in the output of other sectors. This is the case when the final demand for its products increases, while at the same time the tourism sector's output must expand more than average to meet the final demand in other sectors (Diamond, 1974).

Regions are key for tourism development because destinations and attractions are found in different geographic areas, not at the national level. There are common development goals as well as conflicts for regions in developing countries; these regions which later become important platforms for tourism to flourish (De Kadt, 1979b).

Summarising Diamond's views (1974), these conditions include:

- The conditions of both income and expansion in price elasticity of the primary commodities have tended to militate against the expansion of foreign exchange earnings.
- Capital and labour-intensive forms of development create employment. However, the less skilled jobs typical within service-oriented industries such as tourism also discourage efficiency and professionalism.
- The stagnation of export earnings due to competition at the international market may weaken the industrialisation process.
- Poverty also remains a crucial problem. Slum areas, hawkers, subsistence levels of living conditions, social jealousy, income disparity, all are part of the problems created by poverty.
- High population numbers and increases have meant that while the development policy has achieved high growth rates in terms of overall GNP, the increase in per capita terms has been far less impressive.
- The process of industrialisation in developing countries is related to import substitution which is very low and thus means a continuous dependence on foreign exchange.

- The first stage of industrialisation which is typical for developing countries attempting import substitution is usually some kind of assembly industry. This 'assembly type of industries' operation require a constant flow of foreign raw materials and intermediate products, thus keeping a vicious circle going.
- Modernisation in industrial sectors requires substantial foreign exchange capital with the consequence of debt repayment, which creates leakages in the economy.
- A currency crisis, which usually leads to devaluation, tends to cheapen products including tourism products.

Therefore, there is always pressure for developing countries to reconcile their long-run strategy with pressing short-term priorities to turn tourism into more economic activities by increasing income, employment and foreign exchange. The implication of these problems in the input-output framework in the economic structure can be characterised as increasing those sectors in the domestic economy that are able to supply goods previously imported in the form of import substitution, by changing the input-output coefficients. This means that in developing policy in tourism, compatibility with the existing structural constraints need to be recognised and examined.

2.5 Foreign Exchange

2.5.1 Concepts and Relevance

The first stage of industrialisation and modernisation which is typical for developing countries has, historically, required substantial foreign capital, materials and intermediate products.

The consequence of this is that these countries have problems of debt repayment and servicing. Therefore export earnings become a crucial part of national development. However, the potential of stagnation of export earnings due to strong competition in the international market has forced some countries to seek other avenues for foreign exchange.

Tourism becomes one option due to global trends in international travel, making tourism and travel among the biggest industries in the world (WTTC, 1997).

Tourism is an intangible export and, as a form of international trade, requires one national currency to be exchanged for another. Although the relative significance of tourism for the economy differs from country to country, many developing countries have exhibited marked economic success. In Mexico, for example, the share of foreign exchange earnings from tourism has reached some 45% of total receipts on their current account. To cite other examples, Jordan depends on three quarters of its foreign exchange from tourism (75%), Bermuda (67%), Spain (45%) (Khan, 1983, pg. 9). Indonesia is estimated to earn about 9.1% (WTTC, 1997).

Turner (1976, p.253) suggested that Mexico was able to avoid industrial stagnation and inflation found in much of Latin America because of the buoyancy of the country's tourist industry. In most developing countries however, tourism provides for only a small proportion of total foreign exchange on foreign accounts. However, in some areas within the country with higher tourist density such as Bali in Indonesia, the local economy is more than 50% dependent on this sector (BTDC, 1989).

Furthermore, it has to noted that net income from tourism may be far less than the gross receipts because of import leakages required to supply the goods and services demanded by an international tourism industry. For instance, studies have shown that leakages may account of 45% of gross revenues in Hawaii and 22% in Kenya, meaning the total net income may vary from 55% to 78% depending on how much of the goods and services needed can be supplied by the country concerned (Mathieson and Wall, 1983, pg. 61).

This variety is strongly related to the internal structure of the sector. Tourism development needs supporting components involving supra-structures as well as infra-structures and the building up of the tourism sector usually requires substantial foreign capital. In the case of tourism development dominated by foreign investment such as hotels, airport construction etc. will usually involve a major portion of components flowing back to foreign countries as imports in the form of expatriates' earnings, loan repayments, profits etc.

Due to tourism's dependence on import components, much of tourism expenditures return to the tourism generating countries. Therefore one thing seems obvious -- the contribution of tourism to foreign exchange earnings in a country needs to be critically examined. Some studies conducted by the United Nations point to net foreign exchange losses from tourism and raise serious questions as to tourism's potential contribution to development (UNEP, 1989; UNESCO, 1992).

These issues depend also on various factors related to the type of tourism development that have been established in developing countries. The type of development will determine to a certain degree the amount of import content or components of goods and services, especially when the development involves multinational chains in the hotel sector.

There are advantages that make tourism a stronger avenue of economic growth in developing countries when it comes to foreign exchange earnings.

- Tourism, as an invisible export, is unlike raw materials which are governed by the world market price, and it is unstable, limited, and conducive to a high propensity to import products (Bond and Ladman, 1972).

- Tourism tends to have the potential to furnish foreign exchange to offset deficits created by demands to import scarce raw materials (Mathieson and Wall, 1982).
- Tourism is highly income-elastic. The increase in income of potential visitors can lead to a growth in tourism arrivals and receipts.
- Tourism has a greater degree of control in establishing prices for tourists goods and services compared to the export of raw materials (Ball, 1971).

2.5.2 Leakages and Import Substitution

Based on the above illustration, the loss of foreign exchange earnings has therefore occurred in certain areas. By its very nature, certain types of planned tourism aimed at developing countries requires significant importation of goods and services not produced locally. For instance, the tourism sector such as hotels has a high percentage of leakages.

According to the World Bank estimates, the import components of the star-rated hotel sector can be as high as 85% in Spain and Mexico, 35% in Thailand, 20% in Malaysia and 17% in Philippines (World Bank Report, 1989).

In some developing countries, the import substitution effect on the tourism industry is negligible. This is often because the focus of importation problems should also be analysed in terms of the spending habits not only of tourists staying in luxurious 'bubble' enclaves but also of the local population with spending preferences regarding imported products. This has important implications for the foreign exchange earnings.

As foreign exchange that tourism generates now leaks out of the economy, import substitution can only work if local manufactured goods and services exist and are acceptable as well as substitutable compared to the quality of imported products.

Among other factors, this is a function of human resource quality whether required skills exist to make this import substitution possible.

In developing countries where tourism development is in the initial stage, it is still necessary to have appropriate import components in order to establish a strong foundation as a base for future development. The concept of a strong foundation here refers to technological transfer, training of human resources as well as image creation in the international tourism network.

In theory, tourism actually offers developing countries considerable potential for economic growth by using their indigenous resources in their tourism products.

Tourism happens because of the complex relationship between a demand-supply relationship subject to a series of internal and external factors. Demand in tourism can be described as a human desire to travel. There are three major components of demand in tourism: actual demand, potential demand and deferred demand (Mathieson and Wall, 1982). Actual demand refers to those people who currently travel to tourist destinations; potential demand includes those people motivated to travel but who are unable to do so yet because of temporal or financial constraints; deferred demand are those people who would travel, if motivated.

The subject of demand and its implications on expenditure, has received considerable attention in the literature on tourism while its terminology is often used imprecisely and total demand (actual, plus potential, plus deferred) is extremely difficult to measure. In much of the literature, the word 'demand' only refers to effective demand or consumption. The most crucial issues of demand related to tourism are factors (especially economic ones) influencing the demand, and ways of predicting the demand as well as their expenditure.

Tourists' expenditure that was spent in a destination on goods and services circulates through the national, regional and local economy. The first initial expenditure on goods and services provided by enterprises that deal directly with tourists will be re-spent on wages, salaries, taxes and the purchase of supplies such as food, electricity, laundry etc.

However, the issue remains a challenge for developing countries. Wanhill (1982), for instance, stated that tourism standards are determined by tourist generating countries; for example, those standards that are applied in the international hotel industry. Apart from some furnishings, the local industry cannot match the perceived demand for quality by tourists and tour operators.

The degree to which tourism functions as an agent of development depends upon the characteristics of the country as well as the ability of a country to supply the tourist industry from domestic rather than imported sources. In later stages, however, a country may gradually reduce imports and then linkages with the local economy start to grow.

Following this chapter reviewing the theoretical background of tourism as a strategic tool for regional development, the relationship between tourism and regional development will be reviewed in the following two chapters (*Chapters 3 and 4*) in detail through the roles of scale of tourism accommodation and regional location.

CHAPTER 3

THE SCALE OF ACCOMMODATION OF THE TOURISM INDUSTRY

3.1 Background: Scale and Tourism Accommodation

Accommodation is one of the vital components of the tourism system and most governments, especially in developing countries, usually seek to foster a favourable investment climate for hotels to be built (Jenkins, 1982b). Measures taken include various fiscal, tax, and deregulation actions along with repatriation of profits, visa-free entry for expatriates and other incentives for these supra-structure projects to ensure an adequate supply of facilities for tourism to grow.

The hotel sector by its very nature is far from uniform, and there are significant differences in characteristics and operations between the many kinds of accommodation such as hotels, motels, bungalows, holiday villages, villas, time-share resorts, apartment-hotels, 'bed and breakfast', homestays, youth hostels, camping facilities and so forth. The host region can provide any combination of these in order to meet the demand of international tourists.

The accommodation sector within the framework of tourism elements is one of the most rapidly expanding fields in the service sector (Go, 1995). The two main pillars that support tourism consists of dynamic elements such as spatial movement or travel and static elements such as accommodation, attractions and other supporting or intermediary facilities. Within these chains of tourism elements, accommodation is at the heart of the development of travel and tourism due to its key function within the basic definition of a tourist as someone who is away from home more than 24 hours, and thus needs somewhere to stay overnight during the trip.

The accommodation sector is the sector next to air transport that is the most capital intensive sector, notably at the large-scale end (hotels, resorts) of the market. It is therefore the sector most likely to attract foreign investment and international corporations. Other major characteristics of this large-scale sector include the fact that it is a labour-intensive industry with an emphasis on personal service, a highly competitive industry, and it is very sensitive to fluctuations in demand as it sells a highly perishable product (Go and Pine, 1995).

Investment within the hotel accommodation sector can take many forms including foreign, domestic, or a joint venture of foreign-domestic. This investment profile together with the management operation are the crucial factors determining the market and profitability of these operations. There are advantages and disadvantages in using either foreign, domestic or a mix between the two. However, Jenkins (1982a) advocates the notion that, in earlier stages, developing countries should seek joint ventures with multinational chains in order to develop their tourist services, strengthen local management, and to create an international image in the market place (Jenkins, 1982a).

The accommodation sector is considered to be among the most important in the tourism sector chain due to the following factors:

- In developing countries, the accommodation sector may be considered as the most 'tangible' sign of development brought by tourism. In terms of expenditure, accommodation usually accounts for from 20-50% of total tourist expenditure globally and accounts for about 30% in Indonesia (DGT, 1994).
- The worldwide lodging industry is perhaps more fragmented and diverse in a variety of different scale than any other sector in travel and tourism.
- It is possible to have an almost infinite product differentiation due to the range of product types varies from staying with friends and relatives to luxury boutique hotels and cruises.

- The various supplying enterprises range from multinational through state-owned corporations, to individuals or families who may rent out residential houses as homestays just to cover minimum costs, to multinational corporations seeking profit maximisation.
- It has a large variety of market coverage, which has direct implications on the scale of the market demand. Competition in the accommodation sector also depends on whether the market coverage is of regional or international scale. Accommodation that serves international markets is competing with other countries where different cost structures may exist, with varying demand patterns.

Therefore, given its central role in the tourism industry, the accommodation sector seems to be an appropriate means to be used to analyse the characteristics of tourist development within a particular regional or national context of tourism products.

In terms of segments and location distributions of the sector, the scale of facilities and services offered to foreign visitors can vary from camping grounds to five star hotels depending upon perceived demand in the international market. Hotels themselves can vary widely among several categories which include commercial, motor, resort and residential. Commercial hotels are usually located conveniently in the centre of cities with business travellers as their main market segment. This is due to their easy access to facilities such as business districts and government offices, conference and meeting facilities and so forth.

Resort hotels are typically located in less central, more isolated areas but surrounded by attractions, entertainment and recreation opportunities (McIntosh and Goeldner, 1984). While homestays, on the other hand, typically are located in the areas with closer interaction with the local community structures.

Bungalows can vary considerably and be in both city and resort in more disbursed distribution locations.

The World Tourism Organisation reported that the total number of rooms 'suitable' for international travellers in 1991 was 11.3 million, with an annual growth rate of 2.5 percent. The United States offers more than 3.1 million hotel and motel rooms, or about one quarter of the world's total, while Europe accounts for 45 percent of the rooms (WTO, 1995).

The pattern of accommodation distribution within countries or regions often varies widely. However, there is a similarity in terms of their pattern of distribution across countries and regions (Yakeno,1968:16). Yaneko proposes a concentric model of scale of accommodation distribution within the relationship between core and peripheral areas. The accommodation distribution in the central areas are usually found in the form of one or more clusters where different scale of accommodations are interspersed with other commercial and business districts.

The location of these clusters depends on the size of the regions, its functions, formation and their accessibility. Accommodation within the central regions are usually for tourists who have a shorter length of stay and need to have access to business-related facilities. These core regions are usually dominated by larger scales of accommodation that tend to occupy the very heart of the city. However, the accommodation sector within tourism activities tends to be more fragmented into many different scales or units, where location and the spatial distribution of accommodation are important factors determining the degree of competition (Sinclair and Stabler, 1997). Furthermore, the wide range and quality of accommodation, its multi-product nature, seasonal variation in demand, all influence the dimension of the market structure operation.

Larger scale operations serve more business travellers and tend to cluster around larger urban areas, airports and main transportation networks.

While larger scale of accommodation that function as holiday hotels are more likely to be independent and more widely dispersed. However, clustering still occurs in some cases, such as in resorts or regions where the main source of tourist attractions are situated.

Location within this conceptual framework is essential, especially 'key' or 'centre' locations. For example, within the centre-periphery relationship, a central location may give significant commercial advantages and more profits. Therefore, larger scale of accommodation tend to push the medium and smaller scale into the secondary regions (Altman, 1996).

For the holiday resorts, the larger scales of accommodation have more power to obtain direct access to the sea-side. In these cases, the smaller and medium scales tend to be pushed into secondary locations away from the coastline. Around centres and seafronts, the cost of land and rent is higher within these areas of higher demand, whereas further away they are lower as demand for the sites is less.

The varieties within the accommodation sector is highly complex, therefore it is necessary to consider how those with similar characteristics can be grouped together. In this way, they have consistent properties of measurement criteria in order to be able to be analysed and compared.

3.2 The Concept of Scale

The definition and meaning of scale in relation to accommodation within the context of impact analysis requires a dynamic and broad understanding of 'scale' which should be viewed as a relative concept rather than as fixed technical measurements.

This relative concept of scale encompasses economic, socio-cultural, physical dimensions as well as varied tourism markets.

In order to define the concept of scale, it is necessary to identify and describe the profile of the accommodation supply that exists within the tourism market in Indonesia. The problem with classification of the supply components of tourism is how broad or narrow they should be in order to adequately represent the market structures.

Such categories within tourism supply such as transport and accommodation are very broad by their nature and benefit from disaggregation into sub components with different structures of operations.

There has not been much attention paid into the different scale of accommodation as one of the structure of how tourism performs within the regional context (Sinclair and Stabler, 1997). But in fact, the economics of scale of the accommodation actually closely reflects the general condition of regional development and economy where the sector is located and are therefore worthy of study in terms of impacts, planning, marketing and management development (Lundberg, Stavenca and Krishnamoorthy, 1995).

The main issue of scale is to determine the properties of the attribute or criteria itself, and then ensure that the characteristics are assigned so that they properly reflect the properties of the conceptual attributes. Furthermore, good measurement occurs when the criteria of the boundaries between scale employed are consistent with the phenomenon being measured.

The uses of scale in the analysis of tourist activities are usually employed within the context of the spatial structure of tourism flows from global to local.

At the same time, linkages among the various scale should also be acknowledged as particular problems and planning strategies may be appropriately applied for a specific scale of accommodation but may not be suitable for other scale (Frietag, 1994, Ashworth and Dietvorst, 1995, Pearce, 1995).

A number of studies on recreation have been developed using scale in management related tourism and travel study areas such as developing models for management scale of theme park and recreation areas (Jeong and Park, 1997) and scale of tourism business and entrepreneurship (Shaw and Williams, 1998).

The concept of scale within the accommodation context was first used for the study of tourism development in Bali (Rodenburg, 1980). This study explored a comparison of the three segments of tourism enterprises that Rodenburg termed 'large, small and craft types' of accommodations.

The definition of 'large-small-craft' scales that were used to assess the different characteristics of development brought by tourism in Bali, is based on the division of the three categories: large industrial sector corresponding to hotels of 'international standard'; small industrial tourism representing 'economy class hotels; while craft tourism corresponds to losmens or pensions.

The study concluded that the local community did not benefit through the promotion of large-scale establishments such as an enclave resort as found in Nusa Dua, Bali (Rodenburg, 1980).

Jenkins responded to Rodenburg's conclusion by arguing that although the inter-relationship between scale should be acknowledged, enclaves with large scale accommodation had particular goals (Jenkins, 1982a). The specific infrastructure is aimed at providing facilities for tourists and any spill-over for the local community is 'purely gratuitous' (Pearce, 1989, pg. 94).

The site location is physically separate in order to reduce cultural and social pollution to the indigenous community; and, in developing countries, where the needed supporting tourism infrastructure may be weak, economies of large scale may be obtained by concentrating development in a few areas.

Furthermore, with the concentration of tourism plant in a few areas, a stronger international image can be created.

Since this discussion in the early 1980s, there has been a substantial expansion of studies carried out on the relationship between tourism and different scales of development such as those undertaken in relation to island states (e.g. Funell, 1976, Bastin, 1984; Wing, 1989; Wilkinson, 1989; Conlin and Baum, 1995; Briguglio, Archer et al., 1996).

In developing countries, accommodation becomes one of the most tangible components and visible symbols in representing tourism activity. Therefore, an assessment of accommodation's role is an important starting point in order to evaluate the contribution of tourism to the economy to the regions.

The meaning of scale conceptually as reviewed and applied in the analysis of tourism in Bali (1980), is based on two formats:

1. The relative size and capitalisation such as physical plant of enterprises.
2. The relative bureaucratisation such as the degree of industrial organisation.

Size and bureaucracy help define the scale of an enterprise, which in the case of accommodation attracts different typologies of customers. The values and behaviours of those who manage various scale of tourist enterprises vary consistently and parallel to those of manufacturing structures.

According to Hiller (1977), the industrial nature of tourism industry provides the basis for models of various scale of tourist accommodation, consistent with scale of manufacturing: large, small and craft tourism.

Assessing the contribution of tourism to development through the comparison between different scales of accommodation and their relative values of tourism multipliers is a logical analytical platform. This is especially true in the case of developing countries where tourism is very often associated with issues such as regional disparity and imbalances but unlike the situation in industrialised countries where such disparity alleviates imbalances. The different scales of accommodation can be compared and analysed regarding how tourism performs and contributes to regional development. This is especially useful in the study of tourism impacts and development planning in developing countries, where decisions have to be made regarding to what extent certain scales of development are appropriate for one location and not for another.

The issue of scale is also relevant where various implications of political economy, economic structures, intersectoral structures are intertwined with different levels of regional development. The effects of tourism injections generated by different scale of accommodation or establishments represented by the expenditure patterns reflect different patterns and values of impacts brought by tourism into the regions.

The main objective in using the concept of scale and location in analysing tourism significance within the regional economy as the focus of this research is to what extent, how and why, scale of tourism establishments and location of tourism destinations influence the various multiplier values associated with tourism.

3.3 Criteria and Delineation

The interpretation of meaning of scales in relation to tourism impact generation requires a broader meaning where 'scales' should be viewed as a fluid concept. This is due to the relativity of the concept of scale within economic, socio-cultural, physical dimensions, as well as the tourism market. These dimensions are represented by factors such as total room numbers, facilities and services provided, character of activities, ownership structure, types of market, standards and physical setting.

The criteria used in measuring the scale of accommodation are determined through comparing the available tourism accommodation data across regions based on the above dimensions in order to be able to categorise them into different establishment units.

However, the concept of scale should be justified contextually, within the purpose of the study and within the comparative data available cross-sectionally from the 27 provinces in Indonesia. In this way, technical difficulties may be avoided which may occur regarding what is considered large scale in one place in one particular era and which may be categorised as small scale in another place and time.

However, it should also be acknowledged that there is an interrelation between criteria within the different categories of scales. Therefore, critical judgement should be used when interpreting the scale categories, in order to understand the level of transferability, comparability, and interpretation from one region to another.

It should be noted throughout this research that the terminology of 'large scale' is used interchangeably with 'hotels', while 'medium' scale is the same as 'bungalows' and 'small' scale used interchangeably with 'homestays' or 'losmens'.

The criteria for categories chosen to differentiate between small, medium, large were based on the following criteria:

3.3.1 Number of Rooms

The division of criteria for number of rooms was set around the mean values of each category, and with reference to general standards used within the hotel industry in Indonesia (DGT, 1988). This criteria, though, does not stand alone; instead it is combined with other standard factors used to rate hotel classifications in Indonesia such as typical facilities provided, character of activities, standard of services involved within the hotel boundaries. Based on Table 3.1 (Accommodation Data By Classification in 27 Regions), it can be seen that the mean values used in this study were classified as follows: for the larger scale of accommodation that are mainly associated with higher star rated hotel categories, the mean was 111 rooms; for medium-scale or bungalows, 31 rooms; and, for homestays or 'losmens', 16 rooms was the mean.

The range employed was establishments with more than 90 rooms (following the standard deviation in this category) were classified as large scale or hotels, accommodation in the 30 to 89 rooms category were classified as medium-scale or bungalows, following DGT classification standards; and accommodation with less than 30 rooms were classified as small.

As a comparison, Noronha in his Bali case study (1976) classified an average of 100 rooms as a large scale international category of establishment; less than 100 rooms as small scale; and an average of 6.5 rooms as the smallest or 'craft' scale.

While an interesting study, Noronha's classification was not used for this research because it was based on the particularities of the Balinese situation 22 years ago and his categories are not widely applicable across regions in the accommodation sector existing today.

3.3.2 Facilities and Services

Facilities and services provided for larger scales cover elements such as air-conditioned rooms and public spaces, bath, bar and shops (including exclusive 'boutique' style shops), crafts/art galleries or souvenir shops, gymnasium or spa, restaurants, and at least one large swimming pool.

While in the medium scale accommodation some facilities such as air conditioning are sometimes substituted by fans in some rooms, and the facilities offered are a simple restaurant and bar, small corner shops, and a small pool.

The homestay scale typically include rooms with shared or communal bathrooms, without air conditioning, and no restaurant, shops or bar on the premises.

3.3.3 Characteristics of Ownership

The characteristics of the activities in the various scales are distinguishable. The hotel or larger scale was found to be associated with corporate culture involving sophisticated international corporations dominated by vertical chains and expatriate management.

There was very often mixed ownership and management in joint ventures between international and national large scales of business, which was often Jakarta based conglomerate ownership regardless of which region the large scale hotel was located.

The bungalow or medium scale was usually locally-owned and managed from within the region concerned (often family run) while the homestay or small scale relied totally on family or small local based run entrepreneurship with a relatively small entry level of investment needed.

3.3.4 Physical Settings and Standards

It is obvious that larger scale accommodation follow international standards based on fabrication and efficiency requirements due to the nature of the demand and the role these hotels play in the international tourism industry. Therefore, they usually have larger physical appearances, are indoor oriented, and massive in style, or vertical in terms of higher and solid blocks of many rooms.

Medium scales are usually located in a more integrated settings into local styles in terms of physical appearances such as more outdoor oriented and horizontal settings. The small scales are typically based on the extended family style or houses, which is integrated totally into typical daily local life style. It should be acknowledged, however, that there has been in recent years a notable evolution regarding the 'international standard' of images of even large scale resorts or hotels to ensure they are well adapted into the local environment.

3.3.5 Guest Segments

In 1994, the national average share of guest segments among large, medium and small scale accommodation was as follows:

- Large scale accommodation including packaged segments from travel agents, wholesalers, and tour operators was 77% while 16% were independent travellers;

- Medium scale accommodation consisted of 52.5% independent travellers and 40% packaged groups;
- Small scale accommodation had 85% independent travellers and 12.5% packaged groups (DGT, 1995).

3.3.6 Pattern of Expenditure

According to Table 3.1, the pattern of expenditure for various scales of accommodation differed notably as would be expected. For instance, the proportion spent on the accommodation itself was not that different between large scale and small scale accommodation (35.5% for large scale, 40% for small scale). However, the proportion spent on shopping was notably different where the people staying in large-scale accommodation spent almost two and a half time the proportion of spending spent by people staying in small scale accommodation. Obviously, the actual amounts and average daily spend by tourists in large scale accommodation was larger not only proportionally but also in absolute terms.

Table 3.1 Pattern of Expenditure for Tourists in Large, Medium and Small Scale Accommodation

Type of Expenditure	Large (%)	Medium (%)	Small (%)
Accomodation	35.5	26.0	40.0
Souvenir & Shopping	24.0	19.0	10.0
Food & Beverages	18.5	17.0	22.5
Local Transport	12.5	15.0	11.5
Entertainments, Sightseeing, Others	23.5	23.0	16.0

(Source: DGT, 1995)

A study undertaken by the Ministry of Tourism, Post and Telecommunication (DGT, 1992) in five provinces in Indonesia that account for most tourism activities in Indonesia (Bali, W-Nusa Tenggara, Yogyakarta, N-Sumatera, Riau/Batam, W-Sumatera) examined categories, as well as patterns of spending, for different scales of accommodation.

This study found that tourists who stay at the larger scale of accommodation tend to spend more about two-thirds of the daylight time around the establishment itself. As well, they tend to consume more goods and services from the establishment they stay in compared to visitors staying in medium and smaller scale of accommodations.

Pearce (1988b) put forth some tentative findings based on the tourist pattern of activities in Vanuatu, where some 60 percent of tourists' daylight hours there were spent in and around their hotels. Accordingly, in behaviour terms, the separation between tourists staying at larger scale establishments and local residents can be very real. While guests in medium scale accommodation spend only about 31% of daylight time in and around their establishments, and only 17% for tourists who stay at homestays.

3.3.7 Gross Revenue

Scale of establishments may also be defined using the value of gross revenue. However, there is an extreme difficulty in trying to determine how much of the business sales was attributable to the main business, especially in trying to separate the business purchases in such a way as to reflect the different activities which exist within the different scale of establishments.

The difficulty also appears when setting up a boundary between the main and secondary activities in an attempt to seek additional information on detailed business purchases for different category of establishment scales.

3.3.8 Employment Patterns

Larger scale accommodations tend to have specific hiring standards, have strong workplace customs, higher skill specificity, fixed criteria for promotion, on-job training and so forth. However, medium and smaller scale of accommodation tend to have employment engagements that are mainly based on family ties, networking and good contacts, which in turn is usually related to a give-and-take web of relationships within the local community.

The hiring standards are more unspecified, with low skill specificity, little formal on-the-job training, no fixed criteria for promotion and transfer, and weak workplace customs (Riley, 1993). The gap in terms of employment engagement systems between larger scales and small/medium scale are quite clear; however, there are many similarities in terms of employment engagement characteristics between small and medium scales.

3.4 The Measurement of Scales

Due to the complexities and scope of the accommodation sector within the framework of tourism, the measurement of scales, can be quite an ambiguous concept. The concept of scales exists within the comparison of the elements so that they are comparable and can be analysed. However, the dividing boundaries between larger, medium and smaller scales of accommodation may change and develop over time for different analytical purposes.

Therefore, the first step taken was applying the above criteria for the accommodation data in the twenty-seven regions in Indonesia. The dividing boundaries between scales were set around the mean concept and with the above criteria superimposed.

However, it should be acknowledged that there are certain degrees of interrelationship between scale which means that critical judgement and analysis should be applied. Table 3.2 (*Accommodation by Classification in 27 Regions*) shows the distributions of accommodation sectors based on these classification systems for the twenty-seven regions in Indonesia.

The distribution of regions based on the grouping and classification then is used as the platform for calculating and displaying the pattern of tourist expenditure in the regions.

Table 3.2 Accommodation by Classification in 27 Regions

Provinces	LARGE Hotels (*rooms*)	MEDIUM Bungalows (*rooms*)	SMALL Homestay (*rooms*)	Total Rooms
1. Aceh	4 *(426)*	3 *(94)*	144 (1205)	1725
2. N. Sumatera	34 *(3556)*	10 *(333)*	561 (4505)	8394
3. W. Sumatera	9 *(897)*	4 *(120)*	189 (1288)	2305
4. Riau	26 *(2902)*	11 *(342)*	284 (5883)	9127
5. Jambi	3 *(284)*	2 *(61)*	87 (1546)	1891
6. S. Sumatera	6 *(672)*	5 *(158)*	195 (3293)	4123
7. Bengkulu	2 *(195)*	4 *(131)*	74 (1086)	1412
8. Lampung	4 *(473)*	3 *(95)*	117 (2147)	2715
9. Jakarta	55 *(11602)*	11 *(339)*	164 (4171)	16112
10. W. Java	82 *(7618)*	23 *(699)*	974 (20068)	28385
11. C. Java	31 *(2913)*	15 *(501)*	712 (11772)	15186
12. Yogya	19 *(2103)*	20 *(618)*	638 (6509)	9230
13. E. Java	33 *(3501)*	9 *(292)*	633 (13815)	17608
14. Bali	71 *(13246)*	25 *(798)*	1131 (15233)	29277
15. W. Nusa T.	8 *(1046)*	6 *(189)*	224 (2883)	4118
16. E. Nusa T.	2 *(183)*	5 *(169)*	173 (2344)	2696
17. W. Kalimantan	4 *(403)*	4 *(122)*	125 (2523)	3048
18. C. Kalimantan	4 *(373)*	5 *(156)*	142 (2305)	2834
19. S. Kalimantan	5 *(470)*	3 *(98)*	115 (2267)	2835
20. E. Kalimantan	10 *(1055)*	3 *(95)*	193 (3490)	4640
21. N. Sulawesi	3 *(336)*	3 *(93)*	104 (1264)	1693
22. C. Sulawesi	2 *(191)*	3 *(90)*	126 (1355)	1636
23. S. Sulawesi	13 *(1417)*	6 *(192)*	308 (2405)	4014
24. SE. Sulawesi	3 *(310)*	1 *(30)*	61 (504)	844
25. Maluku	3 *(326)*	4 *(124)*	97 (1265)	1715
26. Irian	2 *(203)*	4 *(124)*	70 (1468)	1795
27. E. Timor	3 *(279)*	2 *(64)*	19 (140)	483
INDONESIA	**441** *(56980)*	**194** *(6127)*	**7660** *(116734)*	**179841**
Standard Deviation	**21.86**	**6.50**	**292.15**	**8006.63**
Mean	**111**	**31.00**	**6.50**	

(Source: DGT, 1995)

CHAPTER 4

LOCATIONAL THEORY AND REGIONAL DEVELOPMENT

4.1 Location Theory

What makes tourism a unique phenomenon compared to other consumer-production relationships is that tourists must travel to the location of the destination in order to consume its product. Since tourism produces intangible services rather than a tangible economic good, therefore, the effectiveness of their output requires the simultaneous interaction of supply and demand (Fletcher and Latham, 1990).

Although the effect of distance on movement is recognised intuitively in a variety of fields, the introduction of a spatial dimension of distribution into an economic framework dates back to the work of August Losch (1954). Losch saw fundamental parallels between biological and economic forms and his theory suggests *that natural events reach their goal by the shortest route.* It appears for the first time in physics in the eighteenth century with the principle of least action; than later, in systems analysis as the concept of minimum potential energy, and it is also discussed in the social sciences as the *principle of least efforts* (Isard, 1979).

It is within this framework that the concept of mobility in tourism has been approached. There are three basic determinants: the structure of consumer preferences, the economic potential of a given location (destination) and the characteristics of accessibility (Vickerman, 1975).

A more precise structure of consumer preferences would be something related to tourist expenditure based patterns or weighting.

A regional destination is usually defined as having some elements of economic potential -- this has been usually defined as the aggregation of regional income (GDP per capita) which is deflated by a function of distance.

The characteristics of accessibility within the tourism context is represented by opportunity cost of time as well as money involved in the travel 'distance' or in a tourism context - 'economic distance'.

The position of the merging fields of 'regional science' with its strong connections with locational studies is essentially concerned with 'economic regions' which is the focus of this research. This problem area is closely related to the economic performance of a region; therefore, it is a major departure into the study of regional economic development. Regional economics may increasingly be indistinguishable from the rest of economics; therefore, the importance of spatial geography within this conceptual framework is apparent.

This approach (relating tourism and economic location or economic distance) has been developed in this research in order to understand the relationship between travel patterns and destination impact by the calculation of the access cost to the site as a function of the distance which is involved in travelling. This particular issue will be examined through the valuation of time and money factors as the main measurement units.

This may be considered a further development of earlier theory that tourism is viewed essentially as the residual of work, valued simply as opportunity cost of lost income (Vickerman, 1975). In tourism, if the consumer is a producer who trades off inputs of time and travel against the willingness to produce income to pay for the trip, then the concept of tourist product should be interpreted within this framework.

The role of a given location of a tourism destination and the characteristics of accessibility within the context of regional development is an essential element of this research.

This is especially true for case studies of large countries with regional systems, such as Indonesia with its archipelago setting. In this research it is proposed to analyse critically some of the issues involved in the role of 'economic distance' or 'economic location'.

This is represented by an index of accessibility within the various regional economic structures. It is recognised that there may be practical difficulties with measurement problems of regional accessibility and economic potential in the regional level, and these difficulties are usually due to the absence of adequate data.

Vickerman (1995) states that the economics of location depends on two interrelated features: the existence of increasing returns as the main concept of spatial economy and the differentiation of travel time and costs within regions. This research is attempting to investigate whether variations in location or accessibility between regions can be seen as a cause of variations in tourism performance as indicated by their pattern of impacts or multiplier effects. A parallel approach has been used in other contexts such as Aschauer's study on regional differentials as arising from utilisation patterns of water and sewage systems, followed by roads (Munnell, 1990).

The complexity of the consumer decisions process and patterns of expenditures leads to a need for a complex evaluation approach. This subject should be viewed in an intersectoral framework rather than simply in a piecemeal manner. This is due to a general concept of interdependence in determining the relations of the various economic forces in the spending patterns.

This approach, focused upon certain forms of mobility factors of goods and services, may be developed as a framework to reveal interregional or international tourism cases.

A tourism region here is defined as that area within which there is a perfect mobility of factors. The concept of movement used here involves the following: (1) interregional time and cost of commodity; (2) interregional factor of movement; (3) factor movement; (4) regional differentiation of supply.

In summary, tourism and location theory or space-economy is viewed as embracing the totality of inter-spatial economic activities. Given the locational structure of economic activities, it seems logical to apply a concept of a border or barrier within the world of the tourism economy to correspond to the boundaries of regions or nations. However, it is important to note the distinction between tourism theory as a trade theory and the general theory of location and space economy. Within this context, these can be broadly conceived as synonymous with the general theory of location and space economy (Isard, 1956)

4.2 Core and Periphery

The core-periphery concept within a tourism context is usually seen in an interdependency perspective. The word interdependence originates from the core word 'dependence' which suggests some kind of vulnerability or an inequality in a power relationship. Interdependence however has an ideological meaning as a more neutral word as simply reflecting an interaction among different actors. Interdependence as a concept has been used in contexts where mutual interests and benefits have been stressed.

In the tourism context, where consumers have to come to the production site in order to consume the products, the location of the destination is essential. The location reflects a complex relationship involving consumer-production, consumer markets, and inter-regional differentiation in terms of access, economies of scale of operation, and concentration.

This interdependence between tourism and their destinations is usually linked through involvement in various scales of enterprises, such as accommodation, food stalls/restaurants, souvenirs, handicrafts and other services/merchandise (Bramwell and Lane, 1993). The central issue in considering these linkages is therefore whether they offer advantages or disadvantages to the two actors, tourists and destinations (including communities). In this structural relationship, economic as well as political objectives usually become the central emphasis.

The concept of core-periphery within tourism studies in developing countries has been used extensively, both from the perspective of international (Frank, 1969; Friedman, 1966; Ibbery, 1984; ECTWT, 1988; and Lea, 1988) as well as domestic tourism scales (Weaver, 1998). Typically within this concept, tourism is interpreted as the post-colonial or post-industrial equivalent of the exploitation by some kind of 'international force' of another country's resources and spaces such as culture, beaches, islands etc.

The studies of core-periphery relationship has been approached from many different perspectives such as described between 'elite coast' and 'local interior' (Weaver, 1988), 'formal' and 'informal' tourism space (Oppermann, 1993), and the collaborative roles of international and local elites (Britton, 1982; Frietag, 1994).

The notion of a 'Pleasure Periphery' becomes an interesting paradigm emerging within this rapid globalisation, with a belief that the transformation between core-periphery is cosmetic (Turner and Ash, 1975). This phenomenon is seen as a crucial issue but the implications that flow from it, especially in the region-nation relationship, have not been investigated in depth.

The economic objectives for the destination country is to increase their share of income, employment etc. while for the tourism industry it is principally to increase profits. The political objectives are that destinations should have better control over the use of their resources and how they are allocated.

Hence, the role of state or government as a mediating structure, is very important. The complexities of the core-periphery relationship often result in physical isolation as well as significant inter-regional disparities in terms of position, population and power.

To illustrate this disparity, small island states or dependencies (SISODs) which are located mainly within developing countries and are defined as having less than 3 million residents and a land mass of less that 28,000 km2, account for about 0.3% of the global population, but receive approxiinately 4.6% of all international visitors (WTO, 1996).

Within Indonesian tourism, more than 60% of international tourists (2.6 M) visit less than 0.3% of (6,000 km2) of the total land mass of Indonesia. In terms of tourist expenditures, this tiny percentage of the land generates more than 61 % of the total expenditure.

Furthermore, that 0.3% of land is accessible with less than 2 hours average travel time from Jakarta, which is less than a quarter of the average time radius for the country. This illustration clearly shows the instances of regional subordinate-dominant systems, where

tourism has functioned as centrifugal force reflecting the core-periphery relationship.

Such inter-regional imbalances have not yet received much attention within tourism studies or at policy level by governments in developing countries although some opinion and perspectives on this core-periphery leading to imbalance issues have started to be addressed (Colin and Baum, 1995; Briguglio, Butler, Harrison and Filho, 1996).

According to Weaver (1998), the involvement of subordinate-dominant tourism regions is not clear cut or obvious when it comes to issues such as facilitation or restrictions in the fields of foreign investment, tourist entries, and effective control over tourism policy. Often, these external influences act as a 'broker' or external core on the internal core within the destination country.

This also affects operational issues such as quality standards within the internal core as well as periphery. It has to be acknowledged that this relationship between external core, internal core, and periphery is a tangled one where it is often difficult to clearly separate fields of control and influence.

To date, the involvement of the subordinate-dominant concept in tourism industries, especially in developing countries, seems inevitable. Two case studies in the Caribbean (Weaver, 1998) suggest that smaller and weaker island developing countries tend to foster tourism facilitating internal cores; whereas the larger entities with regions can generate a core-periphery relationship which may be more exploitative than that from the external core. Therefore, it is important to recognise a certain degree of understanding within the subordinate regions by planning appropriate policy as well as implementing sound mechanisms which ensure local empowerment in the decision making process.

Within this more positive relationship, the concept of centre or core can be seen as a concentration of strategic resources. The surrounding zones of various destinations can be considered as peripheries whose values can be determined through a mutual-interdependence system.

Centres or cities in the regional context have become increasingly centres for numerous market-oriented activities as they represent the location where the needs of the majority of consumers can be met. The size of a region or a centre is positively associated with the number of activities that are located within it. Centres of different sizes emerge due to economies of scale and other factors which preclude the availability of every kind of activity in each city.

Furthermore, it can be expected that larger populations and more intense flows of activities are generally associated with a larger economy of scale and larger market areas. This is especially true for the service economy where it generates significant various activities. Hence, those core regions that capture the largest amount of these market area activities and engage in all other activities, tend to be larger in their size of economy, compared to other regions (Isard, 1956).

When this notion is applied to the physical separation of regional units and with different levels of disparities in size, distribution power etc, the emergence of a centrifugal core-periphery relationship is apparent. This is especially true since 'power and perceived benefits tend to gravitate to the largest units at the expense of the smaller ones as such associations evolve (Lowenthal and Clarke, 1980:302).

Following the gravitational model based on Newtonian physics, it can be formulated that the gravitational force of attraction between two points (origin-destination) is separated by distance.

It should be noted that, in general, different flows of commodities have regularities regarding distance but they are different from each other (Isard, 1956). For tourism, which is a service industry where the consumer must visit the establishments in order to consume its output, then that variation in distance is an important factor.

4.3 Accessibility in Tourism

Accessibility has generally been defined as some measure of spatial separation of human activities. Essentially it denotes the ease or difficulty with which activities may be reached from a given location using a particular transportation system (Morris, Dumble and Wigan, 1979).

Several broad applications of accessibility indicators may be identified, including evaluation of the travel choice as well as measures of the trip distribution system. Measures such as time and cost, which determine network quality and performances, are more appropriate than measures of network distance in terms of only geographical or physical distance.

Obviously the operational effect of distance would therefore not be directly proportional to the unit distance (e.g. airline miles). On the other hand it is not only mileage that effects the concept of distance because there is a tendency to underestimate the impact of distance because of the opportunity of the 'decay factor' to occur within the concept of distance. This 'distance decay' or 'friction of distance' effect will vary depending on the particular flows being examined (Morris, Dumble and Wigan, 1979; Haynes and Fotheringham, 1989; Bull, 1991).

Accessibility, within a tourism context, therefore, becomes an even more important indicator, because it provides a useful analytical assessment in explaining the consumer demand in relation to the time and price of the trip distribution pattern. For example, the cost per mile of travelling may decrease with distances as a ticket from Jakarta to Bali may be two-thirds the cost of a ticket from Jakarta to Irian Jaya, although the actual distance is three times the distance.

However, there are desired levels of travel time, convenience, comfort, safety, status and so forth which affect trip decision making as well as price. For some market segments, travel itself may have a high positive utility, as it offers enjoyment of the point-to-point journey, which is a form of pleasurable experience rather than simply transport. This may be significant especially for special interest type tourists who tend to search for deeper experiences during their journeys. Therefore, there is no reason why accessibility should not also vary between trip purposes or motivation. This would be conceptually interesting in that both the measure of opportunity for interaction and the willingness of an individual to travel would vary with trip purposes or motivation.

Several attempts have been made to formulate models of travel behaviour based on the principles of micro-economic consumer demand theory particularly in the realms of travel choice (Pooler, 1995). Some of these represent explicit attempts to formulate trip generation sub-models on a micro-economic basis.

For example, there is the formulation based on the gravity model as the appropriate model for the study of accessibility and trip distribution that demonstrates that the trip generation rate is a function of accessibility (Koenig, 1977). This was an attempt to give the gravity model an economic dimension as an approach to determine trip generation models, in which accessibility measures were incorporated.

The measurement of accessibility in this research is based on the *average time concept* between regions. The uses of average time as mean distances are commonly employed in quantitative spatial analysis especially related to central place theory.

Geographers have long been concerned with the mean distances among communities at different levels in the settlement hierarchy (King, 1984). Mean distances were mostly used in the fields of geography as well as regional planning (Christaller, 1933; Pooler, 1995). The development of mean distance in travel times then can be found in Janelle (1969) who investigates the declining travel times among spatial urban centres. The study quantifies the idea of time-space relationships, that the average time travel is decreasing as transportation technology improves.

This analogy also applies to service industries such as tourism which depends on technology orientation as well as the level of service availability that exists within the centres. Different regional spatial systems exhibit different average time distances. Indices of access at a region are considered to be measures of relative location and it is often difficult to quantify this conceptual framework in a more detailed and meaningful manner without referring to not only distances, but also to the relative locations and sizes of regions.

With respect to the indices intended to describe accessibility over a region, an alternative to this approach proposed by Allen *et al.*(1993) is to construct a multivariate index, which includes variables such as traffic, network and population density in addition to travel time. This approach, though, is more appropriate to be used in measuring access indices in the traditional sense, where destinations are typically aggregated within a zoning framework or that zoning systems are applied.

Within the tourism context, however, the travel mode may include more than one type of carrier between intermediate points (e.g. taxi-plane-bus) but a variety of choices exist at all points. For example, in the case of a tourist with heavy luggage who wishes to reach a destination hotel from the airport, the visitor could go by taxi, private car, or simply using a public bus.

This case clearly shows that travel involves not only demand for main modes of transport such as airlines, but also incorporates the use of interchanging modes within, or between, the connections. This interchange system between modes involves points such as terminals where prices as well as time must be taken into account. As well, all other forms of difficulty (otherwise known as 'friction') within the system all affect whether the total interchange of modes within the transportation system as a whole work smoothly or not.

The above illustration shows the importance of substitution between competing modes of transportation within regions. In reality, therefore, the range of possible accessibility indicators is almost endless (Morris, Dumble, and Wigan, 1979). These include varying units of separation such as time of day, mode of travel, level of attractiveness of its opportunities, level of demand, spatial zoning of destinations, regional differences of economic potentials as well as level of disaggregation. The approach which is used in this research is based on gravity type indicators (as introduced earlier by Hansen (1959)) which give suitable operations allowing for an economic dimension as an analytical framework. Four general guidelines are identified in determining accessibility indicators, as follows:

- The indicators should incorporate an element of regional separation which is responsive to changes in the transport performance;
- The indicators should represent the behaviour pattern which exists between inter-regional differences;

- The indicators should have the ability to be interpreted within travel and tourism behaviour;
- The indicators should be relatively simple at an operational level as well as feasible at a technical level.

It is relatively understandable that these criteria are sometimes in conflict with one another; nevertheless such criteria should be taken into account when carrying out the analysis. Within tourism travel, passenger carriage consumers are required to consider time and money as important constraints; therefore, in measuring accessibility, time and money-cost variables or some combination of these are highly appropriate.

4.4 Accessibility and Attractiveness

The terms of attraction and accessibility are easy to use conceptually but much harder to achieve workable definitions or applications in practice. It requires a wider principle in that the basic framework to relate accessibility and attractiveness may need to be traced back towards the 'push-pull' concept of supply and demand theory (Vickerman, 1975).

The tendency for tourist flows to move from an originating country to a 'desirable' destination is quite apparent. One study done by Kariel (1983) demonstrated that the level of accessibility of the destination desirability was found to be at least four times as important as any of the other three factors, which were household size, income and proportion between professional and manual worker in the population. This result is important in showing strong support for the gravity principle to explain that there is some kind of *attractive force* that needs to be defined in detail in relating the volume of flow with distances.

There are two ideal requirements of any index constructed within a tourism study -- (1) it should be measurable as a planning parameter; and, (2) that it should be transparent within a market or consumer perception.

The former criterion is usually easier to be fulfilled by planning parameters such as widely available data on business costs and benefits, job opportunities provided etc. which have been used in many different studies of tourism. However, the second criterion is more difficult to quantify as it is dependent on consumer preferences; one possibility would be tourist expenditure based weighting. This is because tourist patterns of expenditure are a powerful tool to represent consumer market preferences especially when these are displayed in the aggregate or reveals some certain degree of aggregation level.

The above illustration demonstrates the problem of using this approach in recreation areas. Tourist expenditure patterns can only be derived for a limited sector of recreation activities; therefore, particular problems sometimes may arise when there is a need to aggregate these with non-tourism sectors in order to produce real indices of attraction. The same problems may arise when differentiating between similar activities within the same category of attraction such as dancing, theatre, cinema, or sport within entertainment activities.

Difficulties also arise for recreational activities that are based on natural resource based facilities and which may involve a single or multiple sites. The complexity of the relationship between accessibility and attraction also involves the level of service, which is built into the attractiveness itself. Therefore in measuring attractiveness, service levels needs to be taken into account in the modelling.

Furthermore, in many cases, it has been suggested that given the complexity of attractiveness it is very often treated independently in recreation and tourism research (Vickerman, 1975).

The rationale for making this separation is that the level of attractiveness implied by tourist flows is influenced by complex exogenous factors, which are defined as planning parameters (Vickerman, 1975). The incorporation of these planning parameters is necessary, in order to assess the effect of changes in the service level of facilities on both tourist generation and travel distribution. This means that we must move towards a more general equilibrium approach to regional planning, as a piecemeal approach will always lead to poor results and any change within one sector will upset the equilibrium. This approach produces two main problems areas -- the definition of suitable parameters and the incorporation of these variables into the structure of the regional planning model.

4.5 Economic Distance

The use of the gravity model in combination with the input-output analysis is seen as an important tool for regional analysis. It enables a review of the structure of spatial economy as a structural schemata involving ordered arrangements of groups and sub-groups and aggregated and disaggregated sectors. This combined model incorporates distance as a variable in location theory. In contrast, in international trade theory, the distance variable has hardly been explicitly recognised.

The gravity model is also seen as an operational model to quantify various interrelations and to provide analytical tools more relevant to policy decisions and formulation.

The gravity model, which is one of the most productive borrowings from physical science, has been mostly employed by geographers in the field of gravitational theory (Hagget, 1965).

This model drew conceptually from Newtonian theory in suggesting that movement between two centres would be proportional to the product of their populations and inversely proportional to the square of the distance separating them.

This gravity model presents a powerful analytical technique in order to present more effectively the space-economy as a hierarchy of focal points and access. This emphasises once again that the power underlying the input-output framework of a region's economy supported by gravity model principles is highly appropriate in revealing regional positioning of the multiplier values generated by tourism destinations.

Gravity based models are widely used in modern scientific geography because it makes explicit and operational the idea of relative (as opposed to absolute) distance as well as location. The gravity-based models have the ability to measure such relative location concepts by integrating measures of relative distance with measures of relative size.

The importance of relative concepts for location, distance, and spatial interaction can be seen in the continued uses of wider applications of gravity based models in different fields. The disciplines that use gravity-based models include city and urban planning, transport analysis, retail and location firms, shopping centre investors, and land developers (Haynes and Fotheringham, 1984), as well as archaeology (Adam, 1977; Clark and Stankey, 1979) and linguistics (Trudgill, 1975).

However, its uses in tourism, travel and leisure planners are still limited. In practical terms, these gravity-based approaches can provide important inputs for both public and private decision makers, especially when dealing with macro level development issues.

Two basic elements that appear to capture the most fundamental principles of the gravity model are:

(1) *Scale Effects*: that larger or more developed masses tend to generate more activities than smaller or less developed ones;

(2) D*istance Effects*: that farther places tend to generate less interaction or generate less output of activities than closer ones.

Although in principal, gravity formulae appear to offer simple and effective guides to predicting and explaining movement between areas, at the application level they present a number of difficulties. These are mostly related to the fact that it is often not clear how the various parts of the components should be defined or related to each other (Hagget, 1965).

The components (mass and distance, as well as the relation between them) can be explained as follows:

- The mass variable has conventionally been equated with population size in many gravity studies. Population has the prime advantage of being convenient as data as the size of most population clusters in the world is readily available, although population may conceal important inter-regional differences. However, multiplication of each cluster by its mean per capita income suggests itself as a useful improvement of the gravity's weighing system, because following Isard's argument that the weight of molecules of different elements are unequal. Therefore, the weights of different kinds of population should be different, though it still does not yield a completely satisfactory answer (Isard, 1960). Some further development in using gravity models have used indices such as population growth which shows the degree of desirability of the movement in flows (Kariel, 1983).

- However, population is not always the most appropriate variable that may affect the generation and attraction of flows. For example, it is more useful to examine the average income level at each centre when examining the flow of shopping expenditures between two centres. Other studies using gravity models have analysed market access and predicting market behaviour (Haynes and Fotheringham, 1989) and the optimal size of a shopping development within retail sales (Dunn, 1996) as relevant measures of mass in gravity formulae.
- The distance variable can also be measured in a number of ways. The conventional measure simply uses the physical distance between two points. In further development studies of the model, time rather than physical distance may be a more appropriate measure. This is to confirm that short distances in more urban areas are equal to longer distances in rural areas. The concept of distance within the tourism context again should be focused on the fact that consumers are required to spend *time* as well as *money* in their travel. Furthermore, the use of these resources is often considered more important than physical distance of the travel. There exists, however, an *opportunity cost of time* as well as money involved in this travel.
- Based on the above framework, therefore, that in measuring distance, a composite time and money variable in the form of 'economic distance' is a better measure for travel in tourism than simply a geographical or physical distance. Where there is a choice of destination, as in recreational tourism, then it would vary inversely with these variables.
- The relation between mass and distance is one of the difficulties that is presented by the application of the gravity model, especially in more complex situations. Clearly there are a number of modifications that need to be investigated in which the gravity type of model can be adapted to make it more valuable and useful in this level of empirical studies.

Given this theoretical background, it is necessary to examine the relationship between time and price/cost distance as they are key factors in understanding the concept of accessibility in travel and tourism. A test was conducted within the twenty-seven regions in Indonesia as the study area of this research, to investigate the interaction between time and price distance using a regression correlation.

The price distance is calculated in each region by multiplying the total number of tourists who visited the region by the average air ticket price to the region from each of the five main international air gateways to Indonesia. The result is divided by the total number of tourists who entered those five gateways.

In order to be able to put this into a scale, a price index is calculated from the price distances obtained to reflect the level of accessibility for each region. The price index is then calculated in an inverse relationship by dividing the results of each price distance into one and multiplying by 1000 to obtain a manageable number. The inverse relationship reflects the fact that when the level of accessibility is high or closer to the centre, this means that the price distance is low (*Chapter 7: Methodology*).

The average of these time travel and price factors are used as a basis for measurement in order to construct the level of accessibility index for each region. This is based on the time required to travel, frequency, and price from all international gateway airports in Indonesia to each of the 27 regions.

The fitting of a line to the data is complicated by the fact that as the time distance *increases*, the price index *decreases*. The regression equation supporting the graph therefore is as a quadratic form. It is clear from the graph (Figure 4.1) that the decrements in price distances are greater for closer regions to the centre than are the increments for further regions; or in other words, the price distance decreases and access is better closer to the centre.

Therefore, from a consumer viewpoint, price becomes an issue in proportion to time distance. In Indonesia, for example, if it is not only further in time distance to travel from a central region such as Jakarta to a more peripheral region such as Irian Jaya, but also proportionately more expensive in price distance, then the economic distance becomes an obstacle.

Therefore given the dampening effect of this relationship on demand and resource allocation, then location in tourism development in Indonesia becomes a real constraint.

Figure 4.1 Time/Price Correlation

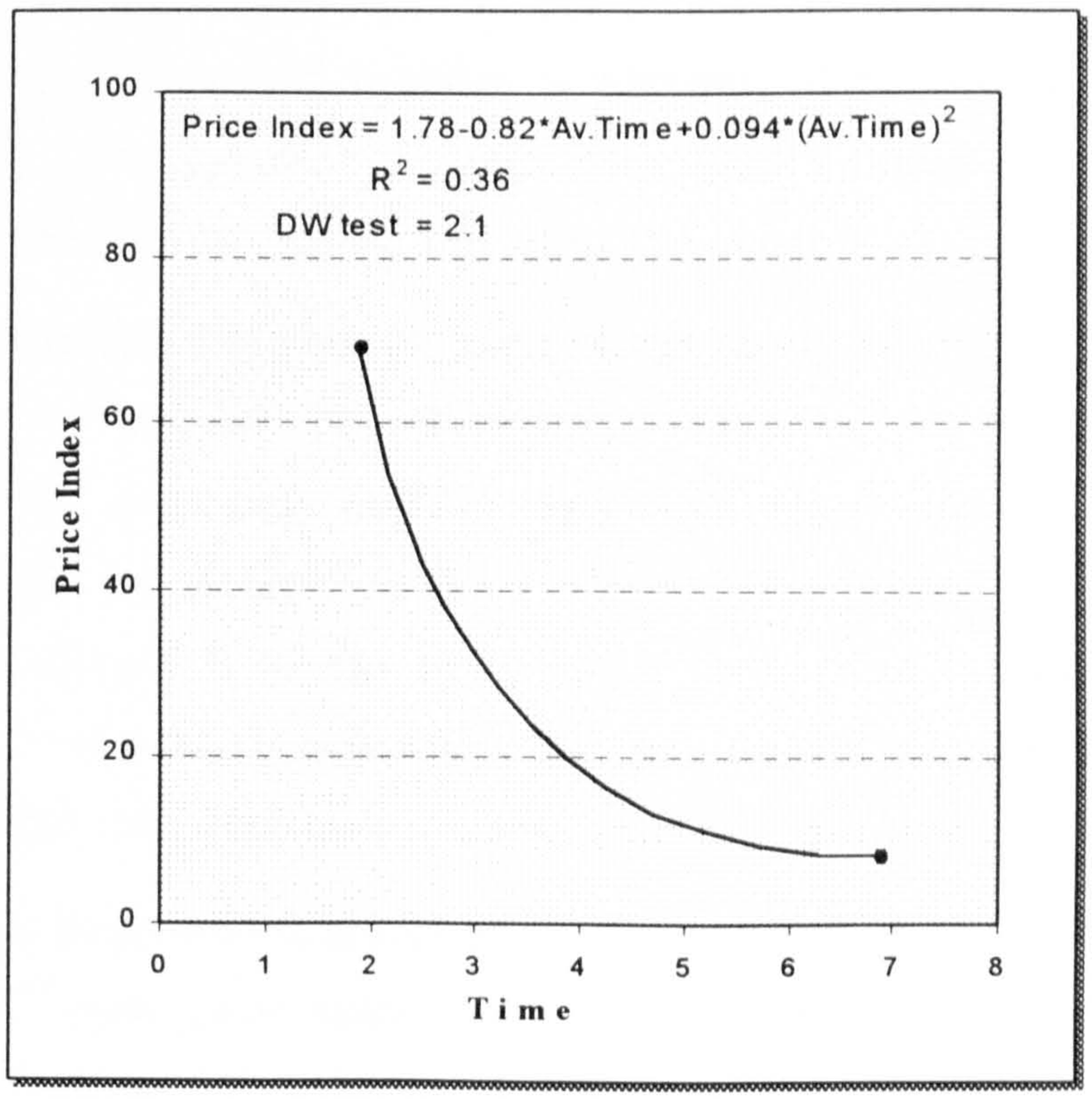

Table 4.2 Regression of Time/Price Correlation

Variables	Price - Distance				
	B	SE B	Beta	T	Sig. T
Time Distance (T^2)	0.094	0 395	1.427	2.37	0.0257
Constant	1.783	0.37632	-	4.738	0.0001

Both time and price distance were calculated on an 'average' basis between the twenty-seven regions linked to the five main international gateways in Indonesia. These reflect both the correlation coefficient of the interconnection time as well as money involved *(Chapter 7. Methodology).*

The main calculation is that the distance element is a function of time and money variables. The results as shown in Table 4.2 and Figure 4.1, are that the concept of distance as a function of time and price fit as a quadratic (with curve) at a significance level of .050 limits. This quadratic type of correlation between time and price may be explained that in Indonesia the interaction between centres and peripheral regions is steeper. Therefore, this follows the gravity principle that the less developed a region is, the higher price involved in the movement from the centre.

Another analogy that can be used is the study of lapse rates where there is a concept of 'absorption' involved in this kind of relationship. Johnston (1979) suggested that migration from a centre might be likened to the emission of a ray of light. Light is gradually absorbed by the medium in proportion to flow per unit distance. In the same way migration population may be thought to be gradually absorbed by the areas into which it moves.

Within this Indonesian study area, the concept of accessibility as a function of time and price distance is a quadratic relationship, which according to Haggets (1965), may be termed a *deductive gravity model.*

4.6 Input-Output and the Gravity-Based Model

The input-output framework of a region's economy combined with a gravity based model of links between regions provides a powerful description of the sectoral and spatial structure of an economy (Vickerman, 1995).

The framework described above shows that there is an economic potential element that provides essentially the most neutral picture of changes resulting from changing access.

To be more than just an initial indicator of the likely beneficiaries and losers from tourism impacts, a means of identifying location indices of those regions need to be examined more closely. It, therefore, requires modelling of the supply-side which will show how such changes of impacts will be translated into benefits by a region's economy.

In order to present the supply-side effects, input-output analysis, which has frequently been used in impact studies, is used here to build a pattern of intersectoral linkages. This illustration of approach is based on the following justifications:

- First of all, the gravity-based concept can help to differentiate between regions in similar locations, but with different economic structures.
- Secondly, the input-output approach enables a building up of the pattern of impacts on the regional economy through the intersectoral linkages.

The uses of this combined framework within the context of tourism economic impacts in Indonesia seems highly suitable considering the archipelago setting that became the main locational constraint in developing tourism from region to region.

The weakness of the input-output approach, however, is the focus that it puts on the traditional demand induced multiplier impacts on the economy through its existing static economic structure.

Therefore, a word of caution must be made when comparing similar regions within the same economic structure of a country, and when comparing a core region in one country and peripheral region in another, where they will be reflected by different inputs. The effect of such an assumption of constancy is to reinforce the core-periphery relationship. This characterises much of tourism development in developing countries, such as Indonesia with its centrally developed planned tourism sector.

The theoretical background of the relationship between scale, location and regional development was reviewed in the previous chapters in order to set up a framework to examine the effects of tourism development in Indonesia. The following chapters illustrates Indonesia as the study area from the point of view of showing the evolution of tourism resources and demand in Indonesia (Chapter 5), followed by a focus on the role of tourism as a strategic development tool within the national and regional context (Chapter 6).

PART THREE

INDONESIA AS A STUDY AREA

CHAPTER 5. INTERNATIONAL TOURISM IN INDONESIA

5.1 Introduction to Indonesia

5.1.1 Geography

Indonesia is characterised by its large size and wide economic, social, cultural and geographic diversity. It consists of a vast equatorial archipelago stretching along the equator in the tropical zone between 6 degrees north and 11 degrees south latitude, and 95 degrees west and 141 degrees east longitude. Its east to west width stretches along one-sixth of the globe's circumference or twice the distance from London to Moscow. It is big enough to have three time zones – Western, Central, and Eastern Indonesian time.

Therefore, accessibility in a country of this size becomes a key factor in the development of tourism along with accessibility from international markets. Indonesia has always been a long-haul destination from the world's major tourism generating markets of Europe and North America. Therefore, it is only in the recent decades since the jumbo jet became widely used among the world's airlines that attracting sizeable numbers from such distances has become technically -- as well as economically --feasible.

Indonesia's archipelago divided into a rough ratio of 80% ocean and 20% land, and this fact of geographic life along with its tropical climate mean that marine tourism would become one of its major attractions.

Its 1,919,317 square kilometres of land (or 8 times the land area of Britain) is distributed over more than 17,000 islands which would bring forth additional challenges in terms of developing the necessary infrastructure and superstructure to develop tourism (Eliot et al, 1998).

Indonesia is the fourth most populous country in the world after China, India, and the USA, with 195 million people (1995 Census) and it consists of hundreds of recognized ethnic groups and languages. Therefore, it has a rich cultural and built heritage, which has formed the basis for much of its attraction in the modern era when cultural tourism has come to play an important role in international demand.

While largely tropical in temperature and geographical characteristics, Indonesia is also noted for its mountains, notably its volcanoes of which Indonesia has more active ones than any other country – 13% of the world's total. Across the archipelago, there are over 300 volcanoes of which more than 200 have been active in historical times.

Geographers have also broken the country down into the Greater and Lesser Sunda Islands, reflecting the famous 'Wallace Line' running between Bali and Lombok where the 19th century naturalist, Alfred Russell Wallace, first charted the startling difference in plants and animals between the groups of islands that contrast Asian and Australian origins. Even in 1869, Indonesia was recognised as having the richest flora and fauna of any country in SE Asia and marked the interface between the Asian and Australasian worlds, and is arguably among the most bio-diverse countries in the world (Wallace, 1869).

However, while the archipelago consists of thousands of islands, the bulk of the population of Indonesia is to be found in the five largest islands consisting of Irian Jaya, Java, Kalimantan, Sulawesi, and Sumatra. Arguably the most dominant ethnic group is to be found on the island of Java, home to the largest population (114.7 million Javanese according to the 1995 census), and containing the most developed economic and educational infrastructure in the country. The vast variety in the size of the islands and the consequent population density have also strongly affected Indonesia's social, political and economic development. This variety can be demonstrated in the following summary table (Table 5.1):

Table 5.1 Major Regions, Population, Land Area, and Population Density

Regions	Population in Millions (1995 Census)	Land Area (sq.km.)	Population Density (persons/sq.km.)
Java	114.7	132,186	868
Bali	2.9	5,561	521
Sumatera	41.2	473,481	86
Kalimantan	10.5	53,946	19
Nusa Tenggara	8.0	82,927	124
Sulawesi	13.8	189,216	73
Maluku	2.1	74,505	28
Irian Jaya	1.9	421,981	5
Indonesia	**195.1**	**1,433,803**	**101**

(*Source : Eliot et al, 1998*)

In tourism terms, the geography of Indonesia offers enormous natural attractions in its many islands. These include the beaches and warm tropical seas that encourage all forms of marine tourism; the terraced rice fields with their striking beauty and rural way of life found on many islands; and the tropical forests offering the possibilities of observing nature and adventure tours of all kinds.

However, the fact that Indonesia is an archipelago with vast distances between the core, more developed islands and the outer islands on the periphery has meant that, however great the potential of natural and cultural attractions in those outer regions, tourism development there requires proportionately greater investment in infrastructure of all kinds than would be necessary in a smaller area or a connected land mass that could be serviced by a single hub (Gannon, 1993).

5.1.2 History

Indonesia's fertile islands have attracted waves of visitors, traders, colonisers, and settlers since before recorded history. One of the most celebrated of archaeological finds still celebrated in popular culture throughout the world was so-called 'Java Man', the bones of *Homo Erectus* found in Central Java by a 19th century anthropologist, Eugene Dubois. This discovery that man had inhabited these islands for hundreds of thousands of years is preserved today in a museum at the site itself, in Sangrian, in Central Java.

Migrants from Southeast Asia from Mongoloid stock settled into Indonesia approximately 2500 BC, bringing with them the practice of settled agriculture and primitive earthen ware pottery still found today in the rural lifestyle of Javanese villages.

As well, their religious practices of ancestor worship and animism still leave traces in modern Indonesia in the megaliths and ritual practices found in Sumatra, Java, Sulawesi, Bali and Sumba.

Indonesia's pre-colonial history was a fragmented assemblage of kingdoms, sultanates, principalities and villages spread throughout the diverse ethic groups over the many islands. The great empires of the pre-colonial period extended their power beyond their home range from time to time but none encompassed all the area found in the modern Indonesian state. Some examples of influential kingdoms from pre-colonial times who have left their impact on modern Indonesia include the Muslim Javanese dynasties of Majapahit and Mataram, the Sultanates of the Spice Islands of Maluku, the Sultanate of Aceh in N. Sumatra, and the Hindu kingdoms of Bali (Eliot et al, 1998).

Given this fragmented pre-colonial history, historians point to common processes of change as being keys to appreciating Indonesian culture and society today. The main ones affecting the archipelago over the centuries include the 'Indianization' of the region from the 1st century AD with the introduction of Hinduism and Buddhism from SE Asia; the arrival of Islam in N. Sumatra in the 13th century that spread east and south during the 15th century to Java. The contrast is also made between inwardly-focused agricultural kingdoms such as Java and the outwardly-oriented trading states such as Maluku (Eliot et al, 1998).

All of these factors still exert a tremendous influence on Indonesian culture and society today as any casual visitor will notice, not only in the temples and ruins found in the archaeological sites but also in the living heritage.

For instance, while Java is officially 90% Muslim, the Javanese way of life as shown in its culture and ritual practices reflect a fascinating blend drawn from animism, Hinduism, Buddhism, as well as Islam and Western practices from the colonial and independence eras.

Bali, the most important tourist destination in Indonesia, is a Hindu island, the remnants of a 16th century Hindu kingdom pushed eastwards from Java by Muslim sultanates. Bali's major image as an 'island of Gods' or the 'paradise island' popular in the Western imagination is due to this strong living Hindu culture. This is reflected in Bali's many temples; the colourful village festivities and celebrations of one of thousands of Hindu gods which take place on a virtual daily basis; and the ritual offerings of flowers and food found in front of every house and business on the island (Picard, 1996).

Even after the Western maritime powers (Portugal and Holland) arrived in the 15th century, their influence was superficial in cultural and political terms for many years. Portugal only made a significant impact in the Spice Islands where they have left as their legacy some forts and other colonial outposts, elements of the Portuguese language later integrated into Indonesian, and introduced Christianity to the region as a whole. It was the Dutch in the form of the Dutch East India Company (known by its Dutch initials '*VOC*') who began the real process of western intrusion when they established a foothold in Java.

However, both of these European maritime powers primary concern was controlling the valuable spice trade, and later in exploiting the other natural resources (rubber, timber, tea, tin, coffee, gems) of this rich archipelago.

Only in the early 19th century did the Dutch begin to seek territorial domination and it was not until the early 20th century (barely a generation before the Japanese occupation in WWII) with the final conquest of Bali that the Dutch could claim they held administrative authority over the whole country. Moreover, throughout their rule, the Dutch were only a tiny minority of colonists living among a sea of Indonesians and thus governed through local institutions and rulers, largely leaving the various ethnic groups intact in cultural and social terms (Abdullah, 1995; Picard, 1996).

The move towards Independence started as a cultural and political force among the Indonesian intelligentsia in the early part of the 20th century, culminating in 1928 with the historic Congress of Indonesian Youth in 1928. At this conference, Sukarno, who later became Indonesia's first President, led the nationalist gathering at which the first Indonesian flag was designed and the Indonesian national anthem was first sung declared: *'One nation – Indonesia; One people – Indonesian; One language – Indonesian'*.

This became the overriding governing rationale of all subsequent governments in Indonesia, and goes a long way to explaining why the central government has always fought to keep Indonesia united in its 50 years as an independent nation even in the face of strong sectarian movements as those found in East Timor, Aceh, and Irian Jaya (Vatikotis, 1993).

While Indonesia is often cited as the country with the world' s largest Muslim population (and approximately 90% of the people are Muslim), Indonesia is not officially an Islamic state unlike, for example, its neighbour Malaysia where only 65% of the population are in fact Muslim. Rather, Indonesia's prevailing official credo is *'Pancasila'*, a philosophy of tolerance that recognises a belief in a just God among its five main tenets.

Pancasila is an official part of the 1945 Constitution, put forth by the revolutionary leaders of modern Indonesia during their struggle against the Dutch colonial regime. Its explicit aim was to promote tolerance and unity among Indonesia's many ethic groups in a newly-formed country.

The collective national heritage of Indonesia and the explicit efforts of the revolutionary founders helps explains why today there are five recognized religions in Indonesia (Buddhist, Hindu, Muslim, and Catholic and Protestant), all with public holidays celebrated by the population as a whole. It also helps explain the general tolerance and mild form of Javanese Islam that many early travellers to Java have commented on, and why foreigners have always felt comfortable living and travelling within Java.

Indonesia became officially recognized by the Dutch and the world as a sovereign nation on Dec 27, 1949. However, Indonesia celebrates its national Independence from Aug 17, 1945 when Sukarno first raised the national flag in Yogyakarta and declared an independent Indonesia, beginning an intensive four year armed struggle culminating in victory in 1949.

Sukarno who was the revolutionary leader throughout the long struggle for Independence had become the first President. The structure of the economy was similar to other newly independent countries in the 1950s and was characterised by extreme economic nationalism with state-controlled companies and corporations dominating the economy, and an anti-Western, pro-Soviet rhetoric in international relations (Vatikiotis, 1993).

The uneasy relationship between the Army and PKI ended in Oct, 1965 when an attempted coup by PKI was put down by Army forces led by a mid-ranking officer named Suharto[1] in charge of a strategic battalion headquartered in the capital, Jakarta. This led to a savage crackdown on PKI supporters throughout the country, and Suharto became effective leader of Indonesia although he was not officially elected as President until 1968. This marked the shift to what became known as the 'New Order' which lasted from Oct, 1965 until May, 1998 when Suharto was forced from power in by a series of natural disasters, free-fall in SE Asia economies, unacceptable levels of nepotism and corruption, and riots in Jakarta.

When Suharto took power in 1965, he faced an economy in collapse with hyper-inflation and virtually no inward investment. He turned to a group of US-trained economists who recommended economic reform, the return of expropriated assets, and a more welcoming political and economic climate for foreign investment.

The foundations for the building of a tourism infrastructure, public utilities, and educating human resources as well as the necessary political and economic stability to attract foreign investment and visitors (of which more details later in this chapter), all took place during Suharto's long rule.

In 1998, it is difficult to predict what the immediate future holds. In tourism terms, the uncertainty, political turbulence, and social unrest of late 1997 and which continued throughout 1998 has devastated the tourism industry in Indonesia.

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[1] Suharto and Sukarno are typical of the tradition commonly found in Javanese culture in that they only have one name.

However, Indonesia's great natural and cultural attractions combined with its strong tourism infrastructure suggest that once stability returns, tourism will likely become a major source of foreign revenue and employment.

5.2. International Tourism in Indonesia: Evolution of Resources and Demand

The following profile has been sub-divided into the categories of tourism resources and demand aspects in four broad historical periods in Indonesian history. These are:

- Era prior to the 20th Century (1600-1900)
- Twentieth Century Tourism Prior to Independence (1900-1945)
- Tourism Post-Independence to the New Order (1945-1965)
- Tourism under the New Order (1965-1998).

When discussing the centuries prior to Independence, it should be noted that the writings from the travellers of those times are – however sympathetic and observant author -- strictly from a European rather than Indonesian viewpoint. In context, the way of life of the Javanese and other non-Europeans is often described with great colour, detail, amusement and sometimes a condescending admiration where the people are seen as childlike, simple, passive yet volatile. The effect of this for globe-trotting white visitors was most pleasant. Java, with its great natural beauty, its colourful and childlike population, its exotic women (and it should be remembered that the vast majority of travellers of the era were men travelling solo), combined with a 'modern' colonial infrastructure formed the perfect stage setting for the good times of the travellers.

5.3 Tourism Resources and Demand Prior to the 20th Century (1600-1900)

5.3.1 Tourism Resources

The many ancient temples and statues that form the Indonesia's built heritage of archaeological landscape to which cultural tourists are attracted, largely stem from the Buddhist and Hindu periods of Indonesian history. One of the greatest periods of monument building in stone that the world has known commenced in Central Java in the late 7th century, and reached a climax with the construction of the Borobudur in the 8th century, and the temple complex at Prambanan in the 9th century.

The temples were Buddhist and Hindu and it was the spread of Islam throughout Java form the 15th century onwards that brought to an end both this period of temple building and their formal use (Sedyawati, 1995).

However, while knowledge of most of these monuments remained in the collective consciousness of the people, the exploration, survey and recording of many of the temples of Java only really entered modern history during the British administration of Java from 1811 to 1816. Under Sir Stamford Raffles, teams of British and Dutch engineers and draftsmen were sent out to inspect these sites, while Javanese experts in history and literature were brought in to help decipher Sanscrit and other inscriptions found on the temple walls.

By the mid-19th century, there was a firm itinerary established for the adventurous visitor to Java, as few travelled outside of the well-established colonial routings and infrastructure of transport (horse cart and sailing routes), roads, bungalow type of accommodation that existed in Dutch Java.

The visitors to Java in that era would follow a routing that, after arrival in the capital Batavia (now Jakarta), would include visits to the Botanical Gardens and Governor-General's mansion at the hill station of Bogor to which Dutch officials and their families retired to during the hottest weather. Other parts of the standard tour would include Bandung; the ruins at Borobudur and Prambanan; the cultural cities of Yogyakarta and Surakarta (Solo); excursions to the mountains, especially volcanoes; and overnights at tea, coffee, and sugar plantations. Then, as today, many visitors would go on to see the beauty of the rice terraces found in West Java.

It can be observed that these early itineraries are remarkably similar to those that would be followed a century later in the modern era of tourism and for similar reasons. Visitors needed the supporting tourism infrastructure and suprastructure in order to travel, eat, sleep, and view attractions, and in the 18th and 19th centuries this infrastructure (such as existed) was limited to Java. Access and location determined what was possible to visit within the time, distance and price costs of the visitor.

Within the Dutch East Indies, Java was clearly the region best qualified in terms of location as a tourist destination. According to travellers' accounts of the era, by the mid-19th century Java had been provided with an extensive rail and road network; it was politically secure; it offered the facilities and reassurance of a large European population; and it was located on the shipping routes from Europe and India to Australia and Hong Kong (Rush, 1996).

However, from the days of the VOC, the Dutch authorities had restricted access to colony by non-Dutch outsiders and even under new regulations introduced in 1872, foreign visitors had to obtain the formal permission of the Governor General in order to travel beyond the main cities of Java.

An American traveller, Eliza Scidmore, writing in 1897, states that 'the Dutch do not welcome tourists, nor encourage one to visit their paradise of the Indies...(they) impose so many hampering customs and restrictions upon all alien visitors and residents' (Scidmore, 1897, pg.71). There were further complaints of the police intrusions and red tape in hotels, and the permits needed in order for visitors to travel further than the hill capital of Bogor, about 40 miles from the capital.

Thus, at this point in the history of Indonesian tourism, there was little encouragement of the local authorities to encourage a tourism industry beyond the normal visits of people from Holland to see their Dutch friends and relatives in the colonies. However, this attitude would change within the next decade, notably in the early 20th century.

5.3.2 Tourism Demand

While outside visitors to Indonesia were relatively few in the centuries prior to the eras of steamships and later air travel, many of the people that did manage to make the voyage left behind a rich writings and drawings in their home countries. These stimulated the imagination and desire of the literate population, intelligentsia and later the middle class of Europe regarding many regions of Indonesia including the Spice Islands (Moluccas), Java, Borneo (present day Kalimantan), and, most of all, Bali. This wealth of publications helped leave an indelible impression in the Western imagination which helped fuel the desire to travel to Indonesia once the era of mass tourism began and still underpins much of the marketing and promotion imagery for its various attractions (Picard, 1996).

Within this group of early travellers, there were relatively few holiday travellers who braved the months of ocean voyage necessary to reach distant destinations such as the Dutch East Indies from Europe or North America. Therefore, it is not surprising that the majority of the initial travellers during Dutch colonial rule who visited the Indonesian archipelago were traders, missionaries, soldiers, and naturists of all kinds. To that may be added, adventurous souls from many nations who explored the world for its own sake, especially the British who occupied much of the Far East with their own colonial empire.

Since the British were well-established colonists with officials, families, traders, and soldiers in Indonesia's nearest neighbours -- Singapore, Malaysia and Australia – it was natural that many British citizens would take opportunity of their relative proximity to visit the fabled regions of legend to be found in the Indonesian archipelago. As would be true in the later years of mass tourism, proximity and location were vital factors in determining who visited which destinations.

In fact, the British had an organic connection with Indonesia through the East India Company which had established a series of trading posts early in the 17th century throughout the Maluccas including Bengkulu in Sumatra, Aceh, Ambon, Banjarmasin, and others. This followed the arrival of Sir Francis Drake in Maluku in November, 1579 during his epic voyage around the world. Despite the many hazards he faced, Drake managed to bring back a cargo of cloves intact, a feat later celebrated by Milton in *Paradise Lost* when he referred to the island 'whence merchants bring back their spicy drugs'. It also encouraged others to follow in Drake's footsteps (Eliot, 1998).

The British later also had a direct colonial link to the Indonesian archipelago as for a short period (from 1811-1816) they briefly ruled Java until the European post-Napoleonic war settlement returned it to Dutch rule. As it happened, the imaginative choice of Lt. Governor during British rule was Sir Stamford Raffles who later went on to leave a decisive stamp on Singapore. Sir Stamford's intense interest in Javanese culture and the ancient temples and architecture combined with his writings helped publicise the richness and variety of Javanese history and fix it firmly in the Western imagination.

The inspiration and direction Raffles gave to investigating the history and culture of the island began a new age in the scientific study of Indonesia. Raffles took a then radical view that to understand and govern the island well, it should first be studied form every aspect of its environment and its people and their culture, religion, history, languages, literature and antiquities.

He became President of the Batavian[2] Society of Arts and Culture and in that role encouraged surveying, drawings, and publications by local Dutch, American and British officials on the Hindu and Buddhist ruins of Borobodur, Prambanan, and the Dieng Plateau – all of which have become UNESCO-designated World Heritage Sites, and the major tourist attractions of Central Java. In 1817, Raffles classic two-volume work *'The History of Java'* was published in London (Gallop, 1995).

It drew together an exceptionally wide range of material gathered from both European and Indonesian sources. These volumes were the first scientific account ever published of Java, and they remain an important reference work even today.

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[2] Batavia was the Dutch name for what is now the capital, Jakarta

All of these efforts helped form a picture of Java in the European imagination as an ancient civilization worthy of study and visit, comparable to the Roman, Egyptian and Greek remains that were part of the 'Grand Tour' of Europe and the Mediterranean taken by the upper class and aspiring middle classes of Britain.

However, most of the travellers during these centuries did not study Indonesia in depth – not unlike the voyagers of today, they gathered their impressions and facts as they went and later published them when they returned home. The writings fall broadly within the tradition of English travel writing, which began in the 17th century with accounts of the Grand Tour and the voyages of discovery.

As a general rule, the writings about travel in Indonesia – especially in Java which forms the greatest amount of travel writing due to the presence of the Dutch colonial infrastructure – flow from the same general body of experience, knowledge and assumptions that frame Western perceptions over the past centuries (Rush, 1996).

This vast body of material includes much beyond travel writing including novels, magazine and newspaper articles, works of scholarship, official published histories, as well as individual artefacts of the times including songs, diaries, letters and photographs. Within this collection of words and images, a distinct picture of the exotic 'Orient' emerges reflecting the West's relationship to the Orient in that it reflects the interplay of experience that led Western empire-builders to believe so confidently in their own natural superiority (Said, 1978).

Therefore, at one level, the Java travel tales are about Batavia's hotels and famous *rijsttafel* buffets, the Botanical Gardens, the mountain tea districts, Borobudur, and the rich cultural life of the Javanese.

On another level, they are simultaneously about the advance of European power on the island, the growth of colonial institutions and infrastructure, and the reduction of the Javanese to positions of subordination, exoticism and quaintness (Nuryanti, 1996).

One of the most famous quotes concerning Java in travellers' eyes of the mid-19th century can be found in the writings of one of Indonesia's most famous visitors, the naturalist Alfred Russel Wallace (of Wallace Line fame). He declared Java to be 'the very finest and most interesting tropical island in the world', a remark which was to seized on by many later visitors as one of the reasons they visited Java. However, for the great naturalist, while he admired 'the temples, tombs, statues of great beauty and grandeur ...from a civilization which has not been equalled by the conquerors (the Dutch)', Wallace felt that Java's preminent position as a model society and colony could be found in 'European and native rulers work harmoniously together; and life and property are as well secured as in the best governed states of Europe'. (Wallace, 1869, pg. 72-3). This confident and unselfconscious belief in European natural superiority was typical of traveller tales of the era.

5.4 Twentieth Century Tourism Prior to Independence (1900-1945)

5.4.1 Tourism Resources

For travellers in the early 20th century, the Dutch East Indies consisted of several well known regions associated with myth, folklore, trade and exotic cultures. The best known to Westerners were Java, the Spice Islands (Moluccas), Borneo (Kalimantan), and, of course, Bali.

It is noticeable that in terms of local benefits and regional development, that even in these early days of tourism in Indonesia, leading figures in the tourist industry were to claim that 'tourists contributed positively to the development aims of the Ethical Policy by bringing money to "all classes of society"' (Cribb, 1994, Pg. 195).

Given the long exposure to the outside world, Java remained the principal destination for visitors to the Dutch East Indies as it had the best tourism infrastructure, superimposed (as noted in the previous section) on the colonial infrastructure of shipping lines, harbours, roads and guest-houses which had been established over the decades. In terms of scale of accommodation of the period, there were no large hotels but rather units that would be classified as bungalows and guesthouses in a modern era.

Brochures published by the Official Tourist Bureau in the 1920s and 1930s emphasised the natural and cultural attractions of Java in brief: 'Famous Hindu ruins; Thirty active volcanoes; Splendid motoring; Grand Scenery; The most famous botanical gardens in the world; Excellent Steam and Railway Service; Good hotels'. The title of a pamphlet from 1931 summarises the appeal neatly: 'The romance of the East, the comfort of the West in Java, Sumatra, and Bali'. (Cribb, 1994).

By 1935, Java had some two thousand miles of serviceable roads suitable for motor traffic. An English resident, Harriet Pondor, wrote of the joys of travelling through Java by motor-car in the 1930s. However, she noted that the road system connecting the capital, Batavia, to the furthest port on the eastern coast of Java, Surabaya, had been constructed by forced labour over a 25 year period by the Dutch colonial authorities. Nevertheless, she was forced to admit that 'the roads of Java must surely be some of the most delightful highways in the world' and that 'the surface of Java's main roads is ...perfect, and even that of the by-roads is so excellent...' (Pondor, 1935, Pg. 158).

The island of Bali only came under Dutch administration in 1908. From the earliest days, the outside influences on Bali was intense due to tourism and therefore the government of the era took steps to try to protect Bali against the impact of modernity. This was explicitly stated in a policy effected in the 1920s that became known as the *'Balinization of Bali'*. Specifically its aim was to go beyond sheltering the Balinese from unwanted outside contacts; it was to make Balinese youth conscious of their rich cultural heritage through an local education that emphasised their language, literature, and traditional arts. For the colonial authorities, there was a double advantage to be gained by strengthening Balinese culture and emphasising its Hindu aspects. It was also seen as a barrier against the spread of Islamic radicalism and the various nationalist movements which had recently arisen in Java and Sumatra (Picard, 1996).

In order to open Bali and Java to visitors, two preconditions were necessary – setting up of touristic infrastructure on the island, and accessibility to the outside world. This began almost as soon as Bali was officially pacified by the colonial authorities as in 1908, representatives of various industries in Batavia (Jakarta) with links to tourism – banks, hotels, railroads, insurance, and shipping companies -- founded the Association for Tourist Traffic in Netherlands India.

In this same year, this government-supported association opened an Official Tourist Bureau that installed representatives in Java and established links with the tour operators of the day abroad. By 1914, six years after the conquest, Bali was considered sufficiently pacified to have the occupying army replaced by a civil authority and it began to be included in the promotional efforts of the Official Tourist Bureau.

The main activities of the Bureau were to maintain visitor information centres in key cities in Java and to distribute information on the Indies to potential tourists throughout the world. They targeted principally Europe, North America and Australia through taking advertising space in newspapers in magazines, placing posters in hotels and transport centres, and organizing displays at international exhibition. The Bureau published increasingly detailed guidebooks in both English and Dutch. Most of them focused on Java, but a few – especially those in Dutch – encouraged visitors to West Sumatra and other destinations. In other words, they acted much as National Tourism Organizations (NTO) do for their countries throughout the world today (Cribb, 1994).

As one British official in Malaya (Malaysia) noted ruefully in 1936 , 'Unlike the Dutch, who have made a religion of tourist propaganda...the British in Malaya do little to attract the passing stranger' (Stockwell, 1993). To justify its existence and claim continued government subsidy, the Official Tourist Bureau claimed significant success for their promotional efforts. For instance, a mere 208 foreign visitors to the Dutch East Indies in 1908 (the year the Bureau was established) had grown twenty-fold to an impressive 5,579 in 1913, before the advent of WWI delivered a dramatic decline in arrivals (Cribb, 1993).

However, then as now in order for tourism to grow, reliable, frequent scheduled transport was essential. In the late 19th and early 20th century, this of course meant steamships, and steamships were put at the service not of tourism but to create the backbone of empire by the colonial powers. Long haul passenger transport grew on the subsidies and income provided by government for troop and supply transport, and above all, mail contracts between metropolitan and colonial areas.

This Asian orientation for steam-ship lines can be seen in the statistics that, by 1906, of the five most important ports in the British Empire (measured in terms of incoming tonnage), three of them were in Asia – London, Hong Kong, Liverpool, Singapore, and Colombo (Stockwell, 1993).

There were noticeable improvements in the port facilities of harbours of key importance to Indonesia including improvements in the Singapore docks between 1905 and 1917, and the construction of Tanjung Priok harbour, 10 km. from Batavia (Jakarta) and which today is still Indonesia's most important port.

This improvement in transport, accessibility, and reliability was a pre-condition for more tourists to be able to come to Asia. It was not until 1924 that visitors numbers increased noticeably in Java and Bali with the establishment of a reliable weekly passenger service of sea connections. These linked Singapore, Batavia, Semarang, Surabaya (all ports in Java), to Bali and also to the Celebes Islands (Ujung Pandang) by the Dutch state-owned shipping company, KPM (Royal Packet Navigation Company).

KPM also set up facilitating tourism services in the Balinese port of Singaraja to assist in particular the non-Dutch tourists with English speaking guides, reserving rooms in government guesthouses, or hiring suitable transport. From the start, however, there was no monopoly on supplying services to disembarking visitors in Bali as a variety of private operators – Indonesian, Dutch, and foreigners -- set up as either independent operations or acted as representatives of American Express and Thomas Cook (Picard, 1996).

The first official hotel in Bali (as opposed to a government guest-house) was the Bali Hotel, opened by KPM in 1928.

Other important tourist infrastructure was added in the late 1920s and through the 1930s including a special guest house for tourists at spectacular Lake Batur in the centre of the island and outfitting Padang Bay in the south east part of the island to receive cruise ships. Maritime traffic increased notably during this period with an average of four ships a week, and in 1934 a daily ferry was established between the western point of Bali and the east coast of Java.

Anticipating the true age of mass tourism that would come with the arrival of jumbo jets in the late 1960s, starting in 1933 an airline linked Surabaya to Bali. In the same year, Imperial Airways (later to become BOAC) sent its first commercial flights into Singapore, now South East Asia's premier hub. By 1938 with the opening of the airport near Bali's capital, Denpasar (where the main international airport is now located), there were three flights a week coming into Bali. But, notable as these air transport links were, it was not until the jet age, and in particular the age of the jumbo jet, that air transport would supplant ships as the most important mode of transportation for tourists.

In terms of accommodation, it can be seen that however enticing Bali may have been in the Western imagination, transportation, distance, access, location, cost and other restraints that faced prospective travellers in the pre-war period kept numbers very low. Prior to WWII, Bali's accommodation capacity consisted of 70 double rooms – 48 rooms at the Bali Hotel, 16 at the Satrya Hotel (a Chinese-owned hotel in Denpasar), and 6 at the KPM Bungalow. To this, could be added 32 rooms made available to travellers in the government guest houses dotted throughout the island, plus a few private bungalows kept by some Americans in Kuta, now the heart of Bali's low-end accommodation (Picard, 1996).

Thus, the scale of accommodation was still of modest size despite the use of the term 'hotel'. Contrast those statistics with the official total for Bali in 1994 of 28,967 rooms in all scales of accommodation that can be found in Bali, including 13,246 hotel rooms (DGT, 1995).

Thus, in summary, the period between 1900 and 1945 resulted in a number of significant additions to support the supply side of tourism in Indonesia. Most notably was the conquest of Bali in 1908 and the subsequent efforts by the Dutch colonial authorities to keep it 'untouched' and to allow its vibrant Hindu and island culture to flourish.

Tourism was also further encouraged with the establishment of infrastructure that directly or indirectly supported tourism including:

- opening an official tourist board to promote and handle tourism needs;
- founding an association of private and government enterprises to support tourism throughout the archipelago;
- building of an extensive network of roads and railways in Java;
- establishing of regular passenger shipping routes from Europe, North America and Asia with key ports in Java, Bali and the Moluccas; and,
- opening the first hotel and the first airport in Bali.

5.4.2 Tourism Demand

For early and mid- 20th century travellers, Dutch Java, with its well-established colonial rule and infrastructure, is seen by the outside world as completely safe as a tourist destination with much of the exotic nature of the mysterious Orient but with few of the hazards.

So much so that even as early as 1923 that a well-travelled Englishman, Henry Tomlinson, thought to avoid Java as he felt it would be a 'tourist trap' due to the amount of 'gaudy' Dutch posters he saw promoting it en route (Tomlinson, 1924, pg. 124).

Margaret Mead, the American anthropologist whose writings became a by-word for Americans of the 'free love' of the 'unspoiled' Pacific peoples, noted that 'everyone in Bali is an artist'. More jaundiced eyes were less enthused by the density of the artistic atmosphere presented to visitors as seen by the sardonic poem Noel Coward wrote to Charlie Chaplin in the 1930s:

As I said this morning to Charlie
There is far too much music in Bali
And although as a place it's entrancing
There is also a touch too much dancing
It appears that each Balinese native
From the womb to the tomb is creative
And although the results are quite clever
There is too much artistic endeavour.

(Eliot et al, 1998, pg. 360)

There are two major sources for this during this period – from official and individual sources. In official promotional terms, when the island was opened to tourism in 1914, the Official Tourist Bureau published an *Illustrated Guide to East Java, Bali and Lombok*. It was only later in official publications such as the *Short Guide to Bali* (1923) and especially in the monthly review that began publishing in 1927 entitled Tourism: *A Monthly Bulletin of Information Relative to Travel in the Dutch East Indies* that cultural aspects were stressed. This bulletin described the kind of cultural activities still prominent in advertising to visitors today including the religious festivals and announcements of Hindu cremation ceremonies open to visitors (Cribb, 1994).

The unofficial sources of information and images of Bali and Java that portrayed an image of an earthly paradise can be found in the writings, paintings, photographs and films of the colonists, travellers, and small group of foreign expatriates including artists and writers who were enchanted by Bali and had settled there. This avant-garde group performed a number of functions that helped popularise the image of Bali as a 'Lost Paradise', the title of the first book in English on Bali, published in New York in 1930 by an American journalist.

Not only did these expatriates disseminate the image of Bali as a paradise to the West, above all they also identified Balinese society with its culture which they described mostly in terms of its artistic and religious activities, although the image of 'bare breasted' maidens of Bali in their images drew a lot of understandable attention. These expatriate residents also helped to popularise the villages in which they lived, such as Ubud, Kuta and Sanur which would later become the island's core centres of tourism. Very importantly, they brought a new energy to Balinese art forms by showing enthusiasm for local art forms threatened with extinction and by encouraging community artists to produce works that would appeal to foreigners and could be sold on the tourist market (Picard, 1996).

The foreign artists and expatriate residents who helped develop the seductive image of Bali in the West included people from many nations. Among the notable names, some especially stand out – for instance, Dr. Gregor Krause, a German physician in the service of the Dutch government in the early decades of the 20th century. He helped make the tourist image of Bali come alive in later official posters and books with the publication in 1920 of an album of nearly 400 photographs, most of them emphasising the beauty of Balinese women in various stages of undress.

While in the 1920s, Bali had found a place in the Western imagination as a 'lost paradise' with sensual women, it took another foreign expatriate, the German painter and musician Walter Spies, to communicate to the world Bali's cultural riches. It was, incidentally, after having seen the photographs of Gregor Krause that the young Spies left in 1923 for the Dutch East Indies. In 1927, he established himself in Bali and during the 1930s made a formidable contribution to the renaissance and popularising of Balinese arts. His home in Ubud became a place of pilgrimage for both local and foreign artists, sculptors and writers and he published extensively on, and encouraged further development of, a range of artistic disciplines found in Bali including early recording of Balinese music (Eliot et al, 1998).

This image of Balinese hedonism (perhaps similar to the image that Tahiti also developed) popular with people in Europe and America recovering from the privations of World War I, later evolved (according to Margaret Mead) into an image of a contented people whose lives centered on their way of life and dedication to religious expression.

Mead wrote in 1942:

> Many Americans in the 1920s sought for an escape as single individuals from a society which denied them self-expression. Many in the 1930s sought for a formula by which we could build our society...which would make possible both simple happiness and complexity of spiritual expression. Of such a dream, Bali was a fitting symbol (Mead, 1942, pg. 341).

It is difficult to estimate official tourist numbers who came to the Dutch East Indies prior to the 20th century because available statistics do not distinguish tourists from registered visitors. The first tourist figures of 213 visitors that appear were in 1924, published by the Official Tourist Bureau.

The number of visitors increased steadily to reach 1,428 in 1929; however, for several years following the worldwide Depression, numbers declined. They then reached an average of about 3,000 tourists a year (including Java and Bali) by the end of the 1930s (Picard, 1996).

As was the case in Java, once a sufficient tourism infrastructure and access was established, visitors tended to follow a set route. It is interesting to note that in the age of the great liners and steamships, the average length of stay in Bali was not that much different than the 'long weekend' visits typical of certain market segments in the jumbo jet age.

The tourists of the 1930s arrived on a cruise ship, and it should be remembered that whether they came from Europe or North America, these long distance voyagers had already been travelling for many weeks. This meant that, unless they were going to Australia, that they saw Bali as the most extreme point of Asia, giving the island the air of an ultimate goal and reinforcing its image as a South Sea island paradise.

Most visitors spent three days on the island, arriving on a Friday at Buleleng harbour and leaving on the same ship when it returned from Makassar on the Sunday evening. More adventurous travellers would stay for 10 days and catch the boat on the following Sunday. With few variations in detail, the typical recommended program remained remarkably constant over the years. The visitors would disembark at Bulelang and hire guides and transport through the Official Tourist Bureau or independent agencies. A day of sightseeing would be followed by an evening of 'native dances' staged at the Bali hotel. Saturday and Sunday would involve more sightseeing to identified temples and spectacular natural wonders, with the highlight being the crater of the Batur volcano (Picard, 1996).

Concerns about Bali being 'spoiled' can be seen in the early days of tourism in the writings of the Mexican resident artist, Miguel Covarrubias, who was concerned about the '...living culture that is doomed to disappear under the merciless onslaught of modern commercialism and standardization' (Covarrubias, 1937. pg. XXV). Covarrubias also felt that it was futile to try to keep tourists out as it would be the equivalent of turning Bali into a living museum by 'putting the entire island in a glass case'.

The official view by government authorities of the time is similar to the ones articulated by post-Independence governments – that is, it was hypocritical of a handful of Western travellers and artists, who having helped to popularise Bali by showing the richness of its culture and beauty of the island and its people, now wanted to limit or forbid tourists to the island. Then, as now, the government felt that tourism could bring benefits to the local people and the country, and that the proper role of government was to prepare the Balinese for tourists by good planning, minimising the harmful influences of tourists and protecting the local culture and way-of-life.

These same arguments on both sides have been going on in the 1980s and 1990s, in an era of planned development and mass tourism when millions -- rather than thousands -- of foreign visitors come to Bali annually.

In summary, the period from the early 20th century until the 1940s saw the construction of a strong image of Bali in the Western imagination as, first, a 'lost paradise', and second, as an exotic land filled with rural communities with residents devoted to their exotic religious obligations and rituals. Java, while also promoted by the Dutch Official Tourist Board, seemed somewhat settled and 'spoiled' by the long-term Dutch settlements and European presence compared to the same degree of exotic '*otherness*' that Bali offered.

Other known destinations in the Indonesian archipelago such as the Spice Islands and Borneo continued to attract a few intrepid travellers. But it was Bali above all that was firmly established in the popular press and Western imagination as the main destination to visit for the interested traveller when coming to the archipelago.

5.5 Tourism from Post-Independence to the New Order (1949-1965)

5.5.1 Tourism Resources

Newly-independent Indonesia inherited a chaotic administrative and economic situation when the Dutch departed in 1949. It took years simply to stabilise the internal situation and ensure this vast country with so many ethnic groups spread over thousands of islands would remain united as a country. Java, of course, was the heart of the country with the newly-named capital, Jakarta, as its political and economic centre.

Bali became an official province of Indonesia in 1958 with its own Governor and internal administrative structure that sub-divided the island into sub-districts. The provincial capital was moved from Singaraja to Denpasar, mainly because of its proximity to the airport – a signal of the importance air transport would be playing in the development of the province, and nation.

Moreover, as Indonesia sought to integrate Bali into Indonesian life, the Balinese nationalists found that tourism would be necessary to help bring rebuild their economy. This contradiction was astutely summed up a visitor to the island during the 1950s:

> Bali's artistic and cultural heritage, while it constitutes its greatest asset to Indonesia, constitutes also, at least from the point of view of the intensely nationalistic, its greatest liability. Other Indonesians, particularly the Javanese, tend rather to resent the fact that to the outside world Bali all too often represents Indonesia...Whether to preserve Bali's unique charm and culture or whether to turn the island wide open to outside influences, including Western tourists...is an understandably difficult decision to make. (Hanna, 1957).

The rudimentary tourist and social infrastructure also made it unattractive for international tour and travel agencies to consider Indonesia as an important destination during this period (Vatikiotis, 1993).

However, towards the end of his rule, Sukarno's views on tourism had modified somewhat and, using Japanese war reparation funds, a number of tourist infrastructure investments or improvements were carried out. In 1964, work to expand the Ngurah Rai[3] airport in Denpasar was begun in order to make it of international standard, and accessible to the new era of jet airplanes. In the same year, construction was started on the first luxury hotel in Bali, the Bali Beach Hotel, in Sanur beach (later to become the one of the major tourism development areas on the island) (Nuryanti, 1995).

Using the same source of public funds (the Japanese war reparations), three other state-owned and managed luxury hotels were built at the same time in strategic locations in Java. These were the Hotel Indonesia in the centre of Jakarta; the Samudra Beach Hotel in Pelabuhan Ratu, a fishing harbour and vacation retreat on the southern coast of Java and accessible to Jakarta; and the Hotel Ambarrukmo in Yogyakarta. At the time of construction, these were the only luxury-level hotels in all of Indonesia – and, as noted, all were state owned and financed.

The Sukarno era government made little efforts either in terms of improving supply or increasing demand to attract tourists to Indonesia. Much of this can be put down to the ideological and anti-Western bias that characterised his era and which of course had a by-product of discouraging tourism. Only towards the end of his rule were some measures taken to improve the supply of tourism in terms of improving airports and constructing tourist class hotels.

In summary, regarding tourism development, the historic role of the government in Indonesia was to act not only in a public role as regulator and mediator but also in the private sector in a pioneering capacity, especially in the accommodation sector.

5.5.2 Tourism Demand

The unappealing image of ongoing fighting in Indonesia meant that tourism was not a factor in Indonesia's economy – even at the modest, pre-war level-- during the 1945-49 period. As well, the realities of a devastated post-war Europe and Asia also meant that globally tourism was not in demand until the mid-1950s and then principally by the American market, as Europe, Indonesia's traditional market, was still in a long recovery and reconstruction effort.

Demand for Indonesia as a travel destination remained very low during the Sukarno era in the 1950s and through the 1960s due to a combination of factors. As noted above, tourism was not a priority as it was seen as a manifestation of 'new colonialism' by a nationalist and somewhat xenophobic government.

[3] Ironically, the airport expanded for tourism purposes is named after a famous Balinese nationalist hero who died trying to prevent the return of the Dutch.

Sukarno's foreign policy was anti-Western in tone and quarrels with neighbours including a campaign of 'Konfrontasi' with Malaysia did nothing to encourage the only global tourists with money in the 1950s, Americans, to travel to Indonesia during this period (Vatikiotis, 1993).

5.6. Tourism under the New Order (1965-1998)

5.6.1 Government Policy

It is appropriate to start this section with an overview of government policy towards tourism during the decades of the New Order government. This is because it is during this era that the development of tourism in Indonesia became institutionalised with a significant government presence structurally in the industry as well as its more traditional role as a regulator.

The advent of what came to be called the 'New Order' (*Orde Baru*) under Suharto following the Army counter-coup against the PKI in October, 1965 marked a decisive change in the political and economic life of Indonesia after 15 years of turbulent rule by Sukarno, Indonesia's revolutionary leader and founding father. The New Order set itself the goal of addressing Indonesia's catastrophic economic and social chaos that it inherited. To accomplish this, Suharto, with the firm support of the army and aided by Indonesian US-trained technocrats who came to be known as the 'Berkeley Mafia', called on foreign aid, institutions, and experts to put Indonesia firmly on the path to development and modernisation.

The opening to the West was symbolised in 1966 with the formation of the Inter-Government Group on Indonesia (IGGI), made up of the major industrialised nations, the World Bank, and the International Monetary Fund.

In 1969, the first of the Five Year Development Plans (Repelita) was launched with assistance by IGGI and advice from foreign experts. Its stated goal was for the Indonesian economy to reach 'take off' within 25 years, following the strong influence of the period of American theories of enabling developing countries to develop (Rostow, 1960).

The primary economic goals of Repelita I (1969-1974) were to establish a mixed economy where the state led but there would be a flourishing private sector, and to start to reach the goal to obtain self-sufficiency in rice. Repelita I also laid the foundations for a tourism policy for Indonesia and identified tourism as a factor for the economic development of Indonesia.. The first structural government framework to develop, implement and monitor tourism policies, strategies and planning was also put in place during this time.

A Directorate General of Tourism (DGT) was instituted within the Department of Communications. The Minister of Communications was advised by a National Board for Tourist Development (Bapparnas) presided over by the Director General of Tourism. The overall policy for tourism was to be developed at the highest level of government in conjunction with other economic sectors – by a National Advisory Council for Tourism (Depparnas) chaired by the Minister of the Economy and Industry and reporting directly to the President.

Thus, from the very beginning of the modern tourism era in Indonesia, a philosophical and conceptual framework was put in place that was to last throughout the 33 years of New Order rule. Tourism policy was centralised and carried out in a top-down manner, directed by the state with private industry cast in an obedient and supportive role.

Tourism was seen as intimately linked with communications symbolising both its links with the outside world and its unifying role in a country with far-flung regions.

As well, from the beginning, tourism was viewed primarily as a development tool to bring social and economic benefits for the country, and as such was to be integrated with other economic sectors. Thus, its overall policy during these first years was under the jurisdiction of the Minister of the Economy and Industry.

The stated goals for the first tourism policy in Repelita I would remain the same over the following decades as well (Indonesian government publication, 1968):

- To augment foreign exchange earnings and raise the national income, create employment, and stimulate priority sectors of the economy.
- To capitalise and promote the natural and cultural resources of Indonesia.
- To reinforce national and international solidarity.

A series of studies by both foreign and Indonesian consultants was commissioned under the New Order for Repelita I to determine what direction tourism in Indonesia should take and to give practical input to overall government policy. These studies also followed a highly influential American government report for the Dept of Commerce known as the Checchi Report which was published in 1961 and which had tried to forecast the future of tourism in the Pacific and Far East.

At the time of publication in 1961, although acknowledging Indonesia's rich cultural and natural resources, the Checchi Report also pinpointed weaknesses which were still very much in existence when the new studies came to be prepared under the New Order.

The principal weaknesses that made Indonesia unattractive as a tourist destination were identified as *poor infrastructure* and mediocre services, negative attitudes towards tourism, and a unfavourable international image due to Indonesia's chronic social and political instability (Clement, 1961).

The Checchi Report had also concluded that it was advisable to concentrate the development of tourism in Bali as its main advantages were its manageable size, rich and unique culture, and, most important, the fact that its image was already well known throughout the world. The other foreign studies, most noticeably one undertaken at the government's request by Pan American Airways, came to very much the same conclusions as the Checchi report, and agreed with the need to focus on Bali as a priority for developing tourism in Indonesia. It is on this point that the Indonesian studies differed significantly from the foreign ones.

Thus, while foreign experts took a demand side approach that focused on economic benefits, much of the Indonesian view was influenced by other factors. These included regional needs as well as a broader social and political view of how tourism should develop in order to benefit the country as a whole rather than one region in particular. The difference in approach also reflected a supply-side, top-down approach in the early years of developing tourism, not untypical of government policy found in many other countries. These tensions from different stakeholders and viewpoints would also show up again and again in the next 30 years in many aspects of policy development whether regarding marketing, tax incentives, hotel investment and airport improvement priorities and so forth.

In the event, the views of the foreign experts predominated as might be expected given the need for foreign aid and investment in such an internationally dependent field as tourism.

The recommendations set forth in Repelita I concerning tourism development agreed that Bali was Indonesia's best 'asset' given its long exposure to the outside world and positive image inherited from the colonial era.

The conclusion was that Bali would become Indonesia's 'show window' in terms of international tourism. As important, the experience that Bali would gain would make it a model for future development of tourism throughout the archipelago. This view of Bali was to become the foundation of tourism policy that would endure over the next decades in Indonesia.

For both tourism resources and demand reasons, Bali remained the 'anchor' of Indonesian tourism over the next decades. Although the government tried at times to develop other regions for tourism in Indonesia by using Bali as the main attraction and trying to persuade visitors to go beyond, even to establishing tourism information centres representing other regions in Indonesia situated in Bali. As early as 1978, the Directorate General of Tourism made ten provinces as official 'Tourist Destinations' *(Daerah Tujuan Wisata)* and launched such slogans as 'Bali and Beyond' to remind tourists that Indonesia was not limited to Bali. The role of Bali was to be a 'hub' both in terms of image and as a platform to distribute tourism to other regions in Indonesia.

Since 1993, all 27 provinces have been designated as 'Tourist Destinations' and each province has been urged to make an inventory of its natural sites and cultural traditions with a view to developing tourism beyond the long-established destinations (DGT, 1994).

In 1983, President Suharto declared it as official policy in the GBHN (Philosophical Guidelines for National Development) that tourism should be promoted as one of the leading sectors in national development. As a strong signal to support this goal, in the same year the institutional position of tourism was considerably strengthened with the creation of its own Ministry – the Department of Tourism, Post and Telecommunications known by its Indonesian acronym as DEPARPOSTEL and also TOURPOSTEL. This structure was to remain in place for the next 15 years until the change of government in 1998 when tourism was split off again, and in recognition of this vital role of cultural tourism in Indonesia, it became the Department of Tourism, Art and Culture.

By 1993, the ambitious goal to raise tourism and other sectors' contribution to the national economy had been achieved with oil and gas products reduced from 70% of total exports in 1983 to only 19% in 1993. Tourism, from a share of 3% in 1983, had risen to third place after wood products and textiles to represent 10% of exports in 1993 (BPS, 1995).

As well as putting in measures to increase inward tourism, government policy simultaneously also tried to discourage Indonesian tourists from leaving Indonesia for tourism purposes with the imposition in 1983 of an exit tax of 150,000 rupiah per head (worth about US$200 at the time, when per capita GNP in Indonesia was less than $500). This exit tax on Indonesian residents was to remain in force and to be raised periodically until by mid-1998 -- with the drastic devaluation of the rupiah precipitated on by the South East Asian economic crisis -- it is now 1 million rupiah.

On a positive note, various campaigns were undertaken to encourage domestic tourists in Indonesia to explore other regions.

Moreover, a 'Tourism Awareness' campaign known as '*Sapta Pesona*' was launched in 1989 aimed at making the general population aware of the benefits of tourism and to show visitors traditional Indonesian hospitality values.

This built to an ambitious program to make 1990-2000 'Visit Indonesia Decade' with each year dedicated to a certain theme – e.g. art and culture, environment and so forth. Indonesia also took its turn among its ASEAN neighbours with a government endorsement of a 'Visit Indonesia Year' in 1991, following similar government promotional efforts by Thailand (1988), Singapore (1989) and Malaysia (1990).

With the Asian crisis, the structure of the Ministry of Tourism, Art and Culture has undergone another change since tourism was put with post and telecommunications in 1983 as priorities shifted and the tourism industry matured. The latest version of government structures for planning and monitoring tourism (incorporating the changes in spring, 1998) are shown in Figure 5.2: *Schematic Overview of Government Tourism Structures in Indonesia.*

It can be seen at a glance that this structure allows potential for conflict and poor co-ordination of tourism planning among the various government agencies responsible for tourism. Most notably, at the provincial/regional level where there is a duplication of lines of responsibility with the national level Ministry of Tourism, Art and Culture having its own regional representative office (KANWIL) in every province. As well, each provincial government has its own tourism office (DIPARDA). Theoretically, while the KANWIL is entrusted to carry out national policy at the local and regional levels, the DIPARDA is supposed to develop and implement local and regional policy.

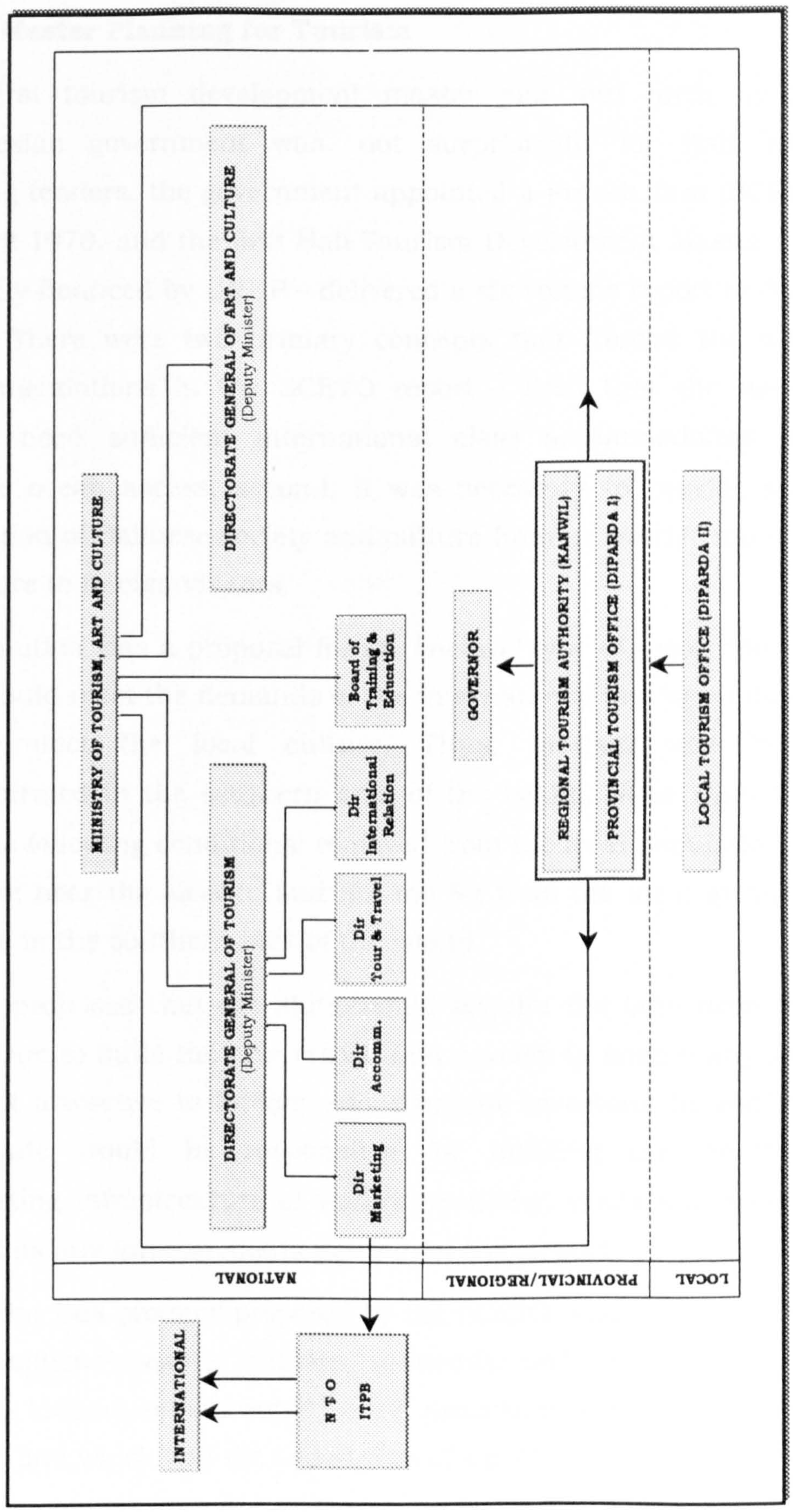


Figure 5.2 Schematic Overview of Government Tourism Structures in Indonesia

5.6.2 Master Planning for Tourism

The first tourism development master plan put forth by the Indonesian government was, not surprisingly, for Bali. After inviting tenders, the government appointed a French firm (SCETO) in April 1970, and the first Bali Tourism Development Master Plan – largely financed by UNDP – delivered a six volume report in April, 1971. There were two primary concepts that framed the many recommendations in the SCETO report – first, that the market would need sufficient international class accommodation and require ocean access; second, it was necessary to provide some protection of Balinese society and culture from an overly-traumatic exposure to foreign visitors.

The solution was a proposal for an 'enclave' type of resort tourism that would meet the demands of the international tourism industry and protect the local culture. Thus, tourism was to be concentrated in the southern area of the island, Nusa Dua, as it met the following conditions: removed from the local population; by the sea; near the airport; and not too far from the most attractive regions in the southern part of the island.

It was proposed that the state would acquire the land needed in Nusa Dua to build the new resort, and develop in such a way as to make it attractive to foreign and domestic investors. In addition, the state would be responsible for building the necessary supporting infrastructure of water, electricity, roads and so forth as well as any improvements needed for the airport.

Thus, the 'Bali product' proposed by the SCETO study would be split into traditional seaside tourism, residential and concentrated, and cultural tourism, which would permit excursions into the indigenous society, and which had the added plus of a prestigious cultural image.

Hence, the overall objective of the Master Plan was to try to guarantee the sustainable development of international tourism in Bali by protecting the resources that nourish it, mainly the island's cultural riches.

The project included improving the road network and building an expressway bypassing Denpasar that would give direct access from Nusa Dua and the airport to the main tourist sites throughout the island. In terms of human resources, a training centre for hotel staff was to be built at the edge of the resort area.

Guidelines to try and ensure that the character of the proposed hotels would respect the Balinese cultural and architectural context were part of the master plan as well. It encouraged the use of local materials and construction styles; building height was limited to 15 meters so as not to surpass the tops of the coconut trees; and the local population was to be assured access to the sea. The realisation of the project would be financed half by foreign aid and loans, and half from the Indonesian government budget.

After undergoing considerable revisions and review, notably by the World Bank whose loans would be necessary for the completion of the public aspects of land and infrastructure development, a Master Plan for Tourism Development in Bali was adopted by Presidential Decree in 1972. This was later ratified by the Provincial Assembly in Bali in 1973 and, with this ratification, government policy officially declared tourism as the island's second most import economic priority after agriculture.

Operational responsibility for the project was to be entrusted to a newly-formed state agency, the Bali Tourism Development Corporation (BTDC) under the general direction of the Bali Tourism Development Board (BTDB). The BTDC would have foreign experts to advise officials to ensure the plans would be carried out in conformity with the guidelines, and also to train local Balinese counterparts.

Subsequently other master plans were drawn up for the country as a whole, a national master plan again partially funded through UNDP sources. Regional and provincial master plans followed in the 1980s and 1990s with priority being given to key provinces on the islands of Java, Sulawesi, Kalimantan, and Sumatra which were seen from an access, attractions and infrastructure point of view as having the most potential to be developed as tourism destinations.

The key point, however, is less the drawing up of master plans; rather it is to the implementation and monitoring of the recommendations in the master plans that it will be seen how sustainable the regions are in economic, environmental, and socio-cultural terms. Important structural areas that need good implementation including such elements as inward investment, infrastructure improvement, transportation, environmental sensitivity, scale of accommodation, and human resource training.

5.6.3 Tourism Resources

Note: Accommodation in the modern era is covered extensively in this thesis, and especially in Chapter 3.

Accessibility

As an archipelago, Indonesia has become very dependent on air access to not only bring foreign visitors to the country but also to distribute them across the regions, reinforcing the importance of the concepts of location and access as major factors in the performance of a destination. Therefore, over the decades of the New Order, global and regional factors affecting air travel have all had an impact on how many visitors are able to Indonesia each year.

These inter-related factors include technological improvements and carrying-capacity increases in air travel (such as jumbo jets); deregulation and expansion of air travel throughout the world, especially from originating countries in Europe and North America; and air transport agreements between Indonesia and other countries.

Of the major international gateways into Indonesia, only the Singapore-Riau link (to Batam, and now to Bintan, islands) is a volume sea-based link. The large numbers of Singapore-based day trippers and overnighters that visit Riau annually testifies to the efficient hovercraft and fast ferry service that takes 30 minute or less time to commute between the two countries. All other major destinations in Indonesia are reached by air, and have a longer average length of stay by tourists accordingly.

As in many developing countries, Indonesia's national airline, Garuda (and its domestic subsidiary, Merpati) has a special protected status as a national, state-owned carrier. Garuda, while ostensibly trying to earn a profit, has had a strong social mission in its charter from the earliest days of the Indonesian Republic. With the aim of promoting tourism in Bali, and as a strong indictor of the outward looking policy of the New Order regime, the government granted liberal landing rights to foreign airlines during Repelita I (1968-73). Visitor arrivals by air increased rapidly as a result, some nine-fold between 1968 and 1973. However, increasing pressure by Garuda as well as the hotel industry in Jakarta resulted in a restrictive 'one-gate' air policy being adopted in 1973.

By 1994, some 30 foreign airlines had landing rights in Indonesia, of which 15 airlines served Bali with 45 flights a week. To this total should be added some 80 flights a week by Garuda from various locations in Indonesia, but primarily from key cities in Java – Jakarta, Surabaya, and Yogyakarta. The total capacity was 40,000 seats (Bali Government Tourist Office, 1995).

Furthermore, with the hope of stimulating tourism growth in other regions, the government progressively opened more and more airports to visa-free international arrivals. By 1995, the government had authorised some 17 regional airports to be visa-free for tourist arrivals (*Travel Indonesia Magazine*, Feb, 1995). But the vast majority of visitors continued to arrive at the traditional main entry points for Indonesian tourism, linked to the major attractions.

Moreover, while the airports were officially authorised to allow visa-free entry, this was only one administrative link in a needed chain of structural elements to encourage a direct flow to these airports. Missing were crucial elements such as few direct international flights due to lack of local attractions to stimulate demand; the airports' inability to receive larger types of planes; a lack of customs and immigration infrastructure at these airports and so forth.

Attractions

A review of Indonesia's current main attractions show only two that would not have been familiar to visitors in the 19th century -- Lombok and Riau (Batam and Bintan Islands). The majority of visitors still come primarily to Bali and Java, and it is only in the last decade that sufficient infrastructure and suprastructure produced by a combination of government and private industry have helped create these new destinations. Both are modelled on the Tourism Development Corporation (TDC) which originally developed Nusa Dua in Bali, and which is seen by the national government as the blueprint for successful development of large-scale, resort tourism, which is felt for various reasons as the attractions that Indonesia should be building.

Batam and Bintan of course have profited from their closeness to the large Singapore market for both investment and visitors, reinforcing the importance of access and location. This geographic fact combined with Riau's status as a special development zone with fiscal, regulatory, and investment incentives have helped tourism development along with other export industries to flourish. Lombok has benefited notably from its geographic proximity to Bali as it is only 20 minute flight away or 1 hour by fast hovercraft. As well, there has been extensive government investment in infrastructure to improve the airport at Mataram so that it can now receive up to 737 size charter and scheduled aircraft from regional destinations within South East Asia.

As Picard notes (Picard, 1996, Pg. 70) in commenting about tourism development in Bali but which is a view valid for the rest of Indonesia: 'The official position in Jakarta ...continued to grant priority to deluxe tourism, which was clearly more prestigious, easier to standardise, and was considered more viable in terms of foreign exchange earnings'.

To support this government strategic view, Figure 6.4 (*TDC, Total Tourists and Integrated Plans for Strategic Development Zones – Kapet*) [Chapter 6] shows, as of 1994 there were some 17 TDC (Tourism Development Corporations) in various stages of operation, preparation, planning and identification throughout the country. Despite these optimistic projections, broadly speaking only two attractions in Indonesia -- Bali and Borobudur in Central Java -- can be considered *primary* attractions in that they are sufficient in themselves to attract foreign visitors due to their universal appeal across many market segments. If Batam and Bintan islands in Riau region are excluded due to their unique location and relationship to the Singapore market, all other attractions in Indonesia at time of writing are secondary attractions in that they are not reasons in themselves for foreign visitors to travel to Indonesia.

A summary of major regions with their attractions can be seen in the following table:

Table 5.3 Attractions in Indonesia by Major Tourist Regions

Regions	Attractions
Bali	· Cultural tourism e.g. Hindu, way of life · Marine and beach resort tourism · Nature tourism · Soft adventure tourism · MICE tourism
Jakarta	· Business tourism · Taman Mini (Mini-Indonesia) Theme Park · City tourism (e.g. shopping, nightlife) · MICE tourism · Some colonial heritage e.g. old Jakarta, Sunda Kelapa port
Riau	· Bintan island - marine and beach resort tourism · Batam island - city tourism, some beach tourism
Yogyakarta	· Heritage tourism e.g. access to Borobudur, Prambanan, Kraton, other temple sites · Cultural tourism · Colonial and Independence era tourism
West Java	· Colonial and Independence era tourism e.g. palaces and residences · Bandung - colonial and Art Deco city, hot springs and mountain resorts · Bogor - garden city and Puncak mountains
Central Java	· Cultural tourism · Heritage tourism e.g. Solo and Kraton
West Java	· City and business tourism - Surabaya · Nature tourism - Mt. Bromo · Soft adventure tourism
Lombok	· Marine and beach tourism · Cultural tourism e.g. Sasak weaving etc.
North Sumatera	· City and business tourism - Medan · Nature tourism - Lake Toba · Cultural tourism - Batak culture
North Sulawesi	· Marine tourism esp. diving
Maluku	· Marine tourism esp. sailing · Colonial heritage (Spice Islands)
East Kalimantan	· City and business tourism - Balikpapan · Nature tourism · Adventure tourism · Cultural tourism - Dayak culture
Irian Jaya	· City and business tourism - Jayapura · Nature tourism · Adventure tourism · Cultural tourism - many ethnic groups

(Source : DGT, 1994)

5.7 Demand for Indonesia in a Regional Context

Indonesia's position as a tourist destination always has to be seen within a regional context reflecting its geographical position and nearest competitors. While long-haul markets from North America or Europe may consider other tropical countries in the Caribbean or Indian ocean, when South East Asia is selected there is Indonesia and some of its ASEAN partners --Malaysia, Singapore, Thailand, and the Philippines -- who are also rival tourism destination competitors.

From a demand point of view, these other South East Asia countries all share a somewhat similar profile to Indonesia when it comes to attracting the long-haul markets of North America and Europe, as well as for the important medium distance markets in North Asia (China, Hong Kong, Japan, Korea, Taiwan) and Australia/ New Zealand.

Even a superficial analysis of the marketing appeal of these South East Asian countries displays a strong similarity for the external market – exotic Oriental destinations linked to a colonial and literary heritage; inexpensive; friendly people; colourful way of life; tropical climate; beach tourism and so forth (*NTO brochures*). Among Indonesia's immediate neighbours are also its main competition and with whom comparative evaluations have traditionally been made by both the private and public sector in Indonesia and the region.

The main exception in terms of image and competition is Singapore, which has a different profile than rivals such as Malaysia, the Philippines or Thailand. Singapore is the major regional transportation hub (for instance, 29% of arriving passengers at Changi International Airport in Singapore are in transit to another destination); its high standard of living, average per capita income, and OECD status make it a major tourist generating country in its own right.

Furthermore, Singapore's profile as an efficient, green, safe city-state that is full of great shopping and entertainment attractions means it complements rather than competes with the attractions of its larger neighbours in South East Asia.

Indonesia's performance during two decades of the New Order era is compared with the other ASEAN country members as shown in the attached Table 5.4 that covers the years 1980-1993:

Table 5.4 ASEAN Country Arrivals (1980-1993), Market Share, Market Share Change

Country	1980 Arrivals (in thousands)/ Percentage of Total ASEAN Arrivals	1993 Arrivals (in thousands)/ Percentage of Total ASEAN Arrivals	Percentage Market Share Change (1980-1993)
Indonesia	500 (6.09%)	3,400 (14.78%)	Up 142%
Malaysia	2,200 (26.82%)	6,300 (27.39%)	Up 2.1%
Philippines	1,000 (12.19%)	1,400 (6.08%)	Down 50.1%
Thailand	1,900 (23.17%)	5,500 (23.91%)	Up 3.1%
Singapore	2,600 (3.17%)	6,400 (27.82%)	Down 12,2%
ASEAN Total	**8,200**	**23,000**	

(Source : DGT, 1994)

It can be seen from these comparisons that, except for the Philippines, Indonesia has always lagged behind its ASEAN neighbours in terms of both absolute numbers and share of total visitors to the region. While the total numbers of visitors to Indonesia between 1980 and 1993 increased an impressive seven-fold, it was admittedly from a relatively small base starting with only 500,000 visitors. However, Indonesia had the largest percentage growth in terms of market share among the competing countries within ASEAN.

There are many possible reasons for this disparity between Indonesia and its neighbours and the scope of this thesis does not permit lengthy analysis. One overwhelming reality is location and access – the Philippines and Indonesia are both archipelagos, cut off from the Asian mainland and dominated by air transport.

Malaysia, Singapore and Thailand are all land-based countries, and border each other with a wide variety of land transportation – bus, car, and train – as well as sea and air transportation connecting them. In fact, in tourism numbers, each is its own best market and a comparison of total length of stay shows that Singapore and Malaysia have a much shorter average length of stay than Indonesia or Philippines.

While there are many other important factors that also play a role in the relative attractiveness of a destination (as the Philippines demonstrates with its 100% drop in market share between 1980 and 1993), access and location are permanent factors. They can offer an important advantage to any country which is well-placed as throughout the world your neighbour is normally your best tourism market.

Table 5.5 ASEAN Country Average Length of Stay and Expenditure

Country	Average Daily Expenditure (US $)	Length of Stay (Days)
Indonesia	$ 81.79	12.00
Malaysia	$ 48.50	4.60
Philippines	$ 113.69	12.08
Thailand	$ 115.63	7.13
Singapore	$ 173.00	3.30

(Source : Brennan, 1992)

The low average daily expenditure (second lowest only to Malaysia) in 1991 indicates that Indonesia does not offer enough in terms of goods and services for tourists to spend their money on. If one contrasts Indonesia's figures with a country with a similar length of stay – the Philippines –- it can be seen that visitors to the Philippines spend on average 28% more. This is despite the fact that fewer tourists visit the Philippines than Indonesia and over the last decade it has had consistently the worst record in terms of tourism numbers and annual increases among its ASEAN neighbours.

However, it should be acknowledged that assessment of spending patterns and comparison across countries should take into account within the proportion to the cost of living in each country.

The boom years of the decades that paralleled the rise of the New Order government in Indonesia has seen tremendous growth throughout the Asia Pacific countries with a resulting increase in the demand both business and leisure tourism throughout the region. Therefore, during this period, traditional tourism flows from the long-standing originating markets in Europe, North America and Australasia to Asia Pacific destinations began to change noticeably (Hitchcock, et al., 1993).

As middle classes with discretionary income arose first in Japan and then in the 'four tiger economies' of Asia Pacific (Hong Kong, Taiwan, Korea and Singapore), more and more Asians began to travel outside their own borders. Thus, beginning in the 1980s, people from Japan, Taiwan and other Asian countries also began to travel extensively in the region and to long-haul destinations in Europe, North America, and Australasia.

Thus, by 1993, of the 55 million estimated arrivals by air at Asia Pacific countries, visitors from intra-regional countries counted for some 38.1 million arrivals or almost seven in ten arrivals (69.2%). For purpose of visit in Asia Pacific as a whole, the average suggests 58% are on holiday, 18% on business (including conferences and conventions), and 11% visiting friends and relatives (Edwards, 1995).

Indonesia as well benefited from the increase in Asia Pacific travel over these decades. Indonesia's percentage of Asia Pacific visitors was similar to the average among countries in the region with about two-thirds of its foreign visitors in 1993 coming from Asia Pacific countries as shown in Table 5.6 below.

Table 5.6 Major Tourism Markets for Indonesia

Country/Region	Total No. of Visitors (1993)
ASEAN countries	1,340,455
Europe	639,183
Japan	377,551
Australia	287,850
Taiwan	242,121
North America	181,141
Other countries	322,837
Total	**3,403,138**
Total/ Percentage from Asia Pacific countries (exc. any from others category)	**2,247,977 (66%)**

(Source : DGT, 1994)

Central to profiling demand is the need to determine the main motivations behind visitor choices. The basic categories used in most national statistics throughout South East Asia throughout the world generally avoid a psycho-graphic profile examining detailed motivation; rather they concentrate on broad categories to get an approximate picture (Edwards, 1995). Clearly there is often overlap – someone coming for a conference may later spend a few days at a beach or visit friends and relatives. But it is the primary reason for the visit that is focused on here.

Table 5.7 shows Indonesia's position in relation to its main ASEAN competitors in terms of overall demand by comparing arrivals by purpose of visit:

Table 5.7 ASEAN Country Arrivals by Purpose of Visit

Country	Holiday	Business	VFR	Transit
Indonesia	74.5%	23.0%	8.0%	NA
Singapore	51.0%	16.0%	2.0%	29.0%
Thailand	87.6%	10.8%	2.0%	NA
Philippines	29.0%	30.0%	33.0%	NA
Malaysia	50.6%	7.8%	16.7%	11.2%

(Source : Edwards, 1995)

While of course each country has its own method of collecting statistics, it can broadly be seen from Table 5.7 that demand in the South East Asia region varies considerably. Indonesia is the second highest country in the region for holiday travel as a primary motivation, with three-quarters of its visitors coming for leisure purposes. However, Thailand is by far the country with the highest percentage of visitors travelling for holiday purposes with almost nine of ten (87.6%) of visitors stating this as the primary reason.

Thailand's dominance in this category may be explained by the large numbers of day visitors it receives over the Malaysian border.

As with Thailand and the Philippines, Indonesia is not a hub for travel to elsewhere but a destination in its own right. Therefore 'transit' does not appear in these countries' travel statistics, although transit is a major factor for Singapore (29% of arrivals) and to a lesser extent, Malaysia with 11.2%.

The large number of people from the Philippines living and working overseas probably explains why the Philippines have a third of their arrivals (33%) coming primarily to visit friends and relatives (VFR). Indonesia has some overseas family ties, mainly through Dutch family links, and some emigration (Australia and USA) therefore it has a more modest number of VFR arrivals with 8%.

Another area of demand with some potential is that of 'MICE' – meeting, incentive, conference, and exhibition. As this is high level, high profile business travel with maximum average spend, it is not surprising that it has attracted the interest of all the competing ASEAN countries. To date, of the South East Asian destinations, the city states of Singapore and Hong Kong have been most successful in attracting an international MICE audience, with both appearing regularly in the top ten of MICE city destinations surveys.

While growth rates in this category for Indonesia have been impressive in the 1990s, it started from a very small base. Official statistics show that numbers of people entering Indonesia for MICE purposes are still negligible, making up only 1-2% of total business travellers (DGT, 1994).

Various surveys and government reports show that only Jakarta and Bali have sufficient infrastructure, attractions, human resources, conference and exhibition space, and hotel plant to be attractive to potential international customers (*DGT, 1995-96*).

In terms of entry points for foreign visitor arrivals, despite the government's attempts to widen the market with more regional airports upgraded and authorised to receive direct flights (17 by 1995), tourists continue to arrive overwhelmingly by the traditional entry points. With the exception of Batam with its direct, fast ferry links to Singapore, most visitors to Indonesia arrive by air. Table 5.8 shows the disproportionate arrivals patterns:

Table 5.8 Foreign Arrivals by Major Entry Points (1994)

Entry Point	Total Foreign Arrivals (1994)
Soekarno-Hatta airport (Jakarta)	1,181,541
Ngurah Rai airpot (Bali)	1,048,901
Batam harbour (Riau)	900,846
Polonia airport (Medan)	188,562
All others (inc. by land from Sarawak, harbours, airports)	686,842
Total Foreign Arrivals	**4,006,312**
Percentage of total entered by four main entry points	**82.8%**

Thus, more than 8 out of 10 of foreign arrivals entered by the traditional entry points, which had existed for many decades. Therefore, (with the notable exception of Batam) there has been little shift in visitor entry flows over the decades of New Order rule despite many efforts at promoting other regions.

In terms of arrivals at least, as the Economist Intelligence Unit (EIU) report noted in 1995 'The bulk of Indonesia's vast archipelago is virtually untouched by tourism, certainly by modern tourism which is heavily concentrated in a few relatively small islands plus Jakarta and central Java' (Edwards, 1995, Pg. 96). The EIU report however did also note that Indonesia was one of the few countries in the region to make a substantial effort to increase capacity in new beach resorts, notably in the development of Lombok and Batam.

Mataram airport on the island of Lombok (dubbed the 'new Bali' by the international media) saw more international charter and scheduled flight arrivals at the newly-expanded airport as new resorts mushroomed on the island in the 1990s. As well, Polonia Airport in Medan in Northern Sumatra near the other major tourist attraction of Lake Toba continued to attract substantial numbers of international arrivals. The direct KLM flights from Europe to N-Sumatra mainly because of the tourists' motivations are based on the family and nostalgic links from the colonial past to the area.

The expansion and opening of Solo airport in Central Java to international arrivals, meant to encourage more tourists to Central Java and to visit Solo rather than Yogyakarta, has not been successful to date. Among foreign airlines, only Silk Air (Singapore Airline's regional subsidiary), has started to fly in directly to Solo from Singapore. To date, they have been disappointed at the lack of demand, as well as a lack of outbound traffic, and are expected to cut out this route (*Travel Indonesia magazine*, Vol. 18, No. 12, December 1996).

In terms of overall demand, the steady increase in facilities and marketing efforts for key destinations in Indonesia, in combination with external demand development in world tourism, has meant that demand has largely evened out at all seasons of the year.

Seasonality is less of a problem than in the early decades of tourism, and in the 1990s has shown a flattening trend with similar numbers coming most months, with the notable exception of peaks during the traditional holiday seasons of July/August and December (DGT, 1994).

The steps to restore political, social and economic stability taken by the new government under the New Order in the first years of its rule began to pay off in terms of tourism arrivals by the end of Repelita I. In 1968, two years into New Order rule, the number of foreign visitors was 51,000. By the end of the first Five Year Development Plan (1973), it had risen more than five fold to 270,000 visitors, surpassing the original target of 150,000 by 80%.

However, for the next decade (from 1976-1986), the average annual increase of almost 40% enjoyed in the previous years dropped noticeably and tourism arrivals moved up slowly, averaging under 10% per year for these ten years. A variety of reasons can be suggested for the relative stagnation in arrivals between 1973 and 1986 when tourism again began to grow in double-digit figures. For most of this period, oil prices boomed and Indonesia benefited from the rise in income generated and the government had little reason to concentrate on other export industries.

Other contributing factors may include a low budget to promote and market Indonesia abroad, especially compared to its neighbours with an aggressive and effective marketing policy; poor co-ordination of tourism authorities at national and regional levels; weak status of tourism infrastructure; poorly trained human resources; and, a protectionist airline policy (*described above*).

The drop in oil prices in the early 1980s and the subsequent efforts by government to encourage the private tourism industry and a change in foreign airline landing rights in 1986 exports (as described above) had a dramatic effect in terms of tourism growth in Indonesia.

So that while in 1986, 825,000 foreign visitors were recorded, in 1987 this had grown 28.5% to 1.060 million, and eight years later by 1994 it was just over 4 million as shown in Table 5.9:

Table 5.9 Increase of Foreign Arrivals: Selected Years (1965-94)

Years	Visitors	Years	Visitors
1965	30,000	1982	592,000
1968	51,000	1984	701,000
1970	129,000	1986	825,000
1973	270,000	1988	1,301,000
1976	401,000	1990	2,177,000
1978	469,000	1992	3,064,000
1980	561,000	1994	4,007,000

(Source: DGT, 1995)

Post Crisis Demand for Indonesia

As South East Asia is in a state of flux in this radical adjustment to new economic and political realities throughout the region, it is difficult at this time of writing to forecast tourism demand for the coming period. This is especially true for Indonesia, which has fallen furthest economically than its neighbours in South East Asia. Therefore the tourism sector, which is so dependent on economic and political image of stability and tranquillity to ensure steady international demand, is likely to be severely damaged until the situation stabilises.

According to revised IATA projections issued in spring, 1998, Asia's once booming airline growth and airplane-buying reputation has been severely affected.

Since the transportation sector is a key sector for international tourism, it can be seen that the economic crisis has forced airlines to slash regional forecasts – and for projected international travel in 2001 by more than 30 million passengers. The revised IATA report forecast (*International Herald Tribune newspaper*, 17/02/1998):

- Average annual growth in air passenger traffic in the Asia Pacific region between 1997 and 2001 to 4.4% down from 7.7% forecast last year.
- This equates to an estimated 176 million passengers in 2001, down from previous estimates of 207 million.
- Cargo annual growth rates were cut to 6.5% from 9%.
- Asia Pacific traffic had been forecast to increase to about 50% of world aviation by 2010 from 35% in 1995, but it is now forecast to fall to 33% during the same period.
- The effect of the crisis will vary significantly from country to country with South Korea, Indonesia, Taiwan, and Malaysia expected to suffer most while Japan and China were expect to suffer the least.
- The 42 airlines surveyed were expected to have $1.5 billion in profit erased by the Asian crisis.
- Total travel and tourism jobs generated in the Asia Pacific region is usually about 20,000 a day; but the new lower rates mean this will be reduced to half.

Furthermore, in terms of access in Indonesia by domestic airlines once international tourists have arrived, there is now much less choice available in Indonesia. As of summer, 1998, Indonesia's first privately-owned airline, Sempati Air, which had operated extensively since deregulation in the early 1990s, has declared bankruptcy. Therefore, there are fewer flights linking key tourism destinations within the country, and even the state-owned subsidary of Garuda, Merpati airlines, has cut back numbers and frequency of flights throughout the archipelago in response to the rise in plane fuel and the drop in demand caused by the crisis.

5.8 Summary

Having traced the evolution of tourism resources and demand characteristics in Indonesia, the following important points can be noted:

- *Evolution of scale of accommodation in tourism industry.*

  The evolution of accommodation for tourists originated from the colonial era with government guest houses and hill retreats for civil servants, their families and government guests. This has been a common thread throughout the history of tourist accommodation in Indonesia, most notably with large-scale accommodation which, from the first hotels established in the post-Independence era, were initiated and funded by government agencies. This contrasts with small-scale accommodation, which usually grew more organically in response to visitor demand.

- *Development followed infrastructure.*

  Across regions and historical eras, development in general, and tourism development in particular, tended to follow the establishment of infrastructure. This again highlights the dominant role of the public sector throughout the development process in Indonesia, especially with regard to accessibility.

- *The important role of culture in economic development.*

  Some of the regions are characterised by traditional societies whose local culture plays an important role, notably with regard to tourism entrepreneurship. In some local cultures, there is a higher degree of respect in the attitude towards trade and business, thus making it easier for businesses to be established and fostering a more entrepreneurial culture at all levels.

In other local cultures, however, trade and business are considered a 'low' type of activity thus influencing negatively the development of entrepreneurship in the region.

- *Government's dual role in the public and private sectors.*

The role of the central government has been dominant in the efforts to develop tourism throughout Indonesia's history, not only in the public sector but also as a major actor in the private sector as well. Therefore, the role of national-region relationships in terms of tourism development has always been very centrally oriented and planned.

CHAPTER 6

TOURISM AND ECONOMIC DEVELOPMENT IN INDONESIA

6.1 Tourism as an Economic Development Strategy

As outlined in detail in the previous chapter, Indonesia is a very large country placed by nature in a strategic and potentially dominant position amongst the key economies of Southeast Asia and Australasia. Java, the most important island, not only has more than 60% of the total population of Indonesia, but it also is the centre of the industrial and trade activities and where the capital, Jakarta, is located. As Clifford Geertz (1960), arguably the most influential of Western specialists on Indonesia, once wrote, "If there ever was a tail that wagged a dog, Java is the tail and Indonesia is the dog." (Cited by Eliot et al, 1998, pg. 30).

It will be seen that regarding economic and tourism development in Indonesia, it is not the land size (area) that is most important but rather it is the effect of a number of other key factors, which will reviewed in this chapter.

In terms of tourism, Java with 60% of the population in only about 6% of land size and yet it received more than 1.5 million foreign visitors to Indonesia in 1994, or 35% of the total. In contrast, the relatively small island and best-known tourist destination, Bali, has only about 0.05% of the total land area and 1.5% of the population of Indonesia but it received almost 1.7 million foreign tourists or 40% of the total.

At the far western end of the archipelago is the island of Sumatra with a land area 25 per cent of Indonesia's total and which represents some 20 per cent or so of the population, received about 0.72 million or 16.5% of total tourist arrivals to the country.

Kalimantan (or Borneo), which is east of Sumatra and north of Java, is the largest sized area in the country, consisting of almost one third of Indonesia's land mass.

However, Kalimantan's share of foreign visitors was only 66 thousand or 1.5% of the total number of visitors who came to Indonesia. Sulawesi (or the Celebes) is another of the main islands, and it is located east of Kalimantan. It represents about 10% of Indonesia's total area with some 7% of the population, and it received 130 thousand tourists or about 3% of the total visiting Indonesia.

While Irian Jaya (the Indonesian portion of New Guinea) together with the rest of the eastern part of Indonesian islands, is the most easterly part of the country and lies directly north of Australia. It is quite sparsely populated and primitive, containing less than 1% of Indonesia's population but some 22% of the land mass. The total number of foreign visitors in 1994 was about 300 thousand tourists.

Overall, it can be seen that more than 75% of foreign tourists are generated less than 10% of the total land mass.

The country's political and economic development has always been strongly influenced by its location on important trade routes connecting the Middle East, Southeast Asia, India and China. It was these trade routes which initially brought the Indonesian islands into significant contact with outside worlds and other civilisations. Indian and Arab traders were followed later by ships from European countries such as Portugal and Holland sailing the same routes in their search for gold, spices and later bringing with them the western influences which was then followed by a very long period of colonial rule.

The economic contribution of the tourism sector to development in these early days of Indonesia was initially dominated by these colonial landscapes which began in the early seventeenth century and by 1799 the islands had come under the direct rule of Netherlands.

There were short periods of occupation by the French and the British but Dutch rule continued for more than 350 years.

During the colonial periods, indeed, as early 1884 where the main economic resources were based on the agriculture plantation and of course natural oil, which had become the main backbone of the economy. This colonial economy was characterised by very low wages and costs, ruthless exploitation of the plantation sector, mining, trading and communications (Barnes, 1995).

Prior to the Second World War, the Indonesian economy supplied most of the world's pepper, quinine, over one-third of its rubber, one-quarter of its coconut products and one-fifth of its tea, sugar, coffee and palm oil. Tourism, however, was a very minor or peripheral sector in the form of visitors through trade and colonial *relations (see Chapter 5).*

In 1949, when Indonesia was officially recognised as independent by the United Nations and the former colonial power, the Netherlands, the new nation had inherited an economy that was based overwhelmingly on small-scale agriculture in the form of the plantation system. The export of crops such as tea, coffee, rubber, spices and palm oil was well developed. The main economic development resource, however, relied heavily on the export of oil, which of course was always dependent on fluctuating international oil market prices (Jackson and Pye, 1978; Barnes, 1995).

The real impact to the economy came with falling oil prices due to the appreciation of the US dollar used for pricing oil and gas exports in the early 1980s. At the same time as the international oil market weakened dramatically, the market for Indonesia's other export commodities (timber, rubber, palm oil, coffee etc.) were also facing considerable volatility.

This was the time when the government was forced to make substantial changes to its economic policy in general and to its industrialisation policy in particular. In an effort to replace oil and gas revenue which averaged three-quarters of total exports from 1980-85 (Barnes, 1995, pg. 22), the Indonesian government began a process of economic restructuring in 1982-83 with several new initiatives in monetary, fiscal and exchange rate policies. These were undertaken with the goal of promoting non-oil domestic revenues and a more export-oriented trade regime. So successful were these measures that ten years later, the contribution of oil and gas sector to total domestic revenues had fallen to 30% by the mid-1990s (Vatikiotis, 1993).

The measures undertaken in the early 1980s that fundamentally changed the Indonesian economic landscape included:

- The tax system was completely overhauled and tariffs rationalised.
- Subsidies were gradually lifted from most parts of the economy.
- Customs, port handling, and shipping procedures were reformed.
- The rupiah was devalued in September, 1986 to improve competitiveness of Indonesian exports and encourage domestic producers to begin selling on the world market.

Nevertheless, the advances in agriculture (Indonesia became self-sufficient in rice production in 1982), the building of the physical and educational infrastructure, the increase in the managerial and technical capabilities had all been fueled by the oil boom of the 1970s. This has been combined with the government's choosing the right priorities to educate the population, reduce poverty, improve health and build a modern infrastructure (Jackson and Pye, 199, Rohwer, 1996).

As part of this redirection towards more diversified exports, Indonesia has accorded international tourism a high priority in its national development plans (REPELITA). Since then, tourism has been growing steadily and has become the fourth highest export contributor to the national economy, after oil, timber and textiles (BPS, 1995a-c).

As in many other developing countries, the travel and tourism sector in Indonesia has been identified by the government as a major area of economic development that involves resource allocation and affects the nature of development. The various National Development Plans (Repelita) in Indonesia over the decades of the New Order era have focused on the role of tourism, and how can be used as a strategy for macroeconomic development (Department Tourpostel, 1994). These goals included:

- A contribution to the balance of payments as an earner of hard currency;
- The creation of employment opportunities;
- The effect on general economic development through multiplier effects;
- The dispersion of development to non-industrial regions so as to counterbalance regional imbalances.

The size and value of a national economy is usually expressed as the total value of all goods and services produced by the economy. This size or value usually applies for a specific time period and is widely known as the GDP, or Gross Domestic Product. Travel and tourism relate to all aspects of GDP due to the fact that most of tourist expenditure would be regarded as consumption spending, while expenditures by tourist businesses on buildings, plant, equipment and so forth in order is considered as part of investment.

6.2 Tourism and the National Economy

The decision made by the government to focus on tourism as an important strategy for economic development for Indonesia is for sound macroeconomic management reasons. Tourism, especially international tourism, is seen as a powerful means for generating foreign exchange. Furthermore, for most large developing countries like Indonesia, an important key government goal is to improve both in terms of income and employment the welfare of its population scattered over the various regions.

Tourism in Indonesia is a relatively young industry, and is usually characterised as a developing industry, both in terms of its product development and access. The country exports are still dominated by mining and natural gas-oil, agriculture goods and commodities, timber, textiles then followed by trade and services. Tourism with the total earner of USD 6.7 billion in 1997 had reached the rank of the third most important of the non-oil or producing sectors after timber and textiles. Regardless of the clear demonstration of the effects of tourism's contribution to both national and regional economies, it is generally only regarded as being a tertiary economic sector.

Tourism is a service industry in Indonesia and has not yet become the primary focus of national development planning. This is especially true when one remembers that Indonesia is a vast developing country, long dominated by agriculture and primary resource sectors. It was only four years ago (1994) that the Indonesian National Development Plan (PELITA) acknowledged explicitly in the GBHN (Indonesia National Development Guidelines) that tourism is one of the main targets of development strategy and policy planning (Tourpostel, 1994). Previously, it had been seen as a sector with potential, but with this official

recognition tourism was designated as a leading sector in the national development scheme.

This is partly because, as in many other parts of the world process, development evolves from primary and secondary sectors with the service sector being a tertiary post-industrial phenomenon.

Within these circumstances, as tourism in Indonesia started to have a prominent place in the various REPELITAs (Five - Year Development Plans), it meant that many international development loans and aid schemes could apply. Tourism in Indonesia has comparative advantages compared to other countries by having institutional history and cultural values, vast diversity, human capital, natural resources, and a strategic geographical location in an attractive tropical setting. In the international tourism industry where there is a need of a good deal of interaction between customer and host, cultural diversity and traditional values of the society can play an important role.

This cultural richness not only maintains a good interpersonal relationship between 'host and guest' in a high-touch industry, but also has implications in the chains of tourism products such as diversity and appeal of souvenirs, arts and crafts and attractions.

The service sector usually depends upon unique resources compared to agriculture and manufacturing which depend more on a mass scale of production; therefore, the tourism sector should be recognised as a sector that potentially can provide a better value and return on capital. Besides, compared to other sectors, tourism is economically more efficient as it can be carried out through intensive labour means in economies where labour is cheap and with relatively small capital and resources. Within these circumstances, tourism needs to be treated as a very important development strategy.

While tourism has established itself as an important force in the Indonesian economy, there has been a continuing debate about the nature of its impact. Inevitably, tourism brings change to society and the resulting gains and losses are viewed differently by different people.

Government, tourism industries, and other stakeholders such as planners and professional associations are generally convinced of the positive benefits of tourism to increase prosperity. Therefore, tourism impacts in terms of economics is usually viewed as a more positive contribution and as a sign of development; while generally the opinion on socio-cultural and environmental impacts of tourism are more focused on negative influences (Harrison, 1992; Butler, 1992). This debate has suffered from a lack of concrete information about these gains and losses from tourism, and very often lead to conflicting opinions and value judgements.

The objective of this chapter is to examine the complex position of the tourism sector within the economic development of Indonesia. However, the analysis of the tourism sector contribution into the economy is often mixed and difficult. The main factors that reflect the level of complexities in examining the contribution of the tourism sector within an economic structure can be explained as follows:

- First, tourism has an 'unusual' level of dispersion across the various economic classification systems.
- Second, tourism can not only be evaluated from the supply point of view as the type of goods and services produced, but it must be approached from the demand standpoint.
- Third, the tourism industry is characterised by a high degree of dispersal both geographically as well as cross-culturally.
- Fourth, the level of heterogeneity of tourism business components vary widely from craft scales to conference centres and mega events, from sacred temples and villages to huge 'Disney' types of theme parks.

These complexities have implications not only on the calculation of impacts but also especially at the stage of estimations, definition and identification of the elements of tourism industry compared to other industries which are usually more homogenous.

Tourism is attractive to both national and regional economies as a rapid earner of foreign exchange and a redistributor of wealth. Figure 6.1 illustrates the increasing importance of income from foreign visitors into the scheme of the Indonesian Travel Account and to the overall balance of payments.

Figure 6.1 indicates that income from tourism has increased consistently since 1983/4 and particularly since 1987, when the first peak occurred, followed by continuous increases thereafter. The year 1991 (during the Gulf War when travel world-wide slowed notably) was when the account broke even; from there on the pattern moved up to surplus and then was estimated to generate a significant contribution throughout REPELITA V and VI. The projection to 2004/5 (which was carried out before the crisis year of 1997-1998) showed a strong positive balance mostly due to foreign tourist income even though the overseas expenditure by Indonesians who travel abroad was also forecast to increase. (Department of Tourpostel, 1994)

In late 1997, the tourism industry was hard hit by the 'Asian crisis', followed by domestic Indonesian economic and political crises in 1998 whose serious implications are not yet identified and formulated in the National Travel Account, but they are predicted to have a very serious downturn effect.

At the national level, the most readily and easily available indicator of tourism impact is the National Travel Account.

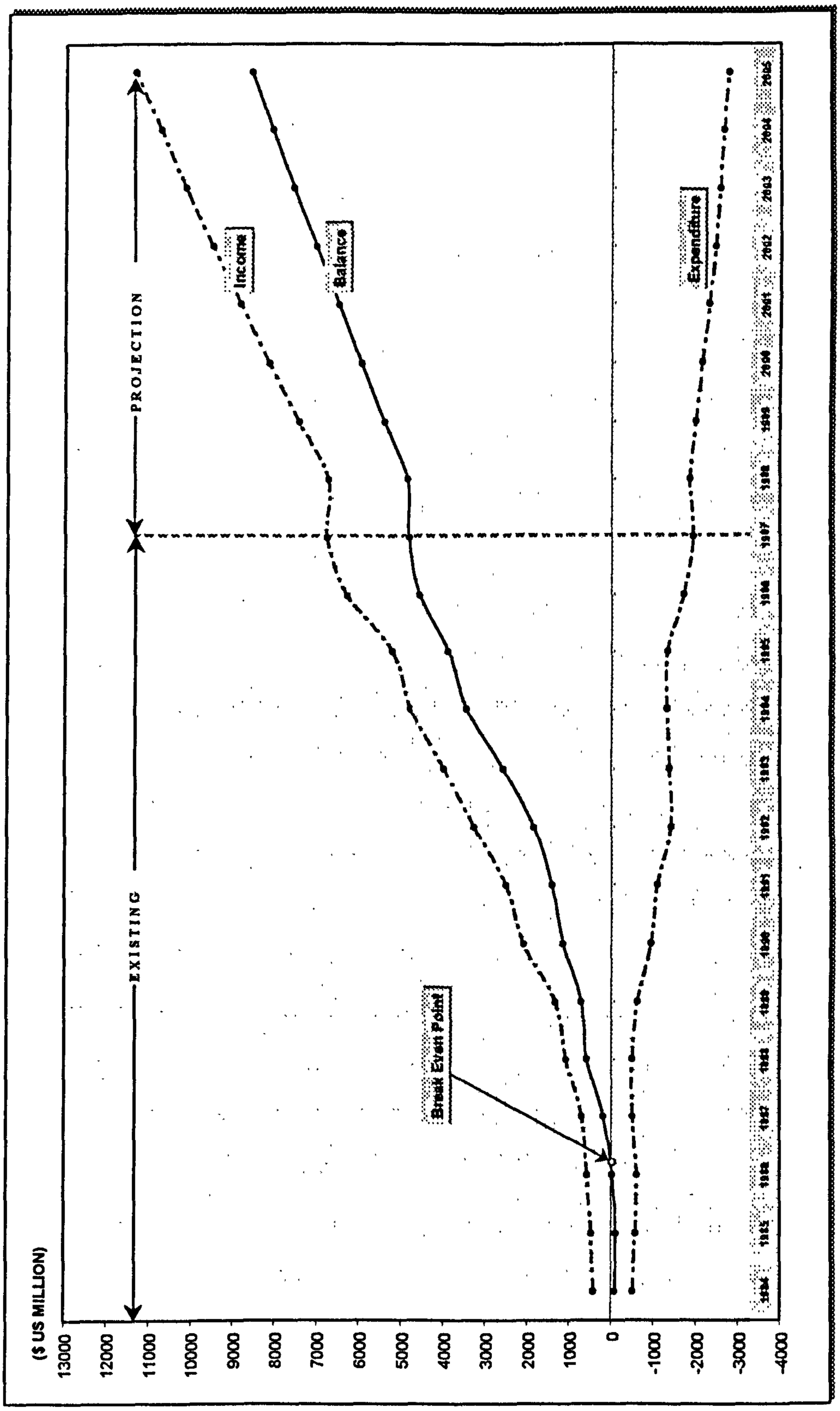


Figure 6.1 Indonesia Travel and Tourism Account 1984-2005

(Source: DGT/Naskah REPELITA VI)

Expenditure by tourists, which can be seen from the National Travel and Tourism Balance Account, is not in itself a measure of the prosperity created by tourism because it is received by businesses in tourism related industries.

The total tourism receipts of over US$ 6.7 billion in 1997 is five times more than the tourism receipts ten years ago (1987), making tourism one of Indonesia's major foreign exchange earning activities. The expenditure side of the Travel Account has been kept in control with the fairly high exit tax of Rp. 250,000 (or US$100 at 1997 exchange rates) per Indonesian travelling abroad. These Indonesian tourists going abroad spend on average of Rp. 800,000 per day over an average 4.5 nights length of stay (Immigration Department, 1997).

However, it is not sufficient to state that the national gain from the allocation of resources to the tourist industry due to the positive direct effects which tourism generated as these are based on operational impacts which involve an import element as well. These businesses spend a lot of their receipts on wages and salary for their staff, goods and services etc. locally, so that some of this money will be re-spent within the region, and this in turn will create further income and employment.

The first round of tourism spending creates a chain reaction of subsequent rounds of spending that generate further economic activity. It is the ratio of the first round spending to the total effect that yields the well-documented multiplier values.

The estimation of the contribution of tourism based on the Travel Account is useful although it is not a comprehensive indicator of the true contribution of tourism to the national balance of payment.

This is because tourism in not specified as a sole sector (due to its multifaceted nature) which means there is no economic quantification of tourism per se in the national accounting system.

The national accounting system is a measure of integration and co-ordination for the national economic data and information based on the regional, national and international various economic structures of activities. Furthermore, tourism is a demand-led industry and its influence pervades directly and indirectly many sectors of the economy, so it is not possible to measure the overall impact by the accounting table only.

A national accounting system in its purely instrumental aspect has different ways of presenting economic statistics of the various activities that describe the structure of the economy. However, an account-based system only permits the crude quantification of direct effects from tourism (DGT, 1990).

Therefore, the more comprehensive and rigorous method of input-output analysis has been used in this research to analyse the effects of tourism. The powerful ability of input-output to quantify total impacts (such as direct, indirect and induced effects) is the focus of this research. Input-out will be further examined and analysed in the following chapters in terms of its power to operate within different scales of tourism related establishments, different economic distances and different tourism development characteristics.

Tourism development in Indonesia is relatively new. Tourism will show a rapid rate of growth in regions that were previously underdeveloped economically compared to well-established destinations such as Bali and Java. Many regions in Indonesia are rural, therefore when tourism starts to grow within these underdeveloped infrastructures there will emerge a rapid increase in income or GDRPs (Gross Regional Domestic Products).

In these kinds of situations, caution must be taken due to the lack of local goods and services, especially within the very underdeveloped regions where other sectors may also have poor output potential.

6.3 Tourism and Regional Economy

Tourism in Indonesia, as in many other developing countries, is very much developed in areas that were previously rural or agricultural in character. This is due to the fact that most tourism attractions are found in rural or remote areas rather than urban areas as is often the case in more industrialised countries. Urban areas in industrialised countries offer far more in the from of sophisticated services, sites, infrastructure, and attractions to foreign visitors than typically found in developing countries' cities that often suffer from pollution, over-crowding, poor public transportation, and few attractions of an international caliber.

Tourism by its nature is an activity that is a product of developed countries which (in order to produce it) requires other resources for both capital and operational purposes. Capital and other resources are not usually available in relatively poor regions and therefore, must be imported from outside the area under study.

In some of the peripheral regions – especially in the eastern part of Indonesia -- it is quite possible that the government needs to consider policies regarding the appropriate threshold of investment in order to activate tourism, especially in the fields of infrastructure. Therefore, caution need to be taken regarding the appropriate type of tourism and scale of establishments that should be developed in the regions where the prospects of development in other sectors are not promising.

The role of tourism in the regional economy is affected by a number of different factors. These factors are more demand-side oriented, even though the ability of the tourism sector to expand within an economy depends more frequently on supply-side factors. Two major factors that determine tourism's role to contribute to the GRDP (Gross Regional Domestic Product) include:

1. Economic Factors

Stock of Resources

Tourism activity depends on the availability of resources across regions, as to be used as factors of production. These include resources such as land, labour and capital. Equally, the ability for the region to supply the supporting elements required for the tourism industry in the shape of facilities, infrastructure, accommodation, transportation and so on, will influence the potential growth of the tourism industry to grow.

Investment

Both domestic and foreign investment plays an important role in developing tourism especially in regions where the economy is not strong. The level of investment will contribute capital formation for the region; however, tourism does not require a very substantial amount of direct investment compared to other sectors such as manufacturing industries, although hotels can have a high operating leverage.

Some areas such as accommodation, infrastructure and passenger carriage, and even in the field of attraction development are becoming more demanding in terms of fixed capital formation. Moreover, as an industry that hosts the interaction between consumer and producer in its own 'factory' tends to demand enhanced facilities as part of its competitive strategy.

Investment in turn, depends on standard considerations including elements such as the nature of financial markets, rates of tourism return compared with other industries, saving patterns and general perception regarding government supports (Bull, 1994).

2. Socio-Cultural and Political Factors

Cultural Capital

Cultural capital aspects might be said to include elements such as image, attitudes and perception both from the host and visitors. These forms of capital will strongly influence the level of services and enterprises (Nuryanti, 1997). The attitudes of the host population towards the tourism industry in its midst, and particularly the views and feelings of those who work directly within the tourism sectors are important components of the entire tourism product. Bull (1994) stated that a purchaser of a pair of shoes probably cares very little about the morale, attitudes and motivation of the workers in the factory that made them, but a tourist will be directly affected by the attitudes of those supplying tourism services face-to-face.

In a service industry, this is obviously crucial and it is not 'automatic'. In Indonesia, the tourism industry has drawn upon the Indonesian cultural traditions of hospitality and welcome where the guest is considered to have a privileged position. In many countries (notably Russia and China), international hotel chains have to spend considerable amounts in human resource development by training indigenous personnel in their hotels and restaurants to be welcoming and hospitable to guests (*Hyatt GM, personal communication*). In contrast to this, what Indonesian hospitality workers may lack in technical skills, they more than make up in their willingness to welcome and serve guests.

In a high-touch industry such as tourism, this form of cultural asset is vital and has to be put in the equation alongside productivity and efficiency considerations.

Political Stability

Factors that are more cultural and political rather than economic in nature have long been recognised as vital in determining the capability and growth of sectors in economy (Sessa, 1983). The issue of social and political stability is absolutely essential in the international tourism industry. It will directly influence the 'selling point' as well as the acceptability of the product due to the fact that tourism consumers must go and visit the 'site' in order to buy the products.

In fact social and political stability has been cited as characteristics of tourism products (Woodside and Lysonski, 1989). Since one of the important elements of tourism products is the country's image, therefore, social and political stability has even become part of the tourism product itself. Tourism depends strongly on the country's image as a base of its tourism productions and likely to be one of the main variables for the value fluctuations of tourism sector.

Tourism, unfortunately, as an image based productions, depends on intersectoral linkages rather than single sector efforts.

The downturn in Indonesia's tourism in 1998 can be directly linked to the social and political unrest playing themselves out on television screens around the world. This unrest led to direct cancellations due to the formal issue of warnings by most of Indonesia's major market countries that meant that their travel companies were no longer insured if they brought customers to Indonesia.

In past years, local regional turbulence within Indonesia such as the problems in East Timor may have affected Indonesia's status in the international community but had little direct effect on tourism or other forms of investment in the rest of the country.

However, the riots in the centre of the capital, Jakarta, had an immediate dampening effect on tourism throughout Indonesia. It drastically affected bookings even in Bali, a thousand kilometres away and relatively untouched by social unrest.

As other countries before have found (such as Egypt or former Yugoslavia), political or social unrest leads directly and immediately to a decline in the numbers of inbound tourists.

6.4 Tourism's Contribution to GDP

As mentioned earlier, estimating the value of tourism as a sector in an economy involves complex procedures because tourism is not classified as one sector as it draws on many. In fact, there are constant arguments in the literature and among government departments in different countries as to what exactly constitutes the 'tourism sector'.

Tourism is based on service sectors, which are intangible in nature. Another major problem in analysing tourism value added is separating out the tourists from other people who are behaving in a similar way. For instance, those using public transport, eating in restaurants and staying in hotels.

Thus, trying to estimate what contribution 'tourists' as opposed to local residents might make to a given sector such as restaurants is highly problematic. An accurate assessment of the real value of the sector is always difficult and complex because it will omit some positive and negative items. According to Bull (1994) these items include:

- *Unpaid services*, those workers who perform for no payment, payment in kind or in reciprocity. In this scenario, economic transaction exists for reciprocal or barter activities and it does not involve real economic transaction activities. Visiting friend and relative tourists stay in their family for free accommodation and meals. Even though if the guests bring present or give some other services there is no recorded economic transactions involved.
- *Non-accounted services*: those for which payment are received informally. These types of transactions are usually known as the black economy and normally take place in order to avoid taxation, wages regulations or for convenience. Non-accounted services in travel and tourism are very common (especially in developing countries) and include items such as taxi driving, souvenir selling, other supporting services and so on where there is often part-time work, gratuities and side jobs.
- *Notional Cost:* those costs which relate to the principle that one type of activity that takes place is actually accounted for as another type of activity. For example, holiday makers may stay in their own holiday bungalow that was bought as a second home but which is rented out when not used by the owner. The owners then pay no recurrent accommodation equal to the commercial rental value of their properties.
- *Public and private revenue distribution* concerns the distinction between sourcing and using revenues earned by the private sector in one area, but spent by the public sector in another. For example, if the government has a tourist tax and uses this revenue in expenditure on agriculture support, it must be decided whether tourism includes the gross value of the transaction, while agriculture includes nothing.
- *Alternatively*, whether tourism includes the net value of the tax, with the tax being included under agriculture. Otherwise there would be double counting in the national accounts.
- *Balance of payment anomalies* in areas such as tourism investment and foreign exchange, the values of tourism revenues expressed in fluctuating currencies can cause measurement problems.
- *Social cost and benefits* are the differences between the value of private commercial transaction and their value to an economy or society as a whole, including third parties. Travel and tourism brings benefits, but also imposes costs.
- *Public goods* are a part of the social benefits, and governments world-wide are increasingly aware of their value to society. These include such resources as national parks, cultural heritage sites etc. for which no tourist entrance price has been charged.

Given the need for due caution and taking into account the above points, it is still possible to attempt to identify a value of tourism to an economy. However, different estimations will result depending on the interpretation of the above important considerations.

The key rule in deciding how an item should be treated for national income calculation is whether it represents income earned by, or output or expenditure on that output produced by, a factor of production (Tribe, 1995). In the income method, incomes are added up. These cover income from employment, profits, rents etc. The residual error approach involves the measurement of different sectors of economy that are valued separately.

The expenditure method involves total spending on final output under different categories including government final consumption, gross domestic fixed capital formation, value of increases and exports of goods and services deducted by imports of goods and services.

Whatever the method used, it is essential to avoid double counting that occurs where the output of one industry is the input to another. Double counting can be avoided by measuring the value of final, rather than intermediate, output.

The economic contribution of the tourism industry to the Gross Domestic Product of Indonesia is expressed in output terms. Output is measured in 'value added' terms, which means the value created by an economic activity in excess of the value of the inputs used in the activity. Input here means raw materials, non-durable goods and services used for production.

The expression of tourism contribution to GDP in value added terms is useful if there is a high import component in the input, as is, for example, in the case with the receipts earned from direct spending by tourists. The value added by tourism reflects a direct contribution to the GDP. If the input is produced in the country or regions then it can be considered as the indirect contribution of tourism to GDP. If a hotel room is produced by a local owner or builder, then the value added by the suppliers for the hotel room production is an indirect contribution by tourism as the tourist is paying the whole price of the room (DGT, 1990).

However, there are problems in using GDP as an indicator. For instance, inflation is one important problem, pollution is another. As well, obsolete items are another problem in a 'throw-away' society. GDP assumes that increases in it are equivalent to increases in well-being but this is not necessarily the case.

The Central Bureau of Statistics (BPS, or *Biro Pusat Stastistik*) of Indonesia profiles the contribution of international tourism to the Indonesian GDP. In 1994, this was mainly divided into the various sectors such as hotels representing 0.88% of GDP, restaurants at 0.68% and transport at 1.93 %. According to the estimation of the Central Bureau of Statistics (BPS,1995b), in 1994 the direct effect of tourism was about 3% of GDP, and combined with the indirect and induced effects, is about 11 % of GDP.

The World Travel and Tourism Council (WTTC) in co-operation with the Wharton Economic Forecast Associates (WEFA) reported that international tourism and travel activities contributed to the Indonesian GDP about 10.7% and 8.0% of total employment in 1997 (WTTC/WEFA, 1997).

The different figures arrived at reflect different accounting approaches with BPS using the Input-Output analysis and WTTC/WEFA using the tourism satellite accounting approach (TSA). Both approaches have their pros and cons as they describe the economy in different ways – Input-Output gives a more comprehensive overview if data and time are sufficient and uses a disaggregation approach to tourism sectors. Whereas, the WTTC/WEFA TSA calculates tourism share using USA data and then estimating shares for Indonesia by using weighting derived from the consumer price index in Indonesia.

When a country's data structure and Input-Output tables are available in an elaborate and detailed fashion, then the I/O analysis is a stronger and more accurate reflection of the contribution of tourism to the economy. While the WTTC/WEFA TSA is simpler in data needs, it tends to overestimate the contribution of tourism (Smith and Wilton, 1997; Smith, 1998).

6.5 Contribution to the Balance of Payments

The potential contribution of tourism to the balance of payments as a rapid cash earner of foreign exchange has been widely recognised as a main attraction for national and regional economies. This is followed by the development of tourist facilities and recreational opportunities which have frequently been viewed as a major positive contribution to the national balance of payments, and as a means of redressing regional disparities in incomes and employment.

Many countries with a strong dependence upon international trade have been strongly influenced by balance of payments considerations in formulating government policies regarding tourism development.

The balance of payments has emerged as one of the most studied of all economic impact indicators surrounding tourism (Bull, 1994; Tribe, 1995; Faulkner, 1998). Most of the studies are dominated by the accounts of the volume of international tourist receipts and their increasing proportion of the total value of world exports, even though international tourist expenditures contribute only a relatively small percentage to many countries' balance of payments.

The balance of payment is based on the actual visitor expenditures made by foreign tourists within the host country minus the amounts spent by resident of the country abroad. This, therefore, gives rise to direct inflows and outflows of currency, respectively. There are three division of tourism effects on the balance of payments: primary, secondary and tertiary (Airey, 1983). Primary effects are direct, immediate and therefore, make assessment relatively easy to measure. However, indirect and induced effects are more complex and are not included in the balance of payments assessment. Therefore, while the contribution to the balance of payments through the tourism and travel account only permit quantification of direct effects, input-output tables make it possible to quantify the *total effects*. That is, the direct, indirect and induced effects in addition to a variety of forecasting and planning applications and uses.

The balance of payment analysis is, however, not a comprehensive criterion to establish the indicator of the true tourism impacts in a country. This is because the estimation of a tourism balance is more focused on the direct transaction only, while impacts should be seen as a resource allocation which involves certain import elements. (The issues of imports and impacts as a whole through the analysis of multiplier effects will be analysed in detail using the Input-Output analysis in the following chapter).

The Input-output model will be used in order to calculate those secondary effects which arise as the primary effects ripple through the economy, and which can be identified as being direct, indirect and induced effects.

The balance on the travel account is one of the indicators to the degree to which Indonesia attracts overseas visitors, and the most readily available indicator of tourism impacts at the national level.

Based on this figure, there arises a framework of tourism characteristics in Indonesia as follows:

- Figure 6.1 indicates that the pattern of tourist expenditure in Indonesia increased consistently since the period 1983/84, when significant deregulation and other export stimulant policies were instituted. There is a significant increase also noted in the year 1987 which continued thereafter.
- In the years from 1984 to 1991, this account grew, breaking even in 1991, and into surplus thereafter, and it is estimated to contribute a healthy surplus throughout Repelita V and VI. The only other major element in the service account which makes a positive net contribution at this level of aggregation is remittance from overseas workers. Although these have increased consistently over a seven year period, they contribute only about 12% as much as travel does in the years 1987/94.
- It is also acknowledged that a continuing strong performance from the tourism sector has contributed to the growth in the services sector activities. The total tourism receipts has increased five times in size within the ten years from 1987 to 1997 to over US$ 6.7 billion, making tourism one of the major foreign exchange earning activities within the national economy.

6.6 Tourism Activities in the Regions

There are large regional differences in Indonesia both in absolute and relative terms of tourism supply and economic performances. This is due to many factors including size, location, diversity, types of attractions, natural and cultural resources, history of region and so forth. It is very understandable, therefore, that the economic impacts from tourism will vary considerably from region to region.

Table 6.2 shows the regional pattern of population distribution, value added figures for hotels, and the percentage of available rooms. The data is based on the single year of 1994, the only year for which there exists complete data for the 27 provinces. However, a review of other data indicates that this year demonstrates good relative indicators for tourism performance within the 27 regions. This is because over the nineties, there appears to have been few fluctuations in individual regions' tourism performances but rather a consistent relative performance that grew steadily. There are interesting illustrations that can be explained from Table 6.2:

- The population distribution is geographically concentrated within the five provinces on Java island with more than 60% share with a standard deviation of 5.27.
- The distribution patterns of hotel value added factors are even more varied with a standard deviation of 7.49. They were highly concentrated with more than 50% generated by only Bali and Jakarta; and more than 80% generated by the total of the five provinces of Java combined with Bali.
- Tourism activities are spread in a similar pattern to the distribution patterns of the population but are slightly distorted in relation to business activities. Java, the centre for economic activities of Indonesia with more than 60 % of the national population, has only 33% of hotel value added factors.
- The three regions with highest value added factors which are Bali, Jakarta and E-Java generated a total of almost 70% of hotel value added factors. While these three regions have only have 23% of the Indonesian population, they have more than three times the share of hotel value added factors.
- While in regions outside of Java and Bali, there is about 40% of the national population but they are only able to generate 16 % of hotel added values, a ratio of less than half.
- In considering the national share as reflected by rooms to population and value-added factors to rooms, when the figure is 1.00 the regions have a disproportionately higher share of value added factors or rooms. Bali has more than 10 times the number of rooms on average. Yogyakarta has more than 3 times and Jakarta has more than 2 times compared with other regions' shares.

The disparity and imbalances in terms of tourism activities within the 27 regions of Indonesia will have implications on the economic performances and especially on the generator of multiplier effects.

- The four regions with higher value added factors than the national share (more than 1.00 of national value share) per room are E-Java (2.02), Bali (1.94), Jakarta (2.07) and E-Kalimantan (1.26). However, the percentage of rooms per population is only 0.54 for E-Java, 10.36 for Bali, 2.12 for Jakarta and 2.21 for E-Kalimantan. The very low share (percentage of rooms/pop.) of 0.54 for E-Java of the national figure and the very high value added factor per room (2.02) may be an indication of the insufficient supply due to lack of tourism products.
- The regions with higher both of room share and value added per room are Bali, Jakarta, and E-Kalimantan. These cases probably represent the most lucrative regions in terms of accommodation businesses potential. Bali is the most established and prominent tourism related destination in Indonesia; Jakarta is the capital; while E-Kalimantan represents a region with considerable 'expatriate' business related tourism activity due to it being a major centre for oil and gas production, as well as a centre for natural resource exploitation of timber and mining.
- Regions with a lower share of rooms than share of value added per rooms include Jambi, Bengkulu, E-Timor, N-Sulawesi, C-Sulawesi, Se-Sulawesi and Maluku. These regions may be more appropriate to serve a predominantly domestic and business markets rather than designated for international tourism market destination.

Table 6.2 Population, Accommodation Rooms and Value Added

Provinces	Percent Population	Percent Rooms	% Rooms/ % Pop	Percent Hotel Value Added	% Hotel V.Added/ % Rooms
1. Aceh	1.96	1.47	0.75	0.54	0.37
2. N. Sumatera	5.74	6.79	1.18	2.97	0.44
3. W. Sumatera	2.23	1.94	0.87	0.04	0.02
4. Riau	1.95	4.76	2.45	2.45	0.51
5. Jambi	1.19	0.98	0.83	0.25	0.25
6. S. Sumatera	3.65	2.28	0.62	0.43	0.19
7. Bengkulu	0.70	0.63	0.90	0.07	0.11
8. Lampung	3.41	1.38	0.41	0.34	0.24
9. Jakarta	4.67	9.91	2.12	20.50	2.07
10. W. Java	20.06	15.52	0.77	5.50	0.35
11. C. Java	15.54	8.23	0.53	6.30	0.77
12. Yogya	1.55	4.64	2.99	2.94	0.63
13. E. Java	17.72	9.54	0.54	19.29	2.02
14. Bali	1.52	15.70	10.36	30.46	1.94
15. W. Nusa T.	1.88	2.02	1.07	1.30	0.64
16. E. Nusa T.	1.84	1.36	0.74	0.25	0.18
17. W. Kalimantan	1.85	1.62	0.88	0.08	0.05
18. C. Kalimantan	0.82	1.28	1.56	0.37	0.29
19. S. Kalimantan	1.48	1.50	1.02	0.41	0.27
20. E. Kalimantan	1.14	2.51	2.21	3.17	1.26
21. N. Sulawesi	1.37	0.88	0.64	0.04	0.04
22. C. Sulawesi	0.98	0.79	0.80	0.20	0.26
23. S. Sulawesi	3.90	2.09	0.53	1.06	0.51
24. SE. Sulawesi	0.40	0.30	0.74	0.02	0.07
25. Maluku	1.06	0.87	0.82	0.25	0.29
26. Irian	0.97	0.88	0.91	0.74	0.84
27. E. Timor	0.43	0.14	0.32	0.06	0.41
INDONESIA	**100.00**	**100.00**	**1.00**	**100.00**	**1.00**
Standard Deviation	**5.27**	**4.41**	**1.91**	**7.49**	

(Source: DGT, 1994; BPS, 1995c,f)

6.6 Tourism and Gross Domestic Regional Product (GDRP)

Table 6.3 shows the population and per capita GDRP compared to hotel value added per capita, while Figure 6.4 demonstrates the superimposed distributions of:

- The different levels of economic development within the twenty-seven regions in Indonesia based on the population and per capita Gross Regional Domestic Products (BPS, 1994).
- The distribution of total foreign tourists by regions (DGT, 1994a,b).
- The distribution of planned TDC (Tourism Development Corporation) (DGT, 1994).
- The distribution of Integrated Plans for Economic Growth (KAPETs) with tourism designated to be the strategic sector (RIPPNAS, 1995-1996).

Table 6.3 GDRP and Accommodation Sector Activities

Provinces	Hotel Value Added (millions Rp)	Total GDRP (millions Rp)	Population *(millions)*	Hotel Value Added/Cap.	Hotel V.A/Cap Compared National Mean	Total GDRP/Capita
1. Aceh	16,438	12,835,381	3.69	4456	0.20	3,479,177
2. N. Sumatera	90,724	24,686,430	10.81	8390	0.38	2,282,948
3. W. Sumatera	1,108	814,632	4.20	264	0.01	193,822
4. Riau	74,694	21,296,447	3.67	20365	0.92	5,806,486
5. Jambi	7,534	3,453,370	2.24	3367	0.15	1,543,544
6. S. Sumatera	13,029	14,567,235	6.88	1895	0.09	2,118,840
7. Bengkulu	2,205	2,088,187	1.32	1670	0.08	1,581,481
8. Lampung	10,344	8,021,946	6.43	1609	0.07	1,248,027
9. Jakarta	625,559	69,846,959	8.80	71112	3.22	7,940,042
10. W. Java	167,877	73,333,011	37.79	4442	0.20	1,940,478
11. C. Java	192,187	45,996,379	29.27	6565	0.30	1,571,317
12. Yogya	89,574	5,618,645	2.92	30694	1.39	1,925,314
13. E. Java	588,838	66,212,568	33.38	17640	0.80	1,983,576
14. Bali	929,465	7,409,579	2.86	325443	14.74	2,594,390
15. W. Nusa T.	39,613	3,465,971	3.55	11166	0.51	976,990
16. E. Nusa T.	7,646	2,880,168	3.46	2207	0.10	831,457
17. W. Kalimantan	2,405	7,138,914	3.49	689	0.03	2,045,065
18. C. Kalimantan	11,197	4,351,695	1.54	7260	0.33	2,821,562
19. S. Kalimantan	12,419	6,139,355	2.78	4465	0.20	2,207,210
20. E. Kalimantan	96,831	21,764,506	2.14	45160	2.05	10,150,409
21. N. Sulawesi	1,100	3,793,220	2.58	426	0.02	1,467,794
22. C. Sulawesi	6,156	2,559,697	1.85	3326	0.15	1,383,022
23. S. Sulawesi	32,331	10,294,163	7.35	4401	0.20	1,401,272
24. SE. Sulawesi	662	1,820,249	0.75	884	0.04	2,430,239
25. Maluku	7,713	3,103,907	2.00	3854	0.17	1,551,023
26. Irian	22,498	7,014,420	1.83	12303	0.02	3,610,098
27. E. Timor	1,725	708,427	0.81	2050	0.00	843,365
INDONESIA / AVERAGE	**3051872**	**431,215,461**	**188.388**	**22078**	**0.97**	**2,616,687**

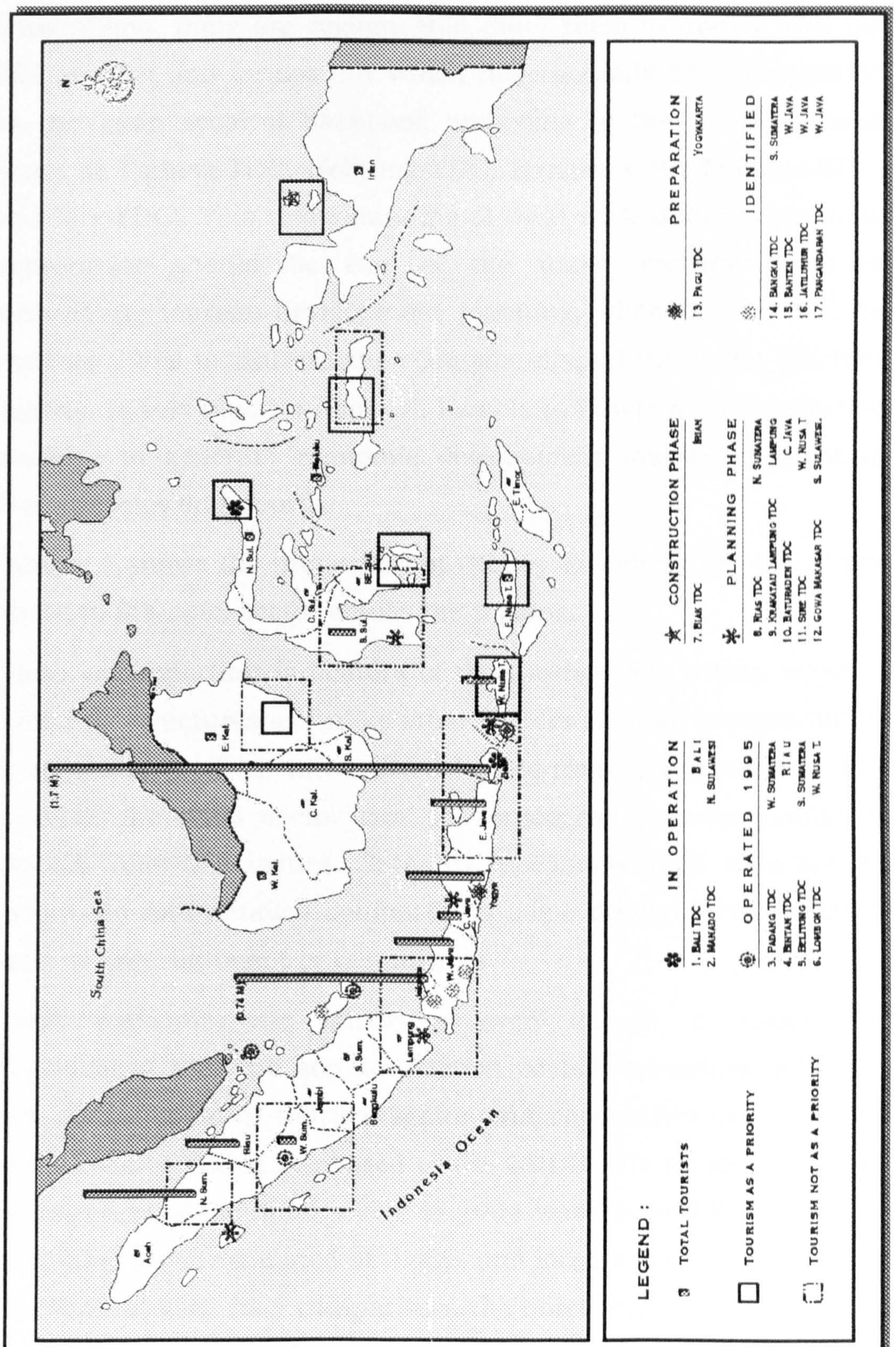
(Source: DGT, 1994; BPS, 1995c,f)

The above tables show an interesting illustration in terms of levels of development across regions superimposed by tourism related development plans. TDC (Tourism Development Corporation) are state own companies promoting and, in partnership with the private sector, developing resorts, that is, zones designated as economic growth areas with tourism as a backbone.

It can be seen from both tables that there are development disparities across the regions, with the mean of GDRP about Rp. 2,515,887 per capita. There is a noticeable gap among regions -- based on these basic indicators, the poorer regions (regions with lower value than the mean), are W-Sumatera, Jambi, S-Sumatera, Bengkulu, Lampung, W-Nusa Tenggara, E-Nusa Tenggara, E-Timor, W-Kalimantan, C-Kalimantan, all the Sulawesi provinces, and Maluku. The richer regions are Aceh, N Sumatera, Riau, Jakarta Bali, C-Kalimantan, E-Kalimantan and Irian Jaya.

Tourism Development Corporation (TDC) plans as displayed in Figure 6.4, shows how some of the planned TDCs will be developed throughout the poorer regions, such as Padang-TDC, Bintan and Belitung-TDC, Lombok-TDC, Krakatau-TDC, Sire-TDC, Bowa-Makasar-TDC, Bangka-TDC, Manado-TDC, Biak-Merau-TDC. Some of these poorer regions are considered to have future potential to be developed as a KAPET (Integrated Plan for Economic Growth), and some are in regions with little future prospect from other sectors.

Figure 6.4 TDC, Total Tourists and Integrated Planning for Economic Development Zones (KAPET)



In examining the cross-sections of the above superimposed illustrations, there are regions that don't seem to match with the TDC market and format but which have actually been designated as the main sectoral backbone according to the KAPET format (such as Padang-TDC, Belitung-TDC, Bangka-TDC, Manado-TDC, and Sire-TDC). This understanding of what scale of development is appropriate should be one of the major considerations in formulating tourism development planning, when tourism will be used as a tool to address the economic disparities in the different regions. In this way, tourism will be able to function as an effective platform to generate economic development instead of creating dependencies on imports.

Table 6.3 shows the proportion of GRDP, as well as the GRDP per capita in the hotel sector across the regions.

These are important indicators of the tourism role within regional economic structures as unlike other sectors such as transportation or restaurants which have mixed inputs from local residents and tourists, the hotel sector can be considered a purer profile of tourism related activities. Secondly, accommodation data are so structured and detailed compared to some other tourism sectors such as entertainment or restaurants.

These indicators are important even though it should be remembered that the accommodation sector represents only one part of the chain of tourism sector and contributes only a small part of values added compared to the GRDP. The national average contribution of the hotel sector in 1994 was about 0.88% of GDP, restaurants was estimated at 0.68% and local transport is just over 1% (BPS, 1995c). As a comparison, the hotel sector value added in 1985-6 for the national average was only 0.33% (DGT, 1990). This indicates that the value added factor by the hotel sector has increased almost three times within less than 10 years.

Regions with the hotel sector value added per capita that exceeded the national average (.97) in 1994 are Bali (14.74), Jakarta (3.22), E. Kalimantan (2.05), and Yogyakarta (1.39). While regions with hotel sector exceeded the national average ten years ago (1.12) were then Bali (11.68), Jakarta (4.99), Riau (2.14),Yogyakarta (1.60), and S-Sumatera (1.24). It is interesting to note that over the period of 10 years of time, the role of the hotel sector has shown some interesting changes.

The three regions which consistently have a higher value than the national average ten years ago as well as in 1994 are Bali, Jakarta and Yogyakarta. This demonstrates that over the past decade that as far as international tourism is concerned the most important Indonesian tourism destinations have remained constant.

Bali is the outstanding 'pure' tourism destination, followed by Yogyakarta. Yogyakarta is the only region in Indonesia, which has a below average per capita GRDP but with above average hotel value added. This means that Yogyakarta has a strong potential to be developed further and investing more in the tourism sector in this region could enhance their regional GDRP and development in general.

While the consistence of high hotel sector value added in Jakarta may be directly linked to business related activities. Due to the capital factor, Jakarta is more entangled with other business and trade industries rather tourism and unlike the other top tourism destinations, it is hard to disentangle the tourism influences from other contributions.

Riau has a lower value of only 0.35% which is about half compared to the value of ten year ago (0.64%). A similar scenario took place in S-Sumatra, the higher hotel value added in the earlier years may be linked with the extensive coal mine development process at the time which involved numbers of international expatriates coming to the region. E-Kalimantan's higher value added factor than the national average may be due to the timber, oil and natural resources which involved many international companies and expatriates. Riau is a province that is unique given its proximity by fast hovercraft to Singapore, and the bonded, tax-free development zones of Batam and Bintan.

The higher hotel sector value added per capita in the previous years (1984-90) took place when Batam was in the process of development as a bonded industrial zone, meaning that many expatriates, who were heavily involved in constructing and developing the bonded zone development, came on temporary assignment.

The value added has declined as the development process finished but before the newly developed industries and resorts (such as Bintan) came into full operation. Bintan resort is now the biggest enclave resort development (Bintan TDC) in Indonesia, surpassing the original Bali TDC model which resulted in Nusa Dua. It has been developed on the small island of Bintan in Riau province, just about half an hour by boat from Singapore International airport (*KOMPAS newspaper, July 19, 1994).* This resort area with a planned accommodation plant of at least sixty-five lots of five star international hotel chains, condos, and villas is not yet complete or in fully operative (DGT, 1992; JMC,1994; *KOMPAS newspaper, July 20, 1994*).

Table 6.5 shows the accommodation data reflecting the number of hotels, bungalows and others (*'losmen'*, homestays etc) in the 27 regions. However, in order to show the growth rate of these types of accommodation, it is necessary to also consult Table 8.2 (See Chapter 8).

The two Tables demonstrate that over the period of the last ten years, growth has stayed reasonably strong at an average rate of almost 4% nationally. Regions with a higher growth rate of all types of accommodation are Bali (24.13%), followed by Riau (9.74%), then dominated by the provinces of Java with Jakarta (8.35%), West Java (8.77%), Central Java (8.24%), and East Java (7.43%). Yogyakarta is somewhat lower at 4.39%.

In terms of star rated accommodation, Jakarta, however, has the largest share of average rooms per hotel with 84.55 rooms, followed by Bali at 38.67, and Riau at 30.39. The last findings may indicate that the same regions are not only dominated in terms of quantity but also the quality of accommodation development across the twenty-seven regions. It is interesting to inquire whether these dominant regions in terms of tourism are also dominant in terms of generating multiplier values, a question which will be examined in detail in much of this thesis.

6.8 Tourism Expenditure

Increasing tourism expenditure is of course one of the important intermediate targets for tourism development in Indonesia. This can be seen from the goals and objectives of every REPELITA plan whose targets are expressed in terms of total number of tourists, average length of stay and average expenditure per day or trip.

The implication of this is that quantitative targets are considered to be important indicators in measuring the contribution of tourism to the national economy.

Based on 1997 data, foreign tourists generated a total direct expenditure of about USD 6.7 billion (BPS, 1995a; DGT, 1997). The latest available breakdown for the spending patterns of total expenditure was done in 1994 with the following national results: Accommodation sector (30.63%), souvenirs (24.36%), restaurants (18.68%), local transport (12.79%) and the rest of about 13.54% was spent on sightseeing, entertainment, and others. As a comparison, domestic tourists generated a total expenditure of Rp. 15.5 billion with spending patterns broken down as: Accommodation sector (28.9%), local transport (16%), restaurants (8.8%), souvenirs (8.63%) and the remaining 37.67% spent on other categories such as sightseeing, entertainment, others etc.

The breakdown of regional data for the 27 regions is shown in Appendix 1 which is presented in the form of a separate appendix due to the complexities and the level of its detailed information. Tourist expenditure was differentiated by country of residence both for the complete list of tourism markets as well as for the ten biggest ones. In terms of total visitors, they were segmented by purpose of visit, country of origin, scale of accommodation or scales of establishments, and spending patterns in terms of shares between accommodation sector, restaurant, souvenir, and sightseeing etc both for national and regional levels.

The reason for using 1994 based data for both national and regional pattern of expenditures in this research, is that this data was considered the most complete in terms of availability across regions, level of detail, breakdown of information, as well as the level of consistency and accuracy between different resources.

It should be noted that the 1994 data was also cross checked with other resources including the series of Occupancy Rates of Hotel Survey (DGT, 1989-1995) as well as Tourist Opinion Survey and Passenger Exit Survey (BPS, 1988-1995e). These data cover different seasonality, fluctuation, and aggregated values and patterns. However, due to the complexities of the calculating and interpreting tourism expenditure which differs from region to region, therefore caution has to be taken in order to understand the actual reality, transformation, expansion and interpretation of the significance of tourism in the regions.

Since this research focused on only foreign or international tourists, no account was taken regarding the spending activities by domestic tourists. Identification of domestic tourist segmentation, profile and activities are quite problematic when standards and definitions conflict and when domestic tourist activities tend to produce trips to a region originating from the same region. However, important though domestic tourism may be to regional re-distribution of national income, it is not central to this thesis which is examining the impact of foreign revenue. Domestic tourism affects distribution but by definition but does not involve an initial injection of foreign exchange into the national economy. However, domestic tourism may be a form of import substitution if it diverts money from visits overseas.

Regarding average expenditure by tourist markets, the average expenditure varies among the fifteen highest number of visitor markets is from the lowest of USD 728 per trip (Singapore) to the highest of USD1,900 (Japanese) followed by USD 1,700 (Netherlands).

The ten biggest total revenue generators vary from the lowest of USD 130 million (France) to the highest spending market of almost USD 1 billion (Japanese). While from the ten biggest markets, the average expenditure per day varies from the lowest of USD 120 (Australian) to the highest of USD 250 (Japanese).

In terms of length of stay, Singaporeans tend to stay the shortest amount of time on average for a major market. This is due to the proximity factor between Singapore-Batam that tends to produce 'weekender' tourists, rather than 'real' tourists. While the Dutch, as might be expected, tend to have the longest length of stay both for time and number of regions. This can be directly linked to the 'nostalgic' factor between the two countries arising from the 300 years of Dutch colonial rule which ended in only 1949. Therefore, many Dutch tourists have living ties to Indonesia; furthermore, they tend to be more adventurous in where they explore as they have family or other links to other regions beyond the two major tourist destinations of Bali and Yogyakarta.

While different scales of establishments have different average lengths of stay, the lower the scale of accommodation, the longer the length of stay. The average stay in Hotels is about 2.9 nights while bungalows are 4.3 nights and homestays 11.5 nights.

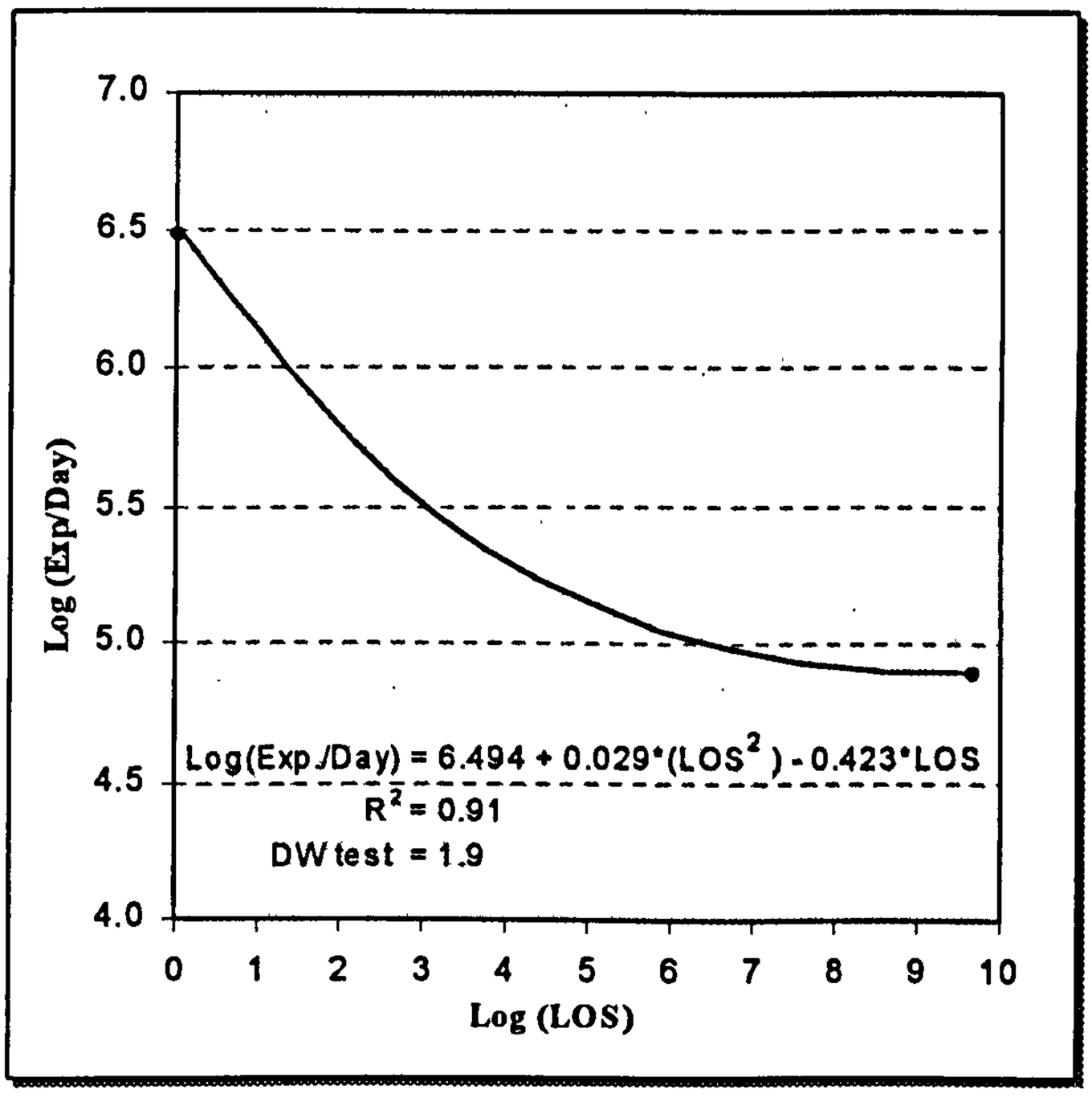
These above patterns of expenditures have important implications in the total revenue from foreign tourists and how their generate multiplier values across the regions. The increase in any of these factors will increase the total revenue and may increase or influence the economic impacts through the values of multiplier generations.

Regarding the pattern of expenditure that was generated by tourists, both star-and non-star rated hotels or bungalows are easier to examine, while expenditure for smaller scales such as homestays or *'losmen'* are less easy to estimate. Even though adequate statistical data exists, overestimated or underestimated figures are always possible in these small-scale, family-run businesses and need to be taken into account. Underestimation may be due to poor book-keeping or difficulty in keeping track by these small, family run businesses.

Overestimation may be due to these same factors or overestimation by officials higher up the data-collection chain who may massage data in a positive way as they are eager to show these small enterprises (which are a government priority) are doing well.

The Central Bureau of Statistics (BPS) has produced a series of data on Opinion Surveys for foreign tourists and Passenger Exit Surveys, which were collected nationally and regionally for the twenty-seven provinces.

Table 6.5 Tourism Expenditure Per Day and Length of Stay



Based on the 1984-1994 figures, Table 6.5 (Tourism Expenditure and Length of Stay) indicates that the longer tourists are in Indonesia, they tend to spend more in total, but less on a daily basis. The data of tourist expenditures and length of stay were fitted into a pattern of interactions using a regression method, as shown in Table 6.5.

The result of the regression equation supports the findings that the interaction between the expenditure and length of stay is of a quadratic form.

The regression analysis shows that the fitting of a line to the data is complicated by the fact that expenditure per day decreases markedly as the length of stays accumulates in longer period. The regression equation supporting the graph therefore as a quadratic form with both sides in logarithms. This finding seems to indicate that the longer a visitor stays, the more carefully they spend their money. Alternatively, they have a limit on total discretionary spending on shopping regardless of length of stay, and also that they tend to find ways to live cheaper as they find alternatives to high priced goods and services in the local economy. This is a significant indicator in defining targets in terms of length of stays and in relation between the two in order to maximise the expenditure per day.

Therefore, it appears that the longer tourists stay in Indonesia, the lower their expenditure is per day but the decrease diminishes as the length of stay is extended.

However, where the supply of accommodation is constrained, temporary or permanently, the target for maximising benefits from the accommodation sector would seem to lie in terms of numbers of tourist nights and maximising tourist expenditure per day. In this case, it seems that the most profitable scenario is that reducing length of stay, and increasing opportunities to spend more or total expenditure. This has important implications regarding development strategy, policy and development planning, attraction development, and marketing efforts for tourism.

(*Note: Table 6.6 GDRP and Hotel Value Added/Capita can be found in Annex I*).

Having reviewed the background and data concerning the role and contribution of tourism in national and regional development in Indonesia in the last two chapters (Ch. 5 and 6), the following chapter focuses on how to construct the research framework based on input-output analysis that will be used to analyse and compare the effects of location and scale on various types of tourism multipliers.

PART IV

METHODOLOGY

CHAPTER 7. METHODOLOGY

7.1 Theoretical Background

As discussed in the previous chapter, this research examines how the success of tourism in generating regional development depends on the interaction among the following factors:

1. The level of development, which is represented by specification or diversification in terms of economic structures and socio-cultural conditions;
2. Accessibility, represented by locational systems of regions;
3. Tourist density as a ratio to local population;
4. The characteristics of tourism development
5. The patterns of tourist expenditure in the region

7.1.1 Level of Development

A region with a high level of specification or diversification is likely to be able to absorb higher flows of tourism and also capitalise on tourism impacts. This is because the regions have the internal capacity, linkages and ability to:

- generate economic linkages;
- adapt impacts into its internal regional economic structure;
- increase its level of specification or diversification; and
- absorb the benefits of tourism and turn it into more integrated, long-term development.

To understand the concept of regional economies, the national economy has been divided into a set of regions, and industrial activity grouped into sectors within each region.

At the regional level, there are two main development activities based on exogenous forces such as exports, and endogenous forces in the form of local resources.

The exogenous forces play a very important role in determining the nature of the development in a region. The reason behind this conceptual approach is that these forces -- combination factors of access to local diversification -- are forces, which contribute to generate development in regions. Tourism, as an intangible form of exports in the region, is thus dependent upon the mechanism of market distribution.

However, a region with a lower level of diversification will not be able to respond to tourism demands adequately using only its own limited resources. What usually takes place is that there is an immediate increase in regional diversification, and if this continues over the longer term it may result in increased regional instability or imbalances.

The typical response to counterbalance this regional instability is by obtaining resources from outside (imported) assistance such as goods and services, foreign investment to meet the quality standards that have usually been set by the demand. In the case of tourism, this demand standard will be the international standards, which tend to be set as an international standard or that is typically determined by the tourism-generating countries.

Often, the receiving country's local tourism industry may be unable to adapt and match the demands for quality by tourists. This scenario will result in a certain degree of leakage, which means that the benefits flow out beyond the region and nation concerned. If this takes place over a longer period, a reduction of the regional diversification occurs and will likely result in product degradation and tourist dissatisfaction.

The degree to which tourism functions as an agent of development therefore depends upon a wider range of economic activities and whether the region can supply greater proportion of goods and services required for the tourism industry which can function as import substitutions.

7.1.2 Tourism Density

Tourism density, which is defined as the volume of tourist activities in relation to the amount of local activities in the region, is normally cited as an important factor governing the magnitude of the impact of international tourism. These impacts can be interpreted positively as signs of development and inter-linkages within the economy (Hoselitz, 1968; Harrison, 1992, Harrison, 1994). However, tourism density impacts can also create negative impacts in the form of environmental impacts (such as pollution, overcrowded conditions etc.); social impacts in the form of jealousy and cultural clashes; and possible negative economic impacts on the structure of small-scale enterprises through not being able to compete with larger scale businesses (Mathieson and Wall, 1982; Farrell and McLellan, 1987; Dogan, 1989; Encontre, 1989; Farrell and Runyan, 1991).

Tourism density -- which is represented by the total days or nights of international tourist arrivals per the total nights of resident population -- is developed in order to measure the volume of tourist activities in relation to local activities.

The size of the local population's activities and its characteristics is a key issue to be understood in analysing tourism.

This is especially relevant for the developing world where inequality is a major issue in population distribution because even when a country achieves high growth rates in GNP, a large population has meant that the increase per capita has been far less.

Economic growth refers to increases in a country's production or income per capita (usually measured by gross national product or GNP), which is an economy's total output of goods and services. Economic development refers to economic growth accompanied by changes in output distribution and economic structure.

Tourism development refers to economic development accompanied by changes in output distribution and economic structures due to the power of multiplier effects generated by the pattern of tourism expenditures. The changes include a corresponding increase in the GNP share of skills and the labour force and material wellbeing of the population.

A larger economic size in one region generally means that the region possesses a wider range of economic activities and internal linkages and hence can supply a greater proportion of goods and services. Conversely, a smaller sized economy in a region will have a smaller range of economic activities and linkages and therefore tends to rely to a greater extent on imports and an outside labour supply.

7.1.3 Accessibility

Accessibility is one of the most significant variables by far in international destination choice as well as trip distribution. Accessibility has generally been defined as some measure of spatial separation of human activities.

Essentially it denotes the ease with which activities may be reached from a given location using a particular transportation system (Morris, Dumble and Wigan 1979).

Demand for tourism products generally involves more complicated decision-making such as:

- Overall type of tourism products
- Destination image
- Accessibility
- Accommodation availability
- Purchasing method or distribution channel

Accessibility becomes an even more important indicator, because it provides a useful and appropriate means of summarising more remote destinations such as Indonesia, which is a relatively long distance from generating markets. Frequently, accessibility dictates types of trip and destination choice as well as patterns of distribution.

However, there may also be certain desired levels of speed, convenience, comforts, safety and so on where the principal constraints on decision-making are the length of time as well as the price. As well, to a certain degree for some market segments, travel itself may have a high positive utility; that is, enjoyment of the point-to-point trip, which is in itself a form of pleasurable experience rather than just transport. While for many other tourists, all time and money spent on travel is a cost, which is to be minimised.

There are different ways to measure the levels of accessibility. The most common way is a *cumulative index measurement,* which is based on the aggregate approach by using a cell by cell household trip production rates which is varied in terms of the levels of accessibility (Don, 1975).

Several relatively successful attempts to formulate models of travel behaviour are based on the principles of micro-economic consumer demand theory which resulted in gravity models (Koenig, 1977).

This approach resulted in the acceptance of the exponential formulation of the gravity model as the correct model for trip distribution. It further demonstrated that trip generation rate is a function of accessibility or in other words, that these theories suggest that trip generation is likely to be influenced by accessibility.

However, both of these approaches concentrate on smaller geographic coverage and do not involve cost as one of the variables. There is, however, a general acceptance that an opportunity cost of time as well as money should be involved as main factors in order to understand the concept of accessibility in tourism. Therefore, the economic distance takes an 'opportunity cost' approach to valuing distance travelled.

The above illustration demonstrates that accessibility incorporates both 'hardware' and 'software' aspects:

- *Hardware accessibility* involves transport as a type of carriage, as the only practicable way for tourists to reach a destination.
- *Software accessibility* refers to factors such as the use of terminals, interchanges and parking systems, convenient scheduling, connectivity etc. whose service characteristics and prices must be taken into account.

Passenger carriage consumers are required to spend time as well as money, and it must be seen that the use of these resources is as important a constraint on tourism demand as physical distance of travel. The ***economic distance*** therefore takes an 'opportunity cost' approach to valuing distance travelled.

It is, therefore, apparent that in measuring distance, a composite time and money-cost variable or an economic distance is a better measure for passenger carriage than physical distance alone.

This understanding enables the construction of an index of accessibility, that encompasses the importance of accessibility both within a region or between regions. The concept of accessibility index is used to calculate time and money involved in the travel in order to reach a destination.

Some advantages regarding this index of accessibility based on time and cost variables are:

- It allows for the fact that the users often have a choice of modes and increasingly use a combination of modes for any one trip (Lutter et all, 1992). Even though in this case only one mode (air accessibility) will be calculated. This is because with the exception of the Singapore-Riau ferry link, the main mode of transport used by 90% of foreign tourists entering Indonesia is by air.
- It employs a more subjective approach, which enables the construction of a more consistent tool and covers a wide geographical coverage within regions.
- The measurement allows for variations in the quality of transport within a region as well as between one region and another. This is due to that within this concept the measurement of the level of connectivity of a region to inter-regional transport networks will be included in the calculation of the waiting time between networks.

There are some disadvantages regarding this index of accessibility approach such as the definition of an access in this context is independent from the transport needs of specific regions.

A similar concept of time/cost composite variables has been used as a proxy for distance in gravity models, intervening opportunities models and systems models for recreation and tourism trips.

Such models, while not generally founded in economic theory, appreciate that mere physical and geographic distance measures of demand constraints are insufficient to explain travel patterns and allocation.

7.1.4 The Characteristics of Tourism Development

The complexities of the relationship between tourism and development were discussed in the previous chapter.

This examination of the methodology aims to provide a general basis for analysing the measurable characteristics of tourist development in each of chosen regions. Among the important elements of tourist development are included: attractions, accommodation, and infrastructures.

Among these elements, accommodation is considered to be the most important due to the following factors:

- A primary reason is accommodation usually accounts for from 20 to more than 50% of total tourist expenditure.
- The world-wide lodging industry is perhaps more fragmented and diverse than any other sector in travel and tourism.
- The range of product types varies from staying with friends and relative to luxury boutique hotels and cruises. It is possible to have an almost infinite product diversification.
- The supplying enterprises range from state-owned corporations, through to individuals or families who may rent out houses/homestays just to cover minimum costs, to multinational corporations seeking profit maximisation.
- Competition in the accommodation sector also depends on whether the market coverage is of regional or international scale. Accommodation that serves international markets is competing with other countries where different cost structures may exist, with varying demand patterns.

Therefore, accommodation is an appropriate means to be used to analyse the characteristics of tourist establishments within a particular regional context.

Three main variables regarding tourist establishment characteristics are measured: *intensity, quality, and dynamism of tourist development.*

The level of development intensity is represented by average number of rooms per hotel; quality is represented by proportion of star-rated over non-star rated hotel rooms; and the dynamic progress of tourist development is represented by the rate of growth of hotel rooms.

7.1.5 The Pattern of Tourism Expenditure

The complexities in measuring the economic impact of tourism lie firstly within the structure of the economy in which tourism expenditure is made. The expenditure of tourists in a destination creates new income, government revenue, employment opportunities and foreign exchange value in the region. International and domestic tourism are both important generators of those values (Fletcher, 1989). However, domestic tourism can only lay claim to having an indirect impact on the balance of payments. In more industrialised countries, domestic tourism can be seen as a means to be used as counterbalancing regional inequities.

The second complexity is that international tourism involves intersectoral relations and dependency rather than acting as a single industrial sector. Therefore, the impact of tourism should be approached in the context of the disaggregation within the comprehensive structure of the economy.

Tourist expenditure creates goods and services that involve consumption spending, government revenue, incomes, imports, output, taxation, and investment.

These tourist expenditures circulate throughout the economy intersectorally. Tourism businesses are transformed into flows of payments for factors of production such as rent, wages, interest and profits, which provide consumption tax and income tax revenue to governments.

7.2 The Concept and Use of Multipliers

The main concept of the multiplier is based upon the recognition that the various sectors that make up the economy are interdependent. Multiplier analysis and values are important indicators of the overall economic impact within pre-defined regions brought about by a change in the level of external demand. Therefore, any change in the level of tourist expenditure by visitors from outside the local economy will not only affect the industry which produces the final goods but also that industry's suppliers, and their suppliers, and so forth right through the economic chain.

Multiplier values will vary from region to region depending on different factors such as the level of regional development, the diversity or diversification of the regional economy, and various socio-cultural aspects related to regional development.

The complexities of multiplier analysis depend on the intricate transactions taking place between economic sectors in each region. Tourism, unlike many other industries, is not recognised as a separate industry as far as the *Industry Classification Standards* are concerned because tourism by its nature has a very intersectoral dimension in its economic transactions.

Therefore the sectoral transaction data which are used in the multiplier calculation for tourism is categorised into three different groups of transactions: accommodation/ hotels and restaurants, transportation, and goods and services including souvenirs.

Any change in tourist expenditure brings about a change in the regional economy's level of output, income, employment, government revenue and foreign exchange flows, which may be greater, equal or less than the value of the initial change. The ratio of the change in one of the above variables to the change in the final demand (tourist expenditure) which brought it about is known as the *multiplier.*

Therefore, there will be a value given for an output multiplier, income multiplier, employment multiplier, government revenue multiplier, and foreign exchange multiplier.

7.3 Understanding Multiplier Analysis

In order to understand the whole framework of multipliers, it is necessary to appreciate the usefulness of tourism expenditure patterns. The international tourist expenditures are based on the normal spending pattern on transportation, accommodation, food and beverages, shopping, souvenirs, and other goods and services. These expenditures are spent in both the private sector such as in businesses as well as the public sector by way of taxes, duties and licences.

The businesses in the private sectors such as hotels, restaurants, taxi firms, car rental, tour companies, shop keepers, and other establishments receive these tourist revenues.

A considerable proportion of these expenditures is spent on salaries, equipment, electricity, gas, water as well as taxes. Therefore, a large part of the money that the initial recipients have received from tourist expenditure is re-spent.

There are four main categories of spending flows:

- The first goes to the public sector revenue in the form of taxes, duties and licences;
- The second creates further domestic business activity to produce goods and services from domestic suppliers;
- The third forms income to the resident population in the form of salaries, rent, interest and profits;
- The fourth flow, however, represents a *loss* of foreign currency in order to purchase imported goods and services. Within this category of imported goods and services, it may contain a proportion of profits, salaries and domestic savings. This money that flows out of the economic system is known as a *leakage.*

The relationship between these secondary flows of economic activity and the initial tourist expenditure which created them is what called the multiplier effect.

This leakage is an important factor in determining the size of the multiplier and the overall impact which tourism has in the economy, while the other three flows of money which remain within the economic system create further economic activities.

7.4 Direct, Indirect and Induced Effects

The *direct* effect of change in tourist expenditure is the effect received by those establishments where tourists spend their money e.g. accommodation establishments, restaurants, souvenir shops and so forth. *Direct* effects include:

- The *direct income* is determined by the proportion of inputs attributable to salaries and profits in those establishments in which the tourists spend their money directly. For example, if a given hotel spends 20% of its budget on salaries, the direct income effect of an increase of a nominal Rp. 1000 in tourist spending at that establishment will be Rp. 200.
- The *direct employment effect* will be the number of additional persons employed directly as a result of the increase in expenditure by tourists.

The *indirect* effect results from the need of an industry that has received an increase in demand for its product to make purchases from other industries within an economy in order to produce its output.

For instance, the above example of an increase in the demand for accommodation will result in an increase in the hotel's demand for food and beverages, laundry services etc. Furthermore, the supplier of the hotel industry will also need to increase their demand for intermediate goods and services from their suppliers e.g. hiring more staff, purchasing more goods and services, electricity, water etc.

This process of sectoral interaction continues until the amount of money being re-spent during each round of activity becomes gradually negligible.

Therefore, a change in hotel accommodation will have a *direct* impact on hotel employment plus an *indirect* effect on the employment of their suppliers, and the suppliers' suppliers. This process of a change in tourist spending will have an effect on the level of output of the firms that directly receive that expenditure and this in turn will create an indirect impact on the output of their suppliers.

The total effect on the output level of the local economy (*direct plus indirect*) will therefore be greater than the value of the change in tourist expenditure which brought it about which means that the value of the output multiplier will be greater than 1.

As income levels rise throughout the economy as a result of the initial change in final demand, a portion of increased income will be re-spent on final goods and services produced within the local economy. This addition to total output, income, employment and government revenue caused by this re-spending of local income is known as the *induced* effect.

7.5 Types of Multipliers

It should be noted that multiplier values vary according to the definition of the multiplier itself. The multipliers used in this research are represented as the ratio of change in key economic variables e.g. income, employment and output relative to the change in tourist spending that brought it about. That is:

A. Direct plus indirect income multiplier =

$$\frac{\text{Change in (direct + indirect) Income}}{\text{Change in tourist spending}}$$

B. Direct plus indirect plus induced income multiplier =

$$\frac{\text{Change in (direct + indirect + induced) Income}}{\text{Change in tourist spending}}$$

There are a variety of tourism multipliers that can be estimated and three multipliers are used in this research:

1. Output Multiplier

The output multiplier is the ratio of change in total output of each sector of the local economy to the initial change in tourism expenditure that brought it about.

2. Income Multiplier

The income multiplier together with the employment multiplier is usually considered the most important indicators in calculating economic impacts of tourism in a region. It can be defined as the amount of direct plus indirect income created by an additional unit of tourist expenditure.

The income multiplier is very useful for planners as well as policy makers due to its ability to demonstrate the economic impact by sectoral industries of each element in the tourism expenditure pattern.

3. Employment Multiplier

The impact of tourism on employment is certainly one of the most important indicators that governments in the developing world pay attention to. The employment multiplier demonstrates the direct, indirect and induced effects of a change in tourist expenditure on the level of employment in a region. The effects are discussed as *full time equivalents* (FTE) of a person employed on a year round basis and working 30 hrs or more per week.

4. Government Revenue Multiplier

Government revenue multipliers show the total effect of a unit change in final demand upon government revenue from all sources (e.g. direct and indirect taxation, duties, licences and fees).

5. Import Multiplier

Import multipliers show the import content, not only of those sectors directly related to tourism, but also takes into account the propensity to import of the tourist sector's suppliers, along with their suppliers all the way down the chain. If the induced effect is incorporated into the model, then the multiplier will also reflect the household's propensity to import.

The size of multiplier's magnitude depends upon the nature of an area's economy, which is characterised by the inter-linkages between various sectors of the economy.

Economic theory suggests that the principal factors governing the magnitude of the income multipliers under different circumstances are as follows (Archer, 1982a, Archer and Fletcher, 1990a):

- Pattern of tourist expenditure;
- Size of the economy;
- Linkages between the tourism establishments and other sectors of the economy;

- Amount of value-added in each round of transactions, especially the first round;
- Size of the leakages as the results from imports and savings;
- Supply constraints within the economy.

7.6 Input-Output Model

There are a variety of methods, which can be employed to study and analyse the contribution made by tourism to specific destinations at local, regional or national levels.

A final choice of method is usually selected based on the following criteria:

- Main objective of the research
- Availability of resources in the study (including data availability, financial supports etc.)
- Time constraints

Some methods used to measure economic impacts include 'ad hoc models', which compare indicators such as available data on tourism activities (tourist receipts in a variety of establishments, employment in the tourism sectors, wages, salaries and profits) with the key economic indicators such as gross national product etc. These models are constructed specifically for calculations that concentrate primarily upon the main sectors likely to be most affected by tourism. These models require less comprehensive data, but produce less detailed information as well.

Another method, which is more advanced in terms of the extent of tourism impact, analyses the relationship between cost and benefit. Traditionally, cost-benefit analysis is a technique for evaluating the financial feasibility of a proposed investment project. In the tourism context this is often used as a tool to assess whether a new resort, hotel or airline generates a sufficient net income return and so forth.

Conceptually, cost/benefits are used to assess a new project in comparison to its total costs (Witt and Moutinho, 1994; Ritchie and Goeldner, 1994). This method therefore, is more appropriate to be used to assess alternatives to tourism development projects or marketing strategies.

Both methods are partial in their approach in that a series of both implicit and explicit assumptions must be made in order to construct the models.

The first and second techniques involving indicator comparisons will only give a partial glimpse of tourism economic impacts.

However, the third technique employed in this research is *input-output analysis*, which is a method by which the flow of production can be traced among the various sectors of the economy through the changes in final demand or exports.

The rationale behind this is that from a supply side point of view, there is no country that encompasses tourism as a single sector category. The closest possible way therefore to define the tourism industry from the supply-side is to identify those sectors that contain tourism-related categories.

These input-output models were extensively developed through a complete monograph describing the structure of the models in depth by Archer (1977), Fletcher (1989) and Fletcher and Archer (1990b) and Fletcher and Archer (1991). Some further uses and developments have been undertaken such as the examination of differential multipliers for the accommodation sector (Liu and Var, 1982), measurement of the intersectoral linkages (Wanhill, 1988) and comparing tourism with other sectors in order to position tourism within the economy (Cooper and Pigram, 1984).

In the field of policy as well as marketing in tourism, Archer (1982b) has discussed at length how input-output can be used to aid policy making while Wanhill (1992) investigated the contribution of grants project within European development.

The technique of input-output analysis has a number of advantages compared to the above alternative methodologies:

- The main concept of this method is based on the recognition that various sectors that make up the economy are interdependent. The focuses upon the sectoral interdependencies represent the actual comprehensiveness of intersectoral transactions that exist within the real economy.
- The model, which is based on a very detailed level of transaction, can be highly desegregated to enable the policy makers to consider policies in great detail.
- The approach, which has a general macro equilibrium in its nature, provides comprehensive perspectives within the context of the wholeness of economic structures.
- The input-output model has the ability to analyse the impact of tourism in three levels: direct, indirect and induced effects..
- Tourism multiplier analysis can deal effectively with the present economic performance of the tourism industry and the short-run economic effects of change in the level of tourism. It is particularly suitable for studying the impact of tourism expenditure on output, income, employment, government revenue and import.
- The multiplier models provide useful information that are especially valuable to policy-makers and planners. This is due to the model's ability to analyse the required national effects of investment in tourism developments; simulate the impacts of proposed new tourism development; examine the relative magnitudes of the impacts made by different types of tourism and by tourism compared with other sectors of the economy; and lastly, target future marketing strategy.
- The nature of input-output analysis makes the technique 'policy neutral' because each sector is treated in uniformity.
- The flexibility of the input-output structure has the ability to be constructed to adjust to the current situation. For example, those sectors which are important and closely related to tourism in that particular area can be highly disaggregated in order to examine their activities in great detail.

While those sectors which are less important or less related to the analysis of tourism contributions into that particular area can be aggregated so as to keep the size of the calculation model manageable.

- Input-output analysis is the most rigorous technique available for multiplier analysis. It enables a complete and detailed investigation to be undertaken of the direct and secondary effects of tourism receipts on every sector of the economy.

The input-output model has some disadvantages that need to be noted:

- The input-output model is relatively an extensive as well as expensive tool for analysing economic impact in terms of time and resources, including both financial and human resources. This is due to the level of data availability which is rarely accurate and that the level of detail needed in input-output models such as intersectoral transaction data is not available. The limited availability of published and unpublished data is rarely adequate to fulfill the demanding and advanced models. It usually takes some considerable time and effort for researchers to generate and to structure the data bank in the manner required by this technique.
- The lack of integration which characterises the developing types of economies suggests that the macro approach involves important errors in aggregation
- The basic model is constructed in term of a series of linear relationship, which do not allow for economies of scale or major changes in the pattern of household consumption. This is simply because economies evolve or change through time
- The recognition of the need to divide the economy into more homogenous categories may result in the adoption of a disaggregrative approach to the problems that may derive from input-output tables.

Input-output models present a general rather than a partial approach to studying economic impacts, with input-output models being a transformation of input-output transaction tables into a technical coefficient matrix.

An input-output table is a transaction table relating to the components of final demands to the various industrial sectors, the interaction between industrial sectors, and the relationship between the industrial sectors and primary inputs.

There are number of theoretical criticisms about the use of input-output analysis especially in terms of the use of average coefficients and how representative the base year is to the economy as a whole. On the other hand, these criticisms can be alleviated by modifying the model.

Input-output analysis involves the construction of a table, analogous to a table of national/regional accounts, which shows the economy of the country or region in matrix form. Each industrial, commercial and service sector of the economy is shown first in column form as a purchaser of goods and services from other sectors and secondly as a row where its sales to each of the other sectors are listed.

Table 7.1 A Basic Input-Output Transaction Table

		Intermediate Demand						Final Demand of Good & Service				
	Sales To	Productive Sectors						Final Demand Sectors				
	Purchases From	Industry 1	2	3	. . . .		m	H	I	G	E	
Productive Sectors	Industry 1	X_{11}	X_{12}	X_{13}	. . . .		X_{1m}	C_1	I_1	G_1	E_1	X_1
	Industry 2	X_{21}	X_{22}	X_{23}	. . . .		X_{2m}	C_2	I_2	G_2	E_2	X_2
	Industry 3	X_{31}	X_{32}	X_{33}	. . . .		X_{3m}	C_3	I_3	G_3	E_3	X_3
	.	.	.	.	. . . .		.	.	.	.	.	.
	.	.	.	.	. . . .		.	.	.	.	.	.
	.	.	.	.	. . . .		.	.	.	.	.	.
	.	.	.	.	. . . .		.	.	.	.	.	.
	Industry m	X_{m1}	X_{m2}	X_{m3}	. . . .		X_{mm}	C_m	I_m	G_m	E_m	X_m
Primary Inputs	Wages & Salaries	W_1	W_2	W_3	. . . .		W_m	W_C	W_I	W_G	W_E	W
	Profits & Dividends	P_1	P_2	P_3	. . . .		P_m	P_C	P_I	P_G	P_E	P
	Taxes	T_1	T_2	T_3	. . . .		T_m	T_C	T_I	T_G	T_E	T
	Imports	M_1	M_2	M_3	. . . .		M_m	M_C	M_I	M_G	M_E	M
	Total Input (Purchases)	X_1	X_2	X_3	. . . .		X_m	C	I	G	E	X

Where : X = Output
C = Consumption (household)
I = Investment (private)
G = Government expenditure
E = Exports
M = Imports
W = Wages & Salaries
P = Profits & Dividends
T = Taxes

FINAL DEMAND SECTORS
H = Household consumption sector
I = Investment expenditure sector
G = Government expenditure sector
E = Exports sector

Table 7.1 shows the basic structure of input-output transaction tables which can be subdivided into four quadrants (Archer, 1977; Fletcher 1989, and Fletcher and Archer, 1990b):

Quadrant A	Quadrant B
Quadrant C	Quadrant D

Quadrant A is a matrix of inter-industry transaction flows. The economy is disaggregated into homogeneous productive sectors and the rows of Quadrant A represent the sales of intermediate goods and services from each sector to each other sector of the economy. Therefore the columns of Quadrant A show the purchases that each sector makes from each of the other sectors.

Quadrant B is a matrix of primary inputs for each of the productive sectors listed in Quadrant A. For instance, the rows of Quadrant B will represent factors such as salaries, profits, taxation and imports. Therefore, the columns demonstrate the purchases of each of these factors by the productive sectors listed in Quadrant A.

Quadrant C is a matrix of final demand. The columns of this quadrant will represent the purchases of the government, households, capital and exports from each of the productive sectors. By definition, the rows of Quadrant C show the sales of each of the productive sectors to each category of final demand.

Quadrant D is a matrix which shows the purchase of primary inputs by each of the categories of final demand. Therefore, goods and services which are imported for re-export would be entered in the import row of the export column in Quadrant D.

Note that the table has three main sections:

- The primary input quadrant which shows how each productive sector purchases its labour, imports goods and services, and the taxes it pays to the government profits generated from their business activity.
- The productive sector quadrant which demonstrates how each industrial sector buys from/sells to each other industrial sector.
- The final demand quadrant which shows how each of the various elements of final demand purchases from each of the productive sectors.

The transaction table then may be described algebraically as:

$$X_i = \sum_{j=1}^{n} x_{ij} + Y_i$$

Where: X_i = the total output of the *i*th industry;

x_{ij} = sales of industry I to industry j;

Y_i = final demand for industry i.

The essence of this simplification model is that the basic economy is shown within the A matrix and that all other sectors are treated as an exogenous power of the basic economy.

By the use of this simple matrix algebra, it is possible to trace the flow of additional tourist expenditure through the economy. At the same time, the impact which it has upon each sector, as well as the amount of income, public sector revenue and imports created at each round of transactions can be measured.

In order to transform the input-output table into an input-output model it is necessary to convert the table into a technical coefficient matrix. To transform the transaction table into a technical coefficient matrix, each cell in the productive sector quadrant and primary input quadrant (Quadrant A and B) must be divided by the total input value for each corresponding column.

Once constructed, the technical coefficients matrix shows the proportion of inputs that must be purchased by each sector in order to produce one unit of output. In this way each column consists of cells which show the proportion of inputs purchased from each source of intermediate goods and services and primary inputs. The columns will now all sum to 1.

At this stage of model construction, it is now possible to assess the quantity and distribution of intermediate and primary inputs demanded directly by tourism expenditures. This is the *direct effect.* Due to the intersectoral purchases which are involved within the whole economy, the increases in the final demand for one sector's output will cause the demand for other sectors' output to increase. This power to create secondary effects represent what is known as the *indirect effect.*

The process of continuously tracing the secondary effects based on the technical coefficients matrix can be replaced by a method of applying a technique known as the Leontief Inverse. The Leontif Inverse, or the inverted technology matrix, is a table that shows the direct plus indirect effects of a change in any category of final demand, which can be presented by simple matrix algebra:

I = the identity matrix;

A = an n x n matrix of technical coefficients;

X = an n x l vector of gross output;

Y = an n x l vector or final demand;

Then :

$$(1 - A) X = Y$$

Which can be written as:

$$X = (1 - A)^{-1} Y$$

Where :

$(1 - A)^{-1}$; is the inverted technology matrix.

The next stage is to include the *induced* effect of any change in final demand as the result of an increase in economic activity due to the increase in incomes generated by the direct and indirect effects.

The column representing household consumption, which is treated as one of the productive sectors, makes a column in the productive sector quadrant. The technical coefficient matrix then are inverted as the model demonstrates the direct plus indirect plus induced effect of any change in final demand. The manipulation of the input-output table enables the calculation of the total effect of given level of tourism final demand on all industries.

The main framework shown in Table 7.1 incorporates the household consumption of output from each of the productive sectors, and an increase in income results in a proportional increase in the consumption of output from each of the productive sectors. Therefore, it is generally accepted that those households with relatively higher levels of income tend to produce a lower marginal propensity to consume than those with a relatively lower level of income.

There is, therefore, a tendency towards exaggeration within the application of the main framework as the basic model. This problem can be alleviated by constructing a matrix of household consumption function, which reflects the consumption patterns (Sadler, Archer and Owen, 1973).

To determine the impact of change in international tourist expenditure, it is possible to trace the flow of additional tourist expenditure through the economy. As well, the impact which it has upon each sector, as well as the amount of income, government revenue and import created at each round of transactions can be measured.

The simplest formulation of this is shown as followed:

$$X = AX - Y$$
$$\therefore X - AX = Y$$
$$\therefore (I-A)\, X = Y$$
$$\therefore X = (I-A)^{-1}\, Y$$

And that $\Delta X = (I-A)^{-1}\Delta Y$

Where 'X' is a vector of the total sales of each sector of the economy; 'A' is a matrix of inter-industrial transactions within the economy; 'Y' is a vector of final demand sales; and 'I' is an identity matrix.

Another relevant point, especially for policy makers, is about import content associated with tourism, whether the import is competitive or uncompetitive. The main framework of input-output allows the construction of import functions showing competitiveness of the import category (O'Connor and Henry, 1975).

Thus any change in final demand (ΔY) may be met by domestic production, competitive imports, or some combination of both. This is because the increase in competitive imports can only occur at the expense of domestic production (Fletcher, 1989, Archer and Fletcher, 1996). So that the equation can be modified as:

$$X=(1-A)^{-1}\,(Y-K)$$

Where 'K' is an n x 1 column vector of the proportions of each industry's output that is normally met by competitive imports. This approach may be used to deduct the competitive import content from the final demand of some sectors while modifying the inverted technology matrix for the remaining sectors (Fletcher, 1989).

Incorporating an import matrix which examines the trade-off between domestic production and competitive imports results in the following :

$$\Delta X = (I-K^*A)^{-1} \Delta Y$$

Where ' K*' is a matrix where the diagonal values reflect the level of competitive imports associated with each sector which, when applied to the 'A' matrix, reduces the domestic component of output by the required amount. Therefore, that changes in primary inputs (ΔP) created by a change in tourist expenditure (ΔT) is:

$$\Delta P = B (I-K^*A)^{-1} \Delta T$$

Where 'B' is an m x n matrix of primary inputs.

Furthermore, input output models can be constructed in a way that can provide invaluable information about changes in employment levels brought about by changes in tourism expenditure. This changes (ΔL) represent the change in employment and 'E' be an m x n matrix of employment coefficients, the model will now take the form shown as follows:

$$\Delta L = E (I-K^*A)^{-1} \Delta T$$

From this input output analysis, a variety multipliers relating to output, income, government revenue, employment, and imports can be derived. These multipliers demonstrate the ability of the various sectors of final demand to generate economic activity.

Indonesia's 1990 input-output table records the economic transactions that occur between the 169 and aggregated 66 and 19 industries classified separately (BPS, 1990). Each row of the table shows the sales of an industry's output to all other industries and each column shows the purchases by an industry is calculated summing all the purchases of intermediate input by the particular industry and then adding the components of value added for that industry.

7.7 Regional Input-Output Model

Although national level models have become an accepted part of the data collection and assembly processes associated with national income and product accounts, the same has not been true at the regional level because of the lack of regional data. The national economy was divided into a set of regions, and within each region, grouped into sectors.

In more specific terms, the analysis of regional development requires a certain degree of relatively compatible structural accounts in order to assess the regional impact of a given economic change on one of the industry's components. In many countries (and especially in developing countries), such information is usually lacking, thus making regional analysis a difficult task.

In some circumstances, where input-output tables in the regional level do not exist, it is possible to make use of national input-output tables and multipliers to measure the results of any changes in the regional economy in terms of income, output, employment, government revenue and imports. However, it requires quite a complex manipulation, extension or adjustment of the national input-output model (Archer, 1996).

It requires detailed individual regional components and accounts In order to assess the regional impacts of a given economic change in each region.

Some common approaches which have been employed have been to assume multipliers to be of a certain magnitude of values, or to borrow values from a previously completed study from a region of similar expenditures patterns as well as similar industrial structures (Hewings, 1985).

The notion of borrowing multiplier values may be considered 'reasonably' appropriate, in the face of an almost complete lack of suitable regional data or in a tentative or preliminary stage of studies. In this research, where the level of data required are available to some certain degree, then regional multipliers based on input-output models are more appropriate.

The preparation of an input-output transaction table means attempting to account in a disaggregated form for all of the transactions which occur in a economy in a given period.

At the national level, the preparation of national tables is facilitated by the existence of detailed national accounts and commodity data. Even within these circumstances, the preparation of national transaction tables requires a considerable amount of time.

Two important constraints that usually are faced by studies at regional levels (which were also experienced during this research to a certain degree) are data availability and research resources. Nevertheless, it is acknowledged that it is essential for policy purposes to understand this framework of intersectoral linkages within tourism in order to assess the generated impacts. With all its technical limitations, this understanding of an input-out framework at regional level can contribute significantly to understanding the impacts and patterns of tourism in the regions.

Indonesia has produced a national Input-Output table accompanied by the twenty-seven input-out tables for regional levels, of which three are main cities with the remainder provinces (BPS, 1989-1995, BPS, 1995b-f). Though the regional tables are less sophisticated in technical detail and accuracy compared to the national one, they can still be used in constructing regional models.

However, the Input-Output relationship in the national tables can not be directly applied to other provincial or any other sub-national part because they include import patterns that will not apply to the same extent at provincial levels. Nevertheless, these national tables can be used as a main source to construct the coefficient ratio to the regional levels.

In the case where regional input-output tables do not exist, the development of input-output tables at the sub-national level has usually relied on two alternative options, known as a 'non-survey' and 'partial survey' techniques (Hewings, 1985). Due to the high cost of constructing a survey based regional input-output model, the employment of non-survey techniques are usually applied. The existence of sets of input-output tables at the national level provides for development of non survey-based regional input-output tables.

In this case, therefore, it is useful to identify the industrial sectors with strong backward linkages from tourism i.e. those industries which supply the main inputs to tourism in addition to the primary tourism sectors.

If the industry's representation in the region is greater than that observed in the national data, then there is a high probability that the industry will be able to meet all local demands. However, if the reverse occurs, then only a portion of the local demands will be able to be supplied from the local industry. The larger, more diversified the region, the greater the expectation that the region will be able to supply most of its own needs.

Most tourism sectors because they are service-related industries are close to final consumption; therefore they display weak forward linkages and strong backward linkages to supplying industries.

The greater the backward linkages the greater will be the value added to the region or country.

Less developed regions tend to be capable of producing only a limited range of and services. The ability of a regional economy to support an expanding tourist industry and to transform national to regional structures can be determined based on the examination of:

- The structure of the regional economy compared with national ratios by taking a set of data as a representation in the province or a region and converting the data into percentages by comparing it with the national level of data;
- By taking a column of the A matrices of the national Input-Output Table, then weighing each of the cells in the column by the provincial data for that particular sector. It is therefore necessary to understand the level of the restrictions on the ability of the local economy to supply the required goods and services;
- If a region has a zero number input sector, then the full amount of purchases required by the column sector for that product or services would go into imports.

However, some regional industries are under-represented in the national level does not necessarily mean that it can not supply the needs that required by tourism industry without a higher proportion of imports. This is because:

- The requirements of tourism may be relatively low from the sectors which can be readily provided by an immature and small scale industries and local productions;
- The production for export in other region effects the national level ratios.

7.8 Constructing Independent and Dependent Variables

Given this theoretical framework, three *independent* variables and two *dependent* variables were measured as factors that affect tourism development in the region (*Annex*).

The three independent variables covers:

- Level of development
- Level of tourist density
- Level of accessibility

The two dependent variables covers:

- Characteristics of tourist development
- Characteristics of tourism multipliers

7.8.1 Measuring Level of Development

The provincial level of development was used as an index of diversification. The index was constructed as a function of the degree of regional development as expressed by the representation of economic and socio-cultural indicators.

The economic indicators were measured through Tables 7.2-6 (Development Variables) which covered:

- the provincial degree of tertiary GDP rate without/with oil production, indicating a higher level of economic development;
- productivity rate of change, relating to the dynamic nature and progress of the development;
- tourism related investment rate, focusing on the level of investment in tourism suprastructure; and,
- regional mobility rate, referring to the level of domestic tourism as it indicates the number of people travelling outside the region. The amount of domestic tourism gives an indication of the economies of scale in serving their own residents.

The socio-cultural indicators were measured as Tables 7.7-14 (*Annex*) covering:

- population per square kilometre of the province, as in a region with a higher population density it indicates a higher level of social interaction both internally and externally suggesting a higher development intensity.

- degree of education levels and degree of industrial labour force, which indicate the availability of skilled labour in the region;
- degree of access to information such as TV, radio networks and newspapers, which reflects the level of sophistication of the population and the exposure to the outside world which is a key indicator of the dynamic nature of the development; and,
- cultural activities or cultural institutions/associations, which gives an indirect indicator of both exposure to the outside world as well as the amount of leisure time available, which is more typical of developed than underdeveloped regions.

These indicators are used to classify the 27 provinces into three groups; high, medium and low, based on the proximity to the distribution mean based on the Guttman diversification scale.

In order to make sure that these limits are not arbitrary, a t-test of difference of group means of the provinces was conducted so that the indicators chosen were statistically significant (Table 8.1: Cross Tabulation between Development, Accessibility and Density).

7.8.2 Measuring Level of Tourism Density

The level of tourism activity in the region is defined here as the number of annual visitor nights in the region per 1,000 resident nights of urban areas or major cities. Regional population was used in those instances where tourist development is dispersed throughout the province. This variable is also transformed into an ordinal scale for analytical purposes (Table 7.15-7.23-*Annex*).

- The results of this analysis are the distribution of the 27 provinces into high, medium and low level of tourism density classification. The difference in means of the group of classifications is statistically significant (Table 8.1). The level of tourist density was defined in order to measure the volume of proportion of tourist to local activity.
- The index of tourism density is developed in order to measure the volume of tourism in relation to the regional activity. It is defined as the number of visitor nights per 1000 resident nights (Loukissas, 1985).

$$TD_i = \frac{(T_i \times L_i) \times 1{,}000}{P_i \times 365}$$

Where:

TD_i = Tourist Density Level for Region I

T_i = Tourist arrivals in region I

L_i = Length of stay (number nights)

P_i = Resident population

Notes:

- *Urban population is used for tourism concentrated in urban related areas only.*
- *Province population is used for dispersed tourism development.*
- *It is assumed that resident population resides 365 days per year in the region.*

7.8.3 Measuring Level of Accessibility

In travel and tourism, consumers are required to spend time as well as money to reach their destinations, and the use of these resources may be considered more important as a constraint on tourism demand rather than simple physical distance.

The index of accessibility was measured by the average travel time and money-cost variables based on the air mode of travel, rather than physical distance as illustrated in Chapter 4. This is due to the dependency of tourism sectors on air access rather than other modes of transport as more than 80% of foreign tourists travel to Indonesia by air. (Furthermore, of the 20% of visitors that arrive by sea, the vast majority of these reflect one particular local geographic entry point, the Singapore-Batam route of which many visitors are day trippers).

This variable is based on the assumption that there is an opportunity cost of time as well as money involved in travelling.

The average of these time travel and price factors were used as basis for measurement in order to construct the level of accessibility index for each region. This was based on the time required to travel, frequency, and price from all international gateway airports in Indonesia to each of the 27 regions (Table 7.26). Therefore, the level of accessibility between regions are calculated based on the following formulae:

$$\text{Access}_{(ij)} = \frac{\{(Tm_{ij} + Tc_{ij}) \times F_{ij}\} \times \{(Tm_{ji} + Tc_{ji}) \times F_{ji}\}}{(F_{ij} + F_{ji})}$$

Where:

Access (ij) is the accessibility level between region ij and ji

Tm(ij)-ji the sum of travel times of each mode in the network (eg total flight times) from region ij and ji

Tc(ij)-ji is the sum of times of the connection between network ij and ji

F(ij)-ji frequency between region ij and ji

The price distance is calculated in each region by multiplying the total number of tourists who visited the region by the average air ticket price to the region from each of the five main international air gateways to Indonesia (Jakarta, Bali, Medan, Surabaya, and Manado). The result was divided by the total number of tourists who entered those five gateways.

In order to be able to put this into a scale, a price index was calculated from the price distances obtained in order to reflect the level of accessibility for each region. The price index was then calculated in an inverse relationship by dividing the results of each price distance into one and multiplying by 1000 to obtain a manageable number.

The inverse relationship reflects the fact that when the level of accessibility is high or closer to the centre, this means that the price distance is low. This measurement resulted in the distribution of the 27 provinces into groups of classification of high, medium and low level of accessibility.

7.8.4 Characteristics of Tourism Development

Tourism development characteristics are represented by three elements:

- Intensity
- Quality
- Dynamism

These variables discussed below represent the characteristics of tourism development in each province and serve as indicators of tourism development within the regional economy. These measurements include:

- Average number of rooms per hotel which represents the *intensity* of tourist accommodations;
- Proportion of star-rated over total star and non-star rated rooms represents the *quality* of tourist accommodation or establishments;
- Rate of growth of hotels and rooms between 1990-1995 gives an indication of the *dynamic progress* of development.

Data regarding the three above variables were collected and tabulated from the 27 provinces from the period of 1989-1994.

7.8.5 Multipliers and Patterns of Tourism Expenditures

The contribution of tourism to regional development involves a number of factors that have been discussed previously. One of the most important indicators is the pattern of tourism multipliers -- its direct, indirect and induced impacts on income, employment, and output.

This is due to that any change in such tourist expenditure will bring about a change in the economy's level of income employment, government revenue, import and output.

The model was constructed using an Input-Output framework and computerised model packages, which were developed by Prof. John Fletcher of Bournemouth University, UK. This Input-Output based technique is able to be used as a powerful tool for assessing tourism multiplier values generated by the tourist expenditure patterns in the 27 provinces in Indonesia (Table 7.27-51, Appendix- 1).

Table 8.3 demonstrates the values of multipliers results in the form of the various size of multiplier effects for income, employment, outputs, government revenue, and imports. These multipliers were then clustered, then analysed, from the various categories: Scale of Accommodations (Hotels, Bungalows and Homestays/Others), and different levels of development, density and accessibility.

7.9 Comparison and Correlations

The overall method can be summarised as follows:

The study area of the research is within the twenty-seven regions in Indonesia that correspond to the twenty-seven provinces. These regions are useful for analysis because each region has regional homogeneity administratively, culturally and geographically. As well each region is unique; possess similarities and differences in terms of their tourism activities; and are located at varying proximity to the centres of economic and political power, as well as from the main international gateways into the country.

Given the similarities and differences of the regional characteristics, therefore, the results of the multiplier values generated by the twenty-seven regions then can be analysed and compared. This comparison covers two main areas:

1. The effects of similarities and differences of development, tourist density and accessibility on multiplier values, and whether there are any regularities in the effects.

2. The characteristics of tourism development in Indonesia represented by a cross regional analysis of the scale and locational effects on the generation of multiplier values.

Given the main objective and nature of this research, three independent variables are constructed as factors that affect tourism development: the levels of development, accessibility and tourist density. Two dependent variables are measured:

- Tourism multiplier values from the above input-output model from the twenty-seven regions as well as the national level.
- Characteristics of tourism development represented by intensity, quality, and dynamic progress.

The cross-tabulation resulted in a group distribution of multiplier values based on the different classifications of low, medium and higher level of development, accessibility and density. This framework is used as the main platform for analysing the scales of accommodations and locations of tourism destinations (Rowntree, 1996).

- The classifications of the regions then also are tested and cross - tabulated based on the rank of the development characteristics. These illustration tables then can be used to explain the patterns of the impact characteristics that delineate seven different types of tourism regions within Indonesia.
- The relationship between the three independent variables and the two dependent variables are tested (test of correlation) and analysed when they act alone or in combination.

A multiple-regression analysis based on the SPSS data construction is used in order to test the main determining factors for different patterns of multiplier values generators as well as the correlation test is applied. Within the regression test, variables are entered into the model when they are significant at the 0.05 level. Tests for goodness of fit (Durbin-Watson (DW) test) in terms of trends (0<Durbin-Watson<4) are also employed in every regression model applied (Kleinbaum et al, 1998) (Appendix 2, 3).

The validity of this model is tested based on the standardised residuals that plotted against the (row) produced values. They are all between –2 and +2, which basically resulted in no obvious upward or downward patterns along the horizontal for the most part. Therefore, the models (although some do not fit perfectly) are valid (Appendix 4).

7.10 Data Collection

The methodology for data collection used was based on both Quantitative and qualitative approaches. The quantitative aggregate data was considered the main sources, statistical in nature and was collected from both national and provincial levels in 27 provinces of Indonesia. This took place over a period of more than two years.

Secondary key data were collected from a wide variety of sources including:

- Central Bureau of Statistics (Biro Pusat Statistik), both National CBS and the twenty-seven Regional BPS (CBS) offices;
- Directorate General of Tourism (DGT), Ministry of Tourism, Post and Telecommunication;
- Provincial Tourism Offices (Kanwil Deparpostel) for 27 provinces;
- Local Tourism Authority (Dinas Pariwisata Derah Tingkat I and II) for 27 provinces;
- National and Provincial Planning Boards (BAPPEDA Tingkat I and II); and,
- Immigration Offices.

Secondary data collection and availability cover the following areas:

- The total value and pattern of tourist expenditures for national and regional levels, and any breakdown these spending patterns based on the Foreign Tourist Opinion and Expenditure Survey (1989-1994), the Passenger Exit Survey (1984-1993) as well as the Economic Census- Hotel and Other Accommodation Statistics (1985-1994);
- Foreign tourist arrivals annual series, 1970-1995 for Indonesia (National Level), which is based on the arrival of all foreign tourists at all international gateways (air, sea and land) in Indonesia;
- Foreign tourist arrivals annual series, 1991-1994 for 27 provinces (Provincial Level), which are based on foreign tourists staying at hotels and other accommodation in each province;
- Occupancy Rates of Hotel Rooms series and Length of Stay (1985-1995);
- Employment levels and any available breakdowns or employment in tourism-related fields for National and Provincial levels (1993).
- The value of domestic sales exports made by each sectors of the economy;
- The pattern of public sector expenditure including surplus and deficit;
- The breakdown of the purchases made by each sector of the economy from each other sectors and from factors of production such as wages and salaries, profits, etc;
- The value of purchase of imports made directly by each sector of the economy;
- The total value and level of consumption and the pattern of consumer expenditure and any available savings in the economy.

In addition, a set of in-depth interviews were used to verify the secondary data and to also solicit additional qualitative information from: local communities, national and provincial level governments/authorities, foreign tourists, hotel managers/ bungalow and homestay owners, and foreign tour operators. This complementary field research was carried out in order to collect primary qualitative information of the respondent's attitudes towards tourism development especially in the regional levels.

Both observation and in-depth interviews were employed in the research, which was carried out in three different scales of accommodation (homestay, bungalows and hotels).

This was done in three different tourist regions: high, medium and low tourism activities such as Bali, Yogyakarta, C-Java, Riau/Batam, W-Nusa Tenggara, N-Sulawesi, Lampung and E-Kalimantan. These additional activities were undertaken over the entire year to encompass the various seasons and different categories of tourists throughout the year. This was an attempt to minimise the bias that may be introduced if one season is considered more important than others.

The complementary primary data collection based on the observations and interviewed which was useful in order to understand the complexities of how tourism expenditure actually means and works in the real multiplier world of tourism in the different regions.

PART FIVE

ANALYSIS AND FINDINGS

The analysis and findings of this research are divided into three main subjects, represented by three chapters.

Chapter 8 covers a general comparison of the overall impact of multiplier values that were generated within the seven categories of tourism regions made up from the twenty- seven regions in Indonesia. It also reviews the uniqueness, differences or similarities of the main characteristics of development, accessibility and tourist activities in each of the 27 regions and how they influence the multiplier values.

Chapter 9 covers the scale effects on tourism multipliers. It examines whether different scales of tourism-related establishments generate different patterns of multiplier values. This was examined using three main analytical frameworks: profitability, labour intensity and development efficiency.

Chapter 10 describes the comprehensive results obtained through analysing locational effects on different types of tourism multiplier values. This analysis also reveals the characteristics of multiplier generation across regions within a centre-periphery relationship based on the gravity principle.

CHAPTER 8
MULTIPLIER CHARACTERISTICS

8.1 Regional Tourism Categories

The main objective of this analysis is to reveal and analyse the impact characteristics that were generated by different types of tourism development within the twenty-seven regions in Indonesia. Each region has its own unique characteristics in terms of location and proximity to the centre of economic activities, as well as regional differentiation factors including the level of development and tourism activities.

Based on the above illustration, data from the 27 regions or provinces were cross tabulated with three sets of independent and two dependent variables. The three sets of independent variables used in the cross-tabulation were: *level of development, accessibility* and *density* represented by a series of variables in three matrix categories (small, medium and high) respectively as was explained in the previous chapter (Chapter 7. Methodology). The two types of dependent variables analysed here are *multiplier impact values* and *tourism development characteristics*.

Table 8.1 shows the cross-tabulation results that reveal a group of different classifications that were used as the main formula for analysing the multiplier values and development characteristics of the dependent variables. The results summary of the multiplier values (Table 8.3), which were constructed based on the Input-Output calculation models, were then distributed based on the cross-tabulation from the low, medium and high ranks of distribution of regional tourism categories.

Table 8.2 shows the results of the regional distribution based on the rank of the development characteristics. These three tables (Table 8.1-3) can be used to explain the impact characteristics that delineate seven different types of tourism regions within Indonesia.

Table 8.1 Regional Tourism Categories (Cross Tabulation: Levels of Density, Accessibility and Development)

Tourist Density, Accessibility, Development	Tourist Density			TOTAL
	Low	Medium	High	
HIGH ACCESSIBILITY	TYPE 5		TYPE 1	
High Development	E. Java		Jakarta	
Medium Development			Bali	
Low Development				
Sub Total	1		2	3
MEDIUM ACCESSIBILITY	TYPE 6	TYPE 3	TYPE 2	
High Development	W. Java	N. Sumatera	Riau	
	C. Java			
Medium Development		W. Nusa Tenggara	Yogya	
		S. Sulawesi		
Low Development	N. Sulawesi			
	S. Kalimantan			
Sub Total	4	2	2	8
LOW ACCESSIBILITY	TYPE 7	TYPE 4		
High Development				
Medium Development	Lampung	E. Kalimantan		
	S. Sumatera			
Low Development	W. Kalimantan	W. Sumatera		
	Aceh	Maluku		
	E. Nusa Tenggara			
	C. Sulawesi			
	SE. Sulawesi			
	Jambi			
	Bengkulu			
	C. Kalimantan			
	Irian			
	E. Timor			
Sub Total	12	4		16
TOTAL	**17**	**6**	**4**	**27**

Table 8.2 Cross Tabulation: Means Of Variables Indicating Characteristics Of Tourism Development

	Province/ No. of Observation	Average rooms/ hotel	Percentage of star class ruom/ total rooms	Rate of Growth		Average Length of Stay	Total Expenditure per Province (in million Rp)
				Rooms	Hotels		
HIGH T.DENSITY							
High Access							
High Development	Jakarta	84.55	78.02%	16.15%	4.79%	2.17	5,935,727
Medium Development	Bali	38.67	61.00%	14.27%	11.27%	3.47	5,539,659
Medium Access							
High Development	Riau	30.39	34.19%	16.37%	15.17%	2.20	1,892,433
Medium Development	Yogya	20.02	45.94%	6.49%	8.71%	1.64	1,062,257
Sub Total	4	43.41	54.79%	13.32%	9.99%	2.37	3,607,519
MEDIUM T.DENSITY							
Medium Access							
High Development	N. Sumatera	21.01	45.21%	3.71%	6.51%	1.36	1,121,194
Medium Development	W. Nusa T.	22.37	48.48%	11.19%	8.38%	3.04	440,787
	S. Sulawesi	17.99	54.03%	7.21%	3.52%	2.09	582,305
Low Access							
Medium Development	E. Kalimantan	23.44	18.64%	9.96%	9.96%	3.39	68,237
Low Development	W. Sumatera	23.47	38.29%	7.47%	6.32%	2.55	180,341
	Maluku	16.96	32.93%	10.91%	13.14%	4.82	86,738
Sub Total	6	20.87	39.60%	8.41%	7.97%	2.88	413,267
LOW T.DENSITY							
High Access							
High Development	E. Java	29.05	28.59%	5.25%	4.06%	1.78	1,187,958
Medium Access							
High Development	W. Java	26.10	35.12%	8.63%	9.66%	2.72	990,471
	C. Java	20.50	27.72%	5.05%	5.59%	1.76	433,797
Low Development	N. Sulawesi	20.06	38.53%	5.77%	4.06%	3.99	78,695
	S. Kalimantan	26.48	48.94%	18.18%	12.45%	3.53	41,062
Low Access							
Medium Development	Lampung	21.37	21.39%	7.92%	7.59%	2.75	45,072
	S. Sumatera	19.41	20.68%	7.21%	8.03%	1.36	60,785
Low Development	E. Nusa T.	14.29	9.11%	11.99%	15.70%	5.22	67,084
	SE. Sulawesi	16.47	21.86%	2.08%	0.79%	4.28	11,457
	C. Sulawesi	12.31	6.11%	8.82%	11.46%	3.44	14,930
	W. Kalimantan	22.43	17.00%	15.10%	14.91%	4.63	39,195
	C. Kalimantan	19.34	2.97%	-2.45%	-2.78%	3.61	37,128
	Bengkulu	13.76	13.35%	5.27%	10.36%	3.68	5,067
	Irian	16.59	8.91%	33.25%	30.07%	2.26	81,632
	Jambi	22.72	29.23%	-0.69%	-2.20%	1.19	9,029
	E. Timor	14.82	38.65%	21.79%	36.77%	4.72	18,535
	Aceh	18.48	20.64%	4.20%	4.23%	5.60	45,473
Sub Total	17	19.66	22.87%	9.26%	10.04%	3.32	186,316
TOTAL	**27**	**27.98**	**39.08%**	**10.33%**	**9.33%**	**2.86**	**1,402,367**

Table 8.3. Results of Multiplier Values (National and 27 Regional Levels)

	INCOME			EMPLOY. (FTEs)			GOV. REVENUE			OUTPUT			IMPORTS		
	Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced
NATIONAL	0.301	0.521	1.048	0.056	0.228	0.464	0.093	0.223	0.461	1.000	1.890	3.786	0.103	0.221	0.614
JAKARTA	0.223	0.433	0.847	0.052	0.258	0.390	0.011	0.028	0.047	1.000	1.805	3.033	0.190	0.248	0.458
BALI	0.368	0.499	0.930	0.053	0.124	0.305	0.024	0.056	0.090	1.000	1.522	2.744	0.019	0.115	0.315
RIAU	0.112	0.362	0.781	0.053	0.371	0.557	0.005	0.060	0.121	1.000	1.816	2.958	0.291	0.296	0.562
YOGYA	0.213	0.433	0.757	0.177	0.429	0.865	0.008	0.034	0.065	1.000	1.819	3.175	0.147	0.234	0.507
N.SUM	0.255	0.409	0.766	0.247	0.281	0.528	0.031	0.048	0.059	1.000	1.724	2.744	0.175	0.308	0.666
W.NUSA T.	0.288	0.434	0.737	0.151	0.326	0.674	0.009	0.017	0.027	1.000	1.530	2.534	0.137	0.259	0.525
S. SUL	0.096	0.317	0.503	0.178	0.456	0.729	0.007	0.030	0.045	1.000	2.366	3.576	0.254	0.278	0.540
E. KAL	0.143	0.313	0.526	0.076	0.112	0.159	0.001	0.003	0.005	1.000	1.622	2.442	0.362	0.387	0.610
W.SUM	0.093	0.257	0.499	0.097	0.454	0.802	0.005	0.013	0.016	1.000	1.442	2.025	0.187	0.099	0.269
MALUKU	0.146	0.264	0.477	0.050	0.161	0.325	0.003	0.009	0.014	1.000	1.416	2.032	0.464	0.349	0.596
E. JAVA	0.316	0.433	0.813	0.258	0.497	0.759	0.021	0.034	0.046	1.000	1.351	2.350	0.115	0.070	0.281
W.JAVA	0.220	0.390	0.633	0.038	0.121	0.199	0.020	0.035	0.064	1.000	1.906	3.090	0.148	0.223	0.522
C. JAVA	0.265	0.410	0.680	0.142	0.307	0.526	0.024	0.038	0.068	1.000	1.511	2.544	0.234	0.202	0.522
N. SUL	0.353	0.394	0.629	0.114	0.318	0.532	0.006	0.009	0.016	1.000	1.105	1.782	0.299	0.180	0.565
S. KAL	0.331	0.373	0.594	0.218	0.305	0.553	0.004	0.005	0.010	1.000	1.127	1.836	0.354	0.226	0.559
LAMPUNG	0.162	0.228	0.490	0.132	0.247	0.866	0.002	0.004	0.008	1.000	1.156	1.836	0.641	0.199	0.698
S. SUM	0.094	0.254	0.474	0.180	0.351	0.597	0.002	0.015	0.028	1.000	1.661	2.733	0.465	0.415	0.663
W. KAL	0.192	0.407	0.439	0.032	0.407	0.440	0.001	0.003	0.004	1.000	2.379	2.862	0.109	0.293	0.740
ACEH	0.040	0.259	0.443	0.252	0.513	0.840	0.002	0.009	0.015	1.000	2.180	3.119	0.379	0.487	0.804
E.NUSA T.	0.127	0.190	0.375	0.105	0.269	0.913	0.002	0.010	0.020	1.000	1.174	1.669	0.669	0.456	0.754
C. SUL	0.138	0.208	0.365	0.117	0.222	0.480	0.004	0.011	0.017	1.000	1.246	1.747	0.589	0.435	0.709
SE. SUL	0.176	0.245	0.410	0.059	0.119	0.324	0.002	0.007	0.010	1.000	1.316	1.830	0.477	0.500	0.658
JAMBI	0.163	0.228	0.406	0.192	0.264	0.542	0.002	0.004	0.008	1.000	1.239	1.764	0.619	0.649	0.814
BENGKULU	0.161	0.220	0.404	0.105	0.157	0.359	0.002	0.006	0.015	1.000	1.316	1.814	0.514	0.600	0.780
C. KAL	0.140	0.219	0.361	0.148	0.237	0.388	0.003	0.010	0.015	1.000	1.395	1.843	0.410	0.522	0.752
IRIAN	0.154	0.252	0.388	0.106	0.224	0.458	0.004	0.014	0.020	1.000	1.498	2.003	0.340	0.489	0.768
E. TIMOR	0.138	0.230	0.387	0.039	0.078	0.204	0.004	0.014	0.021	1.000	1.492	2.000	0.357	0.456	0.767

The following is a detailed breakdown of Table 8.1: Regional Tourism Classification (Cross-Tabulation: Level of Density, Accessibility and Development).

Regions of High Tourism Density

There are two types in this category.

Type 1: Regions with similar high accessibility and tourist density, but different economic development (Jakarta and Bali)

Jakarta: high accessibility, high tourist density and high development.

Bali: high accessibility, high tourist density and medium development.

Type 2: Regions with similar medium accessibility, high tourist density but different economic development (Riau and Yogyakarta)

Riau: medium accessibility, high tourist density and high development.

Yogyakarta: medium accessibility, high tourist density, and medium development.

Regions of Medium Tourist Density

There are two types in this category.

Type 3: Regions with similar medium tourist density, accessibility, but different economic development (North Sumatera, West Nusa Tenggara and S-Sulawesi)

North Sumatera: medium accessibility, medium tourist density, and high development.

West Nusa Tenggara: medium accessibility, medium tourist density and medium level of development.

S-Sulawesi: medium accessibility, medium density and medium development.

Type 4: Regions with similar medium tourist density, low accessibility but different economic development (East Kalimantan, West Sumatera, and Maluku)

East Kalimantan: low accessibility, medium tourist density and medium level of development.

West Sumatera and Maluku: low accessibility, medium tourist density, and low level of development.

Regions of Low Tourist Density

There are three types in this category.

Type 5: Regions with similar high accessibility, high economic development and low tourist density (East Java)

East Java: high accessibility, high level of development and low tourist density.

Type 6: Regions with similar low tourist density, medium accessibility but different economic development (West Java, Central Java, North Sulawesi and South Kalimantan)

West Java and Central Java: low tourist density, medium accessibility, and high development.

North Sulawesi and South Kalimantan: low tourist density, medium accessibility, and medium level of development.

Type 7: Regions with similar low tourist density, low accessibility but different economic development (Lampung, South Sumatera, West Kalimantan, Aceh, East Nusa Tenggara, Central Sulawesi, Southeast Sulawesi, Jambi, Bengkulu, Central Kalimantan, Irian, East Timor)

Lampung and South Sumatera : low tourist density, low accessibility, and medium development.

West Kalimantan, Aceh, East Nusa Tenggara, Central Sulawesi, Southeast Sulawesi, Jambi, Bengkulu, Central Kalimantan, Irian Jaya and East Timor: low tourist density, low accessibility, and low development.

8.2 Impact Characteristics and Comparison

Table 8.3 (above) shows the comprehensive results of the multiplier values (direct, plus indirect, plus induced) for income, employment, government revenue, output and import, across the seven categories of tourism regions which covers 27 regions as well at the national level.

The distribution of regions in Table 8.3 was based on the results of cross-tabulation using the level of development, accessibility and density ranking as shown in Table 8.1.

While Table 8.4 shows the comparison of multiplier values between different types of tourism regions, which are based on the *similarities and differences* of their economic development, accessibility and tourist density.

Table 8.4 Multiplier Comparison and Tourism Regions

	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	TYPE 7
INCOME	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	0.2955	0.1628	0.2126	0.1274	0.3163	0.2923	0.1405
PLUS INDIRECT	0.4658	0.3979	0.3865	0.2777	0.4329	0.3916	0.2451
PLUS INDUCED	0.8888	0.7692	0.6687	0.5009	0.8130	0.6339	0.4119
EMPLOYMENT (FTEs)	PER MILLION Rs EXPENDITURE BY TOURISTS						
DIRECT	0.0527	0.1153	0.1920	0.0742	0.2580	0.1027	0.1222
PLUS INDIRECT	0.1914	0.3998	0.6214	0.2420	0.4965	0.1837	0.2573
PLUS INDUCED	0.3473	0.7109	0.9779	0.4287	1.1064	0.2990	0.5343
GOVERNMENT REV.	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	0.0176	0.0068	0.0157	0.0031	0.0207	0.0133	0.0025
PLUS INDIRECT	0.0419	0.0472	0.0315	0.0081	0.0335	0.0216	0.0088
PLUS INDUCED	0.0684	0.0929	0.0436	0.0114	0.0458	0.0397	0.0151
OUTPUT	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
PLUS INDIRECT	1.6635	1.8174	1.8737	1.4935	1.3507	1.4125	1.5044
PLUS INDUCED	2.8889	3.0667	2.9510	2.1665	2.3498	2.3133	2.1018
IMPORTS	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	0.1045	0.2189	0.1889	0.3379	0.1149	0.2587	0.4641
PLUS INDIRECT	0.1816	0.2650	0.2818	0.2783	0.0700	0.2080	0.4584
PLUS INDUCED	0.3867	0.5345	0.5771	0.4917	0.2809	0.5421	0.7421

8.2.1 Sectoral Income Multipliers

Expenditure by tourists is a source of turnover for business in the host regions, even though some proportion of these gross receipts will leak out from the regions; some as payments for goods and services purchased outside the region; some in the form of tax to the government (of which varying proportions will be fed back into the region as part of government expenditure); and, some as remittances to absentee landlords and proprietors. What remains can be counted as income to local inhabitants.

The role of the multiplier in this impact shows how gross turnover received by businesses is transformed into incomes for local residents. It is therefore an important tool in the analysis, providing the link between the initial injection of tourist expenditure and the resulting increase in regional income.

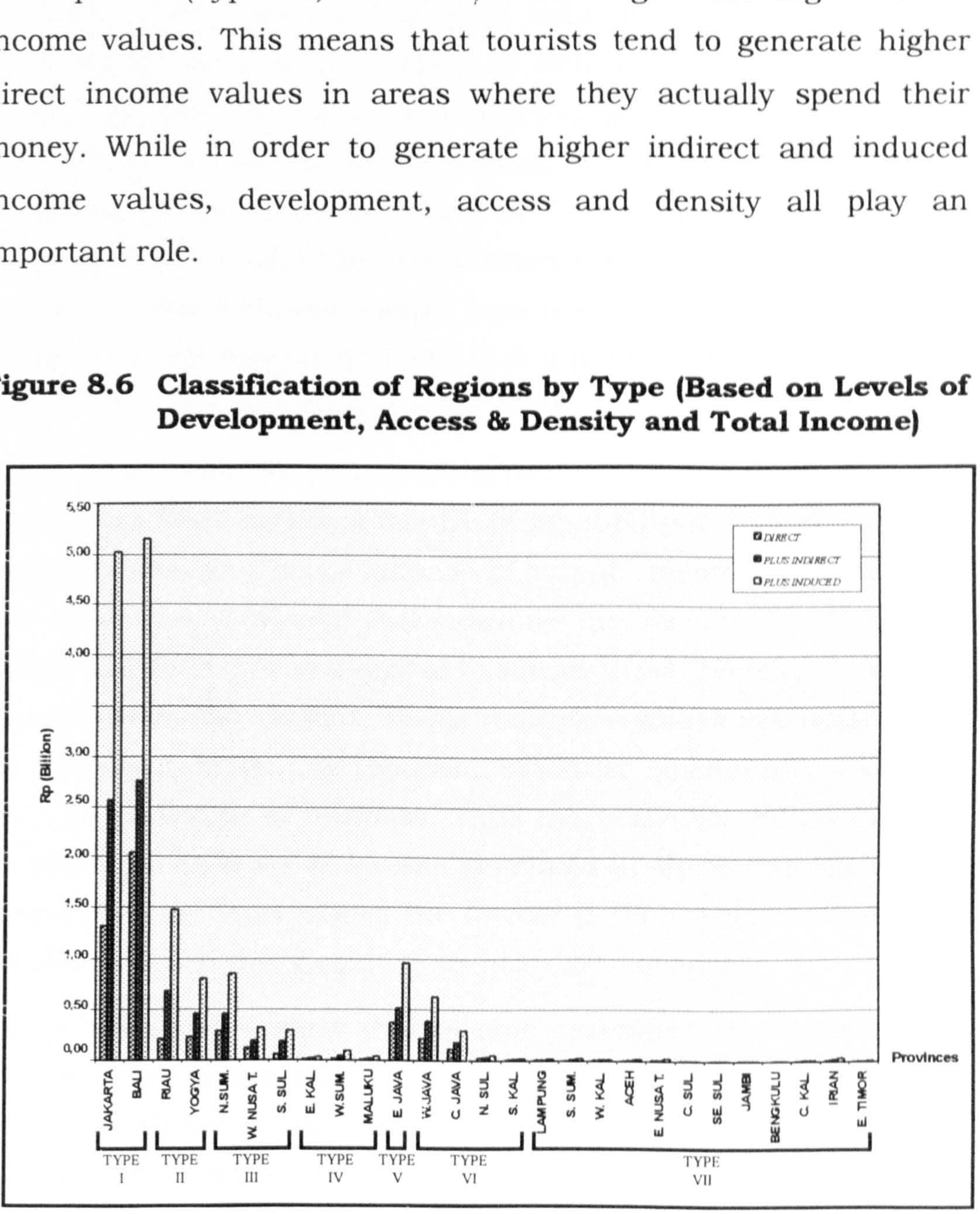
Table 8.4 (above) shows that similarities and differences on economic development, accessibility and tourist density within these seven types of tourism regions generate various income multiplier values from the lowest of 0.412 for tourism regions Type 7 to the highest of 0.889 for Type 1 tourism regions. For total income multiplier values, it can be seen from the above comparison that similarity in high accessibility, density and development as was found in Types 1 and 5, generate the highest total value of (0.851). While similarity in high accessibility, but different density and development generate average multiplier values of 0.465.

When this value was compared with values generated in regions with similar access and density but different levels of development (low, medium and high), the value was found to be only slightly lower as 0.776.

Among the seven income values from the seven tourism regions, it can be seen that the only lower values are those that were generated in regions with low access (Types 4 and 5). This demonstrates the strong role of access in determining the total income multiplier values.

While if only direct effects were examined, regions with higher development (Types 1, 5 and 6) tend to generate higher direct income values. This means that tourists tend to generate higher direct income values in areas where they actually spend their money. While in order to generate higher indirect and induced income values, development, access and density all play an important role.

Figure 8.6 Classification of Regions by Type (Based on Levels of Development, Access & Density and Total Income)



This is due to the indirect and induced values that requires a certain level of intersectoral linkages that exist within regions of higher development. International tourists tend to concentrate geographically which means that tourists in higher density regions can contribute more significantly to direct income values than in regions of less density.

Figure 8.3 shows the regions distribution based on the total income for direct, plus indirect and plus induced impacts which were generated in each of the regions in comparison with the national values. The sectoral income multipliers range from the lowest values of 0.365 in C-Sulawesi to the highest of 0.930 in Bali. However, compared to the national values of 1.050, these overall average values of 0.650 across the twenty-seven regions are quite large. The sectoral output multiplier ranges from the lowest of 1.667 in E-Nusa Tenggara to the highest of 3.575 in S-Sulawesi, which is more than double. The national output level is 3.786.

It was found that the pattern of income values was quite similar to output multiplier values, a feature of input-output analysis whereby income is seen as a linear function of output. Income multipliers act as a connecting coefficient that measures the fraction of each Rp. one thousand of turnover to a type of business, which becomes income to households in the regions. These multiplier values are weighted in the proportion of Rp. One thousand of tourist expenditure, which are spent in each type of business. Thus the multiplier values in effect sums all the portions of income generated in these tourism related businesses and incorporates the further portion which results from the way in which this income is spent by local residents.

Tables 8.3 and 8.4 show that income generation increases, as the economic size within which it is measured is increased from lower density to higher density regions. Based on these tables, it can be seen that there is a strong domination in terms of income generation from two regions in Type 1 (Jakarta and Bali) compared to the rest of the regions across the nation in terms of total impact values.

These differences are even higher when only indirect and induced impacts are calculated. The gap between the most visited regions such as Jakarta and Bali and the rest of the regions are quite high (see Table 8.4) which confirm the importance of intersectoral linkages within the regions to act as a platform for tourism to be able to generate multiplier values.

From the accommodation related establishments point of view, Table 8.4 shows that Bali, as the most visited tourist destinations, generates the highest income values across the different scales of accommodation -- hotels, bungalows and others. As a geographical area, Bali is considered to be a small-sized island among the major islands of the Indonesian archipelago (5561 sq. km. compared, for instance, to Java's 132,187sq. km.).

However, being supported by higher accessibility, higher density and a medium scale of development, Bali has both intersectoral and inter-spatial linkages which support the regional economy in generating income.

Based on the total income multiplier values of hotels (or larger type establishments) found on Table 8.3, Bali generates the highest multiplier value (0.930), followed by Jakarta (0.847), E-Java (0.813) then Riau (0.782). These findings seem to suggest that the larger type of establishments in the regions with higher level of development tends to generate a smaller value of sectoral income within the region.

This can be explained by the suggestion that large hotels – especially those managed by international chains – have very sophisticated purchasing systems and sufficient volume which mean they may well go to wholesalers outside their region, or even outside the country, to seek the best price, reliable delivery and quality.

The results showed medium scale establishments tend to generate the highest income multiplier values. This may be explained by the fact that they tend to buy products locally and use local suppliers within the more developed regions as they lack either the volume or sophisticated purchasing systems of large establishments to buy in other regions.

The findings of this research shcw that relatively smaller types of accommodation tend to generate similar income multiplier patterns as the larger ones. Of course, these smaller types of accommodation tend to purchase goods and services locally (but not at the volume of medium-scale establishments) but as they will buy from a number of small providers, they will have an impact throughout the local regional economy.

However, it seems that there is a need to have certain existence of intersectoral linkages to act as a basic platform for tourism to grow in order to generate higher impacts. Therefore, within a country where the level of development is at the subsistence level economically, it takes time for the regions to integrate tourism activities into their regional economic structures.

To return to the regional comparisons shown in Table 8.3, on average, income multiplier values for Bali and Yogyakarta are higher than Jakarta and Riau. This may be explained in that:

Firstly, tourism in Bali and Yogyakarta are more 'real' leisure or holiday types of tourism destinations, where tourists tend to do more holiday-related activities (shopping, sightseeing, etc.), rather than in the more business destinations such as Jakarta and Riau.

Secondly, tourism in both Bali and Yogyakarta are quite mature historically compared to other regions in Indonesia. As a result, the regional tourism related activities or economy is strong enough to adapt to tourist demand and, therefore, are able to generate local products which act as import substitutions. Therefore, intersectoral linkages in these regions are in place.

Thirdly, it is also probable that the quality of tourism-related local products have a greater ability to meet international demand. In other words, tourism in Bali and Yogyakarta have stronger backward linkages with other industrial sectors involving those industries that supply the main inputs to tourism sectors.

It is interesting to note that regarding market origin, Table 8.5 (*Results of Multiplier Values by market Regions of Origin*) shows the more traditional tourism-generating markets (such as Europe for Jakarta, Australia and Europe for Bali) have a greater ability to create income, employment and output compared to the newly developed markets from Asia.

Table 8.5 Results of Multiplier Values (Market Regions of Origin)

	SE. ASIA	EUROPE	ASIA	AMERICAS	OCEANIA
INCOME	Rs	PER UNIT EXPENDITURE BY TOURISTS			
DIRECT	0.3032	0.2995	0.3026	0.2984	0.3040
PLUS INDIRECT	0.4224	0.5196	0.4209	0.5187	0.5232
PLUS INDUCED	0.9516	1.1460	1.0486	1.0442	0.8532
EMPLOYMENT (FTEs)		PER MILLION Rs EXPENDITURE BY TOURISTS			
DIRECT	0.0564	0.0557	0.0600	0.0558	0.0560
PLUS INDIRECT	0.2282	0.2268	0.2320	0.2268	0.2278
PLUS INDUCED	0.4560	0.4624	0.4682	0.4620	0.3540
GOVERNMENT REV.	Rs	PER UNIT EXPENDITURE BY TOURISTS			
DIRECT	0.0929	0.0942	0.0905	0.0943	0.0931
PLUS INDIRECT	0.2222	0.2241	0.2195	0.2244	0.2222
PLUS INDUCED	0.3609	0.4616	0.3578	0.4614	0.2613
OUTPUT	Rs	PER UNIT EXPENDITURE BY TOURISTS			
DIRECT	1.0000	1.0000	1.0000	1.0000	1.0000
PLUS INDIRECT	1.0897	1.8911	1.0985	1.8915	1.8894
PLUS INDUCED	2.7917	3.7831	3.0863	3.7802	2.7944
IMPORTS	Rs	PER UNIT EXPENDITURE BY TOURISTS			
DIRECT	0.1017	0.1047	0.1013	0.1054	0.1012
PLUS INDIRECT	0.2202	0.2176	0.2356	0.2185	0.2181
PLUS INDUCED	0.6938	0.5133	0.5147	0.6133	0.7137

It is possible that the background in terms of cultural similarity plays an important role in influencing the level of the Asian markets' ability to generate economic impacts for income, employment and output. Travellers from newly-emerging Asian markets who may be first time travellers will tend to buy products with which they are familiar from home (e.g. name brands), compared to more mature markets such as Europeans or Americans who may be more adventurous in their spending behaviour.

Table 8.5 demonstrates that the European market generates the highest values for income, followed by Australia and America, then Asia. European markets have the ability to generate higher income in both lower density regions and higher density regions.

These findings are consistent with the fact that Europeans, as contrasted with new travellers from the Asian market, tend to penetrate more deeply into the less developed destinations, and are willing to stay in small and medium-scale accommodation, thus having more interactions with the local products and local economy. Historically, this is very consistent where there are tourist destinations in Indonesia that are first discovered by Europeans who act as 'pathfinder' types of tourists, or by engaging in more special interest tourism in new destinations such as with adventure tourism.

8.2.2 Sectoral Employment Multipliers

The assessment of the impact of tourism upon employment opportunities in a region poses a more complex problem beyond those involved in measuring income multiplier values. This is due to the following reasons:

- First, labour is much less easily defined than income. The definition of one FTE (Full Time Employment) varies not only from country to country but also from region to region. Therefore, measuring employment multiplier values not only involves technical assessment, but also encompasses an important socio-cultural dimension.
- Secondly, the nature and scale of the tourism activities will determine the extent to which an increase in its business transactions responds to an increase in its labour force. This relationship will also be influenced by the pattern of various stakeholders' preferences.
- Thirdly, there is elasticity for a variable response to a requirement to increase employment. This elasticity in response is complex especially in regions with a strong tradition of local reliance on family ties, extended families and *pembantu* ('helpers'). For example: a labour shortage may be filled by a number of strategies: hiring one full-time adult, or two part-time adults, or possibly two full-time 'pembantu'.

  An employer may similarly need to employ year-round or seasonal labour, male or female labour, or any combination of these. These combined factors contribute to the complexities in measuring the level of employment multiplier values.

  Therefore, the employment multiplier values may be considered a less sensitive instrument to be used as a tool to indicate impacts compared to income multiplier values.

Table 8.3 shows that the lowest spend required in order to create one new FTE (Full Time Equivalent) job is Rp. 1.2 M in regions like East Nusa Tenggara and the highest is Rp. 6.2 M in regions like West Java. This may be explained by a number of factors such as the much more structured and organized labour environment found in regions with high development such as in West Java, which is really an extended part of the capital region, Jakarta. As well, as would be expected, average wages are much higher in these developed regions as compared to the regions of lowest development, for instance an average of (pre-crisis) of Rp. 200,000 for East Nusa Tenggara compared to Rp. 600,000 per month for West Java.

The total employment value is highest in the regions with high development and access, no matter what level of tourist density they have. Development and access, rather than density, play important roles in generating multiplier employment values. Table 8.6 demonstrates the different sectoral employment multipliers generated by different tourism-related establishments in different regions. These values also represent the level of tourist expenditure which are required to create one new 'full-time equivalent' (FTE) job.

There are differences in employment generation between types of accommodation and between regions in terms of their ability to generate one new FTE.

The highest spend required is about Rp.6.2 M in tourist spending is needed in order to create one new full-time equivalent job in a hotel in W-Java compared to the lowest of about Rp. 1.2M needed in order to create the same employment in E-Nusa Tenggara.

It is interesting to note that the data shows that the difference required in tourism spending to create one FTE is much wider between regions than between different scales of accommodation within the same region. For example, in Bali, it requires a spend of Rp. 3.2 M in order to create one new job in a hotel scale of accommodation, compared to Rp. 2.2 M to create one FTE in the smallest scale of accommodation such as homestays.

There is a consistent pattern across levels of development that the smaller the establishment, the less tourist spending is required to create one new job. Therefore, as noted above, this wide range demonstrates a word of caution is needed in connection with the job creation power in smaller establishments and in less developed regions. Among other reasons as noted before, this is due to the difficulties in determining the true meaning of employment.

For cultural reasons, in the smaller establishments they tend to be family-run businesses with a good deal of part-time and seasonal help but who are considered full time workers.

From the market point of view, the lowest employment multiplier values within these regions is generated by Asian countries, while the highest is generated by European markets. It is interesting to note that Asian countries (even though they were new 'booming' markets for Indonesia for the last three years before the onset of the Asian economic crisis) generate lower income, output and employment compared to the traditional tourism originating countries such as France, Germany, Belgium, as well as from America.

This may be explained in that Asians as newer travellers tend to travel in group tours and stay in more 'organised' types of environments such as star-classed hotels. This contrasts with Europeans who will stay in the full range of accommodation from 5-star hotels to homestays.

They will often travel independently or in couples rather than on group tours, and will seek out accommodation with a more local flavour that are medium scale (e.g. bungalows), which tend to generate more employment (jobs) compared to larger type establishments. These differences can be explained by the fact that in more developed regions it requires less expenditure to generate one FTE as noted before.

This employment value pattern confirms that the same scale of accommodation generates more employment in the higher level of density and developed regions than the lower ones. As noted above, it only requires an average of Rp. 1.2 M of tourist spending in order to create one new job in East Nusa Tenggara compared to an average of Rp. 6.2 M in order to create one new job in W-Java.

This illustration reveals that there is a crucial issue to be addressed regarding the appropriate scale and type of development for different regions in order to achieve a certain type of impact, so as to generate maximum benefits into the regions.

Based on the above illustration, there are important roles played by the conventional tourism markets such as Europe due to their power to generate higher multiplier values on income, employment and output especially within the medium-lower density regions; therefore, these markets play significant roles in regional development. There are policy and planning implications related to these issues which should be addressed within both regional as well as national development plans. These implications will not only affect planning issues but also marketing considerations as well and product development within each region.

8.2.3 Sectoral Government Revenue Multipliers

It is extremely difficult to measure in precision a reliable estimate of government tax produced by the tourism sector especially in developing countries where taxation system is new and unclear. In Indonesia, many establishments tend to keep only general accounts and very often are unclear, to what extent, or how much, is actually spent on the provision of tax only for tourism.

Table 8.4 demonstrates the various multiplier values generated by regions with similarities and differences in development, access and density. The highest value was generated by the type 2 region where balances between levels exist. Type 1, where higher levels of factors exist, generates lower values compared to values generated in Type 2 region.

This may be explained that for Jakarta, as the capital and centre for multinational corporations, the taxation system is more distorted.

The concept of 'taxation' is quite new in Indonesia, especially in the areas of tourism activities. The lack of a standard unit by which to measure response of tax generation to an increase in turnover from tourism, not to mention the overlapping policy towards tax between the national and regional levels, as well as the sectoral allocation, all combine to make it complicated and difficult to measure taxation.

Table 8.3 demonstrates the ranges of the government multiplier values from the lowest of 0.0078 for Jambi to the highest of 0.1207 for Riau. The difference between national and regional level multiplier values are quite substantial. Riau, even though the highest regional multiplier, is only about one fourth compared to the national multiplier values of government revenue (0.4608).

The explanation for this difference may lie in the fact that larger scale establishments such as hotels dominate the national level. At national level, the taxation system is more sophisticated compared to the regional systems, and in fact, systems do not yet even exist to any appreciable degree in some regions. For instance, one of the latest tourism-related taxes was a promotion tax (about 2%) that was added to star-rated hotels or restaurant business transactions. The fact that this tax works only for highest density tourism regions such as Bali, Jakarta, Yogyakarta, Riau, N-Sumatera and W-Nusa Tenggara shows that government tax can be quite difficult to determine especially in the regional level.

8.2.4 Sectoral Import Multipliers

In assessing the ability of regional industries to support expanding tourism industries in the region is based on the examination of the following:

- The structure of the economy and the per capita Gross Regional Domestic Product (GRDP) of regional industries compared with national ratios as demonstrated in the both National and Regional Input-Output Tables;
- The structure of international imports and exports as indicators of economic strengths and weakness because production for export in other regions affect national ratios;
- The requirement of tourism consumers may be relatively low level outputs from the sectors, which can be provided by a simple and very small (micro) scales of regional industries.

There is a sense of adaptation process within the regional activities in order to respond to tourism which acts as a new demand for the region concerned.

The assessment of import values are important since the overall impact is calculated as the value of tourist expenditure minus the value of imports necessary to supply those goods and services. The spending on imported goods to support tourism is usually referred to as 'leakages', which is foreign exchange leaving the host economy.

It is quite rare that a host economy – especially in developing countries or island countries -- is able to supply all the required goods and services needed to support a foreign tourist industry. These import values cannot be simply seen as foreign exchange leaving the host economy without giving any positive contributions; these values are not totally 'lost' values. For example, imports can be a very strategic tool in tourism development if it means paying the salary of an expatriate manager who is training local personnel or adding value-added products to a hotel property.

As well, the opportunity cost of import substitution might be too high and therefore it may be necessary to continue to import certain important goods and services.

The crucial question in this relationship are not that imports *per se* are negative but rather that the imports have to in proportion to the foreign revenue earned through tourism expenditures. As well, the type of imports and the trend in import demand over time should be examined by planning and regulatory authorities in determining what kind of role imports are playing in the host economy.

Table 8.4 shows that the highest total import values were generated by regions with lowest levels of development, access and density (type 7 regions); while the lowest import values were generated by regions with high development and access, even though with lowest tourist density (type 5 regions).

This may be explained in that development and access play important roles in generating total import values, compared to density. Regions with higher levels of development tend to be able to offer local product diversity as an import substitution. Accessibility, as based on gravity principles, explains that the further the regions, the higher the import values they require to fulfill the demand.

Table 8.3 demonstrates that import multiplier values vary from the lowest of 0.2687 for W-Sumatera to the highest of 0.8037 for Aceh. The more developed regions tend to generate lower values of import, as would be expected as they can supply more needs.

When the sectoral import within different scales of establishments are examined, it can be seen that on average the ability of the medium scales generate smaller multiplier values or generate lower elements of imports. The smaller the scale of the establishments, the more likely they are to purchase their requirements from local suppliers and, therefore, generate smaller import multiplier values.

The higher level the development in a region, the smaller the number of import elements that have to be absorbed due to the availability of substitute import elements that can be produced within the regions.

This is to confirm that each region has its own characteristics that may involve location or accessibility; proximity to the centres or larger economic activities; the regional economic structure and the type of tourist activities. All these factors will influence import values associated with tourist patterns of expenditure in that region.

8.2.5 Sectoral Output Multipliers

Table 8.4 shows that regions with the most balanced similarity in development, access and density (Types 2 and 3) generate higher total values of output multipliers.

While regions that are similar in development and access, but with different density (Types 1 and 5 regions), do not generate a wide range of values. Tourist density does not appear to play an important role in generating total output values.

Table 8.3 demonstrates that the highest multiplier for sectoral output was found to be 3.57 for S-Sulawesi and the lowest of 1.65 for E-Nusa Tenggara. This demonstrates that, for every additional Rp. one thousand spent according to the expenditure pattern relating to those tourists staying in S-Sulawesi, the level of output for the regional economy as a whole increases by Rp.3.57 thousand. This compares to the increases of Rp. 1.65 thousand in the regional economy, if the same amount of expenditure is spent in E-Nusa Tenggara.

In the regions where the level of tourist density are higher, it was found that the output values are higher than regions with lower levels of tourist density. This is due to the stronger linkages among tourism-related goods and services that exist in the higher levels of development and density regions.

From the market point of view, it was found that similar to the employment multipliers, the highest output multiplier values are generated by visitors from European countries followed by other neighbouring countries such as Malaysia, Singapore and Thailand. Within the European countries, the highest generators are countries such as the Netherlands and United Kingdom.

This may be due to the nostalgic linkages that exist from the former long-standing colonial ties to the region. The familiarity of these visitors with the goods and services available locally contribute to the spending behaviour pattern into the regions concerned.

Asian tourists were found to generate higher output multiplier values in the regions where culture and heritage landscapes are the main tourism products. For example, tourists from Japan, Singapore, Korea and Taiwan tend to generate the highest multiplier output for Yogyakarta region (Rp. 3.57). This can be contrasted with these same countries visitors travelling to in more nature oriented attractions such as those found in the Eastern part of Indonesia where fewer Asian visitors go and where there is much less available for them to buy.

Americans and some of the markets from Europe such as Germany and Italy tend to generate higher output values in more business- oriented tourism regions, such as Jakarta, E-Java, Batam and W-Java. Jakarta as the national capital has a higher percentage of business as motivation for tourists to come (38%). Similar to Jakarta, Riau has a high percentage of visitors (35%) with business-related motivation to come to this region (compared to 58% coming on holiday).

This is due to Batam and Bintan Islands in Riau Province having been designated as bonded zones for trade and Asian industry, aimed at Singapore investors who are only 30 minutes away by frequent, fast ferries.

Jakarta and Riau are both considered regions with significant amounts of business oriented visitors; in contrast, Bali has only 26% of foreign visitors coming for business with 68% coming for leisure purposes. Yogyakarta has 28% of visitors recorded for business purposes and 66% for leisure reasons. Some caution should be taken regarding these figures as the underlying reality is probably more complex.

For instance, in the case of Jakarta, these statistics are generally agreed by experts to underestimate the actual number and impact of business visitors to this capital city. Visitors tend to fill out 'leisure' rather than 'business' purposes on their entry forms even though they have in fact come to Jakarta and Indonesia largely for business purposes.

This is because many business visitors find it easier and cheaper just to arrive at Jakarta international airport and receive an 'on-the-spot' tourist visa valid for 60 days. Whereas to obtain a business visa, it has to obtained from the Indonesian embassy in their home country prior to departure. This procedure involves providing a letter inviting the prospective business visitor from an Indonesian company or organization, providing photos, and then both drop off and collect their passport. The prospective visitor has then to pay a fee of up to £30 (in the UK), and the maximum time they can obtain on a business visa is 5 weeks or 35 days. Given these obstacles, it is hardly surprising a large number of actual business visitors to Indonesia is vastly underreported

Many true 'leisure' visitors arriving at Jakarta airport do not stay in Jakarta for leisure purposes, but merely pass through it on the way to other destinations as Jakarta is a major arrival and transit hub. However, in the present official data collection system, they are counted as 'Jakarta' leisure arrivals if they arrive at the airport even if they do not stay in Jakarta.

It is interesting to note that on average, the highest multiplier values are generated by tourist spending in medium types of establishments, and that the smallest values are generated by tourist spending in large type of establishments within the medium density regions.

This finding may be explained by the fact that within the subsistence level of development found in a developing country, there is a lack of sectoral linkages to support tourism to grow. Therefore, the smaller types of establishments (which are often very small indeed) are not able to absorb the potential markets' spending patterns. However, the medium scale of establishments are large enough to absorb visitor spending patters but will still tend to buy goods and services locally.

This compares with the larger scale of establishments which tend to have sophisticated buying patterns featuring volume buying in other regions and more imported rather than being limited to more local products. As well, it is likely that the ownership of the larger type of accommodations are dominated by outside investors and expatriate managers who tend to purchase more imported elements.

8.3 Summary

- Each region has its own regional differentiation, uniqueness, and similarity in characteristics. These differences involve location or accessibility, proximity to the centres of economic activities, regional economic structures, type of tourist activities and spending patterns. These main characteristics have all influenced the multiplier values found within the twenty- seven regions and at the national level.
- Within the different type of multipliers, the similarities and differences play a variety of roles. Income, output and import multipliers are influenced mainly by economic structure and location.

Employment and government revenue multipliers are mainly influenced by the balance in those factors but not by the density.

- In almost all cases within regions, the medium scale of establishments, such as bungalows, tend to be responsible for higher sectoral income, output and import. While the values for employment and government revenue multipliers seem to be more independent for each region. This may be because the larger scale of establishments are more likely to have more centralised volume of purchasing power, and therefore they have more ability to buy goods and services from outside the regions.

  Whereas the smaller scales of establishments tend to have a relatively small volume and operate within the more unstructured or traditional society which has a lesser ability to absorb regional tourism purchasing.

- The less developed the regions were found to generate higher direct multipliers relative to indirect and induced values. This is due to lack of inter-linkages available in relatively underdeveloped regions to absorb the tourist purchasing power therefore producing smaller indirect and induced multiplier values

- The complexity of estimating the values of employment multipliers is shown to be extremely difficult. This is especially true when attempting to calculate one FTE (full time employment) means within the Indonesian context where the combination concepts of extended family and helpers (*pembantu*) are strongly applied. The employment impacts however tend to concentrate in the regions where the direct income values are higher or where tourists actually spend money.

- The seasonal nature of tourism activities from region to region makes it even more difficult to assess employment generation. This is especially true in terms of full-time permanent jobs, which can be compared with those created by most other industries. Therefore, the assessment of employment multipliers was not entirely satisfactory since there is a considerable degree of arbitrariness in weightings used.

As well, the method conceals qualitative differences between the type of job created, whether full-time, permanent or seasonal, or whether it is even called a 'job'.

- At the regional and national levels, there has been some contrast. While the average regional income values are about 0.49, this is less than half compared to the national value of 1.05. This implies that the Indonesian economic structure as a whole is able to absorb some considerable levels of benefits from the flow of tourism related business turnover, while it leaves considerable disparity within the regions.

CHAPTER 9
SCALE EFFECTS ON TOURISM MUTLIPLIERS

This chapter focuses on whether different scales of tourism related establishments stimulate different patterns of multiplier effects. The range of tourist establishments (as was described in previous chapter) includes: hotels as a larger type of tourism activity, bungalows (medium-scale), and smaller types represented by home-stays (or *'losmen'* in Indonesian). The impact analysis is also carried out within the parameters of different levels of regional differentiation of development, density and accessibility.

These three factors, which represent regional differentiation, were used as an analytical framework in seeking to understand whether and in what way tourism may stimulate impacts in regional development. Three main concepts were used in order to explain the multiplier patterns of the economic impacts generated by the tourism industry: income contribution, efficiency and labour intensity. These were examined through the values of the following multipliers: income, employment, government revenue, output and import.

Income Contribution

Tourism multiplier values can be viewed as an indicator for income contributions towards regional development through the generation of both income and government revenue in the regions. This income contribution was revealed through the multiplier effect values of both sectoral income and government revenue in terms of direct, indirect and induced effects.

Labour Intensity

One of tourism's economic multipliers manifests itself as an indicator of regional development based on its ability to generate employment, which is defined as full time employment (FTE) jobs.

The analysis found that some types of tourism activity that may generate higher levels of income and government revenue in some regions, may in fact generate lower levels of employment in other regions due to regional differentiation in terms of level of development. Inter-sectoral expenditure may, in some regions, be on goods and services from more labour-intensive industries than in other regions.

Efficiency

The economic impact of tourism is also explained through its contribution towards regional development based on whether it performs efficiently. This examination will be viewed on the values of the output multipliers as well as the import content as indicators to evaluate the efficiency of the tourism industry.

Analysis of import multiplier values is essential to determine how tourism has performed compared to other export industries in terms of its efficiency in bringing foreign exchange and investment. The values of sectoral import multiplier effects show not only the import content, that is, those sectors directly related to tourism, but also the propensity to import of the tourist sector's suppliers and their related chains.

In terms of regional development and planning, it is clearly important for decision-makers to have an understanding of how well a given export industry performs – both in itself, and in comparison to other possible export industries – in order to make informed decisions.

It has to be remembered, however, that 'efficiency' in itself is rarely a sole criterion used by governments to justify its role in development. Tourism, for instance, has the potential to be developed as a relatively 'green' export industry, and it can offer lower and easier entry levels for the labor market.

9.1 Income Contribution

Income contribution is represented by the multiplier values that were generated by both sectoral income and government revenue.

9.1.1 Sectoral Income Values

In terms of total values (direct, indirect and induced) for different scales of establishments: Tables 9.1-5 (*Scale Effects on Multiplier Values – Annex)* show there are some significant variations from sector to sector as well as from region to region in terms of their ability to stimulate values of total impacts. The values vary from 0.36 for hotel units in E-Nusa Tenggara to 0.94 for bungalow units in Bali and 1.05 for hotel units at national level.

The very low level of values in less developed regions such as E-Nusa Tenggara or C-Kalimantan is because income represents a relatively low proportion of the production costs and where the level of economic integration is relatively low. A word of caution is also appropriate concerning the less developed regions when it is extremely difficult to offer any precision in estimation of income produced by this sector. This is because in the least developed regions the injection of tourism spending is proportionately more significant and tends to be often over-estimated in the resulting multiplier value generation.

Furthermore, Tables 9.6-8 (*Scale Effects on Multiplier Values by Different Level of Development, Accessibility and Density*) shows that, there is only a slight difference in term of total values for the average total effect (direct, indirect and induced), between the three different scales of establishments (hotels, bungalows and others/'*losmens*') at the national level. While within the regional level, the values differences vary from the highest (0.940) for medium scales or bungalows in Bali to the lowest (0.360) for hotel units in E-Nusa Tenggara.

It is important to note that, in terms of multiplier impacts, what tourism does within the national level sometimes is not the same as what tourism does within the regional level.

Across almost all the regions, bungalow accommodation (medium scales) have the ability to generate the highest income multiplier values compared to hotels and other types of tourist activities such as hotels and *losmens*/homestays.

The reason for this may lie in the fact that medium scale establishments have a large enough demand to be regionally significant in terms of the diversity and amount of inter-sectoral linkages in goods and services compared to the micro-scale of many homestays. However, compared to larger scale accommodation such as hotels, these mid-size units do not tend to have sophisticated purchasing departments found in hotels that can seek large-scale wholesalers outside of the region.

Looking at the different level of regional differentiation in terms of the level of development, density and accessibility (Table 9.6-8), it can be seen that in terms of total effects (direct, plus indirect, plus induced), the range of sectoral income multiplier values span from 0.4371 to 0.9382. The highest income values are generated by bungalow accommodation (medium scale) in the regions with higher accessibility (0.9382) and that the lowest income is generated by hotel accommodation (larger scale) in the regions with lower level of density (0.4371).

It is interesting to also note that the medium scale establishments (bungalow type) tend to be the most profitable type in almost all regions (eight out of nine categories) within any level of density, development and accessibility. This is due to the fact that profits are reclaimed within the local regional economy.

There is only one category of region where bigger scale of establishments (hotel type) tends to generate slightly higher profits, which is a region with a higher level of development. This can be explained, that larger scales activities can only generate higher income where regions are very developed regions (Jakarta, Riau, N-Sumatera, E-Java, W-Java and C-Java), where intersectoral linkages within business trade and other industries are stronger. On average, for every Rp. 1,000,000 spent by tourists in Indonesia, an additional Rp.1,046,900 of indirect and induced income is generated for a total multiplier ratio of 1.046.

In terms of direct effects, it was found that those medium scale establishments (bungalows type) within the regions with higher level of accessibility, such as in Jakarta, Bali and E-Java, tend to generate the highest direct profit in the regional economy (0.3767). Again, this is to confirm that medium scale of establishments tends to have the ability to stimulate higher income. It is important to note that this is not only for the total income but as well generate higher in terms of direct income in form of wages, salaries and profits. Bigger establishments (hotel accommodation) within regions with the lowest level of accessibility tend to stimulate the least direct profit to the regional economy (0.1336) because the income leaks out to other regions or even outside the national economy.

For the indirect effects, the highest profit was generated by the smaller scale of establishment (losmen/home stay type) within regions with higher levels of density (0.202). The least profitable scale of establishments is generated by bigger scales (hotel type) within regions with low levels of development. This evidence confirms that smaller-medium scaled activities within regions with higher intersectoral linkages (especially with tourism related activities) will be the most beneficial to these in terms of indirect effects.

It was also found that the indirect or secondary impacts of tourism within the medium density regions (N-Sumatera, W-Nusa Tenggara, E-Kalimantan, W-Sumatera, S-Sulawesi and Maluku) were even slightly greater (0.17) than the direct effect (0.16) because of the strength of the intersectoral linkages.

The strength of the level of the accessibility as a single variable was found to be the most significant even when compared the three variables (development, density and accessibility) acting together in combination. A case in point: the Jakarta region with a higher development, density, and accessibility level where the value accessibility act as a single variable (0.875) is higher than the total variables acting in combination which is 0.850.

As well even when the total income multipliers is in the lowest range (for example, E-Nusa Tenggara), the total variables acting together (0.360) was still found to be lower than when accessibility acts as a single variable (0.440). This once again seems to confirm that the level of accessibility appears to be the most influential factor in determining the values of multiplier income across different regional levels of development.

Tables 7.1 and 9.1 show that there is no evidence that the size of the region (in physical or geographical terms) has any relationship with the income multiplier values. Bali, for example, is a much smaller island than Kalimantan, but it has higher income multiplier values.

In terms of economic impacts of tourism, there are relative benefits associated with different scales of tourist establishment or types of tourist activity within the context of regional differentiation. There is a certain degree of development, access and density that need to exist within the region in order for tourism to grow and to stimulate certain levels of benefits.

Based on the tables (*Table 9.6-8 Scale Effects on Multiplier Values by Different Level of Development, Access and Density*) show that there is only about a ten percent chance (compared to other units and scale of accommodation) that hotel units generate higher values. Furthermore, that is only where a region has a higher level of development, density and accessibility, for instance the Jakarta region. As the capital, Jakarta's level of trade and business activities and tourism are extensively intertwined.

Summary

These above illustrations show the following findings:

- First, there is an interesting finding that of the three parameters analysed (accessibility, density, and development), the level of accessibility was found to be the most important factor in terms of income multiplier generation across the different scale of establishments, followed by development, then density.
- Second, a potentially significant phenomenon was found in this analysis. In geographically-large, developing countries such as Indonesia, not only intersectoral linkages but also the inter-spatial system within the economy seems to be key factors in determining regional development. This finding has important implications regarding policy formulation; for example, when considering whether increasing the level of access within some regions will stimulate higher incomes and therefore generate higher development from tourism.
- Third, the medium scale or type of establishment seems to have more ability to stimulate better values for almost any region in terms of income generation. It is interesting to note the findings that the bigger scale establishments tend to stimulate benefits only when the region has a higher level of access, development and density. Therefore, bigger scales of establishments or bigger type of activities such as hotels do not necessarily always generate more benefits in terms of income for the regions.

  The reason for this may lie in the fact that medium scale establishments have a large enough demand to be significant in terms of the diversity and amount of inter-sectoral linkages in goods and services they purchase in their region compared to the micro-scale of many homestays.

However, compared to larger scale accommodation such as hotels, these mid-size units do not tend to have sophisticated purchasing departments found in hotels that can seek large-scale wholesalers in other regions.

Once again, this has important policy implications when it comes to regional development issues regarding tourism planning.

- Fourth, the size of income multiplier effects is strongly influenced by the level of accessibility followed by development then density. That is, the more accessible and developed the region, which means the more integrated the economy, then the higher the income multiplier values across the different scale of establishments. In other words, accessibility is clearly correlated with development.

- Fifth, the concept of balance or proportion is in fact essential in examining what scale or type of activity is appropriate within the level of regional differentiation. This level of regional differentiation that is represented by levels of accessibility, development and density act as a platform for tourism activities to grow. They help determine whether tourism will generate benefits for the region concerned.

Tables 9.1 Scale Effects on Income Multipliers

DESTINATION	TOURIST INCOME MULTIPLIERS		
	Hotels	Bungalows	Others
1. Indonesia • National scale, large country • National level values	1.0511	1.1452	1.0444
2. Bali • Most visited tourist destination • Small-size island • High accessibility, High tourist density and medium development levels	0.9262	0.9382	0.8347
3. Jakarta • Large capital city region • Most developed region in Indonesia • Most developed region in Java, the most developed island • High accessibility, development and density	0.8407	0.8091	0.7944
4. E. Java • Second most developed region in Java, the most developed island • Large region with extensive trade and business • High accessibility, High development and Low tourist density	0.8158	0.8273	0.8092
5. Riau • Batam and Bintan factors (bonded zones, also weekend tourist destinations from Singapore) • New, rapidly developing group of island resorts • Special development policies esp. taxation system (tax-free zone) • Cross border zone (with Singapore) • High development, High density and medium access	0.8003	0.8081	0.7801
6. N. Sumatera • Large region with strong trade and business • High development, medium density and medium access	0.7563	0.7848	0.7076
7. Yogya • Second most visited tourist destination (after Bali) • Medium size region within most developed island of Java • High tourist density, medium development and access	0.7583	0.7602	0.7561
8. W. Nusa Tenggara • Group of smaller islands next to Bali • Add-on factor from Bali • Medium development, density and access	0.7230	0.7592	0.7405
9. C. Java • Large region in Java, the most developed island • High access, high development, Low density	0.6877	0.6887	0.6081

DESTINATION	TOURIST INCOME MULTIPLIERS		
	Hotels	Bungalows	Others
10. W. Java • Large region in Java, the most developed island • Jakarta hinterland, strong industrial zones as well as trade and business expansion • High development and high access, Low density	0.6321	0.6360	0.6322
11. N. Sulawesi • Special interest tourism destination • Medium size region • Medium access, low development and low density	0.6302	0.6327	0.6318
12. Lampung • Smaller size region (industrial zone), next to Jakarta • Medium development, low access and low density	0.5996	0.6129	0.6246
13. S. Kalimantan • Larger size region within the largest but least developed island • Medium access and low development and low density	0.5940	0.6030	0.5971
14. E. Kalimantan • Oil/gas industrial zone factor (expatriate zone) • Large region within the largest but least developed island • Medium development and medium density, Low access	0.5277	0.5343	0.5317
15. W. Sumatera • Medium size region • Low development, medium access and low density	0.5086	0.4987	0.5182
16. S. Sulawesi • Medium-size region within mixed sized islands • Medium density and low development and low access	0.5028	0.5035	0.5040
17. S. Sumatera • Smaller size region • Medium development, low access and low density	0.4797	0.4990	0.4766
18. Maluku • Smaller size group of islands • Low development, access and density	0.4727	0.4810	0.4738
19. Aceh • Smaller size region • Low development, access and density	0.4427	0.4580	0.4386
20. W. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	0.4346	0.4413	0.4369

DESTINATION	TOURIST INCOME MULTIPLIERS		
	Hotels	Bungalows	Others
21. Jambi • Smaller size region • Low development, access and density	0.4242	0.4285	0.3855
22. Bengkulu • Very small size region • Low development, access and density	0.3902	0.4191	0.4152
23. Irian • Larger size island • Main mining zone • Low development, access and density	0.3811	0.3845	0.3807
24. SE Sulawesi • Smaller size region within group of mixed sized islands • Low development, access and density	0.3773	0.3823	0.3785
25. C. Sulawesi • Smaller region within group of mixed sized islands • Low development, access and density	0.3657	0.3749	0.3695
26. E Timor • Smaller region • Low development, access and density	0.3643	0.3809	0.3680
27. C. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	0.3613	0.3686	0.3650
28. E Nusa Tenggara • Medium size region • Low development, access and density	0.3604	0.3641	0.3605

9.1.2 Government Revenue

Government revenue multiplier values show the total effect from all sources such as direct and indirect taxation, duties, licences and fees. The values of government revenues will represent one of the measurements regarding the additional benefits for a region or a state.

Table 9.3 *(Scale Effects on Government Revenue Multipliers – See Annex)*, shows that the total multiplier values (direct, indirect and induced) for government revenue in the regional levels are much smaller than the values for the national levels (0.46).

Within the regional level, the government revenue multiplier effect values vary from 0.01 for hotel units in regions such as Jambi, Bengkulu, Lampung, C-Kalimantan, S-Kalimantan, SE-Sulawesi and Maluku, to the regional highest value of 1.225 for bungalow units in Riau, followed by 0.0908 for hotels in Bali.

A word of caution is appropriate concerning the small contribution of government revenue within the regional level. This is due to the application of taxation systems as well as the difficulty to offer any precision in the estimation of government revenue produced by the tourism sector. Many family establishments keep only simple accounts in order to avoid tax. Therefore, it is unclear how much their contribution actually is towards tax allocation.

Comparing scale effects on government revenue generation within different levels of regional differentiation in terms of development, density and accessibility, it was found that the values vary from 0.020 for bungalow units within the lower level of accessibility to 0.09 for hotel scales within the higher level of access.

The larger scales of establishments (hotels) tend to have the ability to generate higher revenues in regions within lower development (0.10), lower density (0.09) and lower accessibility (0.085) compared to the same type of activity in regions within the higher level of development, density and accessibility.

However, medium scales of establishments are the poorest generator regarding government revenue even thought they were found to be the highest income generator. This is probably due to the fact that the large scale units (hotels) have a more structured business operating framework and are unlikely to escape paying government taxes.

The multiplier values of government revenue in the national level is 0.4590, about five times as much compared to the highest multiplier values in the regional level.

This is due to the fact that the taxation system within service sectors is more oriented towards national income structures than regional ones. This also confirms that tourism (along with many other sectors) is centrally planned and managed, a phenomenon typical of developing countries.

As well, it demonstrates that intersectoral taxation systems very often overlap; therefore, that the tax accumulation is more centrally- oriented rather than regionally-distributed.

Within the small, medium and bigger scale of establishments, the bigger and medium scales tend to generate only slightly more tax contributions (0.0909 and 0.0900) than the smaller ones (the highest values for smaller scale is 0.0806). It is interesting to also note that bigger scales within less developed regions on average contribute more tax compared to bigger scale in higher developed regions. A number of suggestions can be put forward to explain this anomaly. In general, the tax collection system in developing countries such as Indonesia tends to be weaker and more open to personal interpretation than in developed countries.

In more developed regions, the bigger scale establishments have more sophisticated means of minimising their tax burdens through allowances, deductions, unreported items, write-offs, profit repatriation, and so forth. In less developed regions, large-scale enterprises tend to act more in line with the prevailing ethical rather than following corporate codes. As well they are more prominent targets as there are fewer of them in less developed regions.

The smaller and medium scale enterprises such as home stays and bungalows (which are typically family-owned and managed) are less sophisticated in dealing with tax matters. In Indonesia, they are also more likely to follow traditional ethics and values in conducting business and in bowing to state demands such as taxes.

In terms of indirect effects, it was found that the indirect effects of government revenue from bigger scales such as hotel units were often greater than other scales of establishments; in some cases, the proportion was twice as much or more higher.

Summary

These above illustrations show the following findings:

- *First, the concept of centrally planned tourism found in many developing countries is very influential towards the distribution of taxation contributions between national and regional levels.*
- *Second, the intersectoral taxation system (which usually overlaps) tends to favour national structures over regional ones.*
- *Third, in developing countries such as Indonesia, it is essential to acknowledge the cultural factors such as traditional social value system in conducting business which exists in less developed regions compared to the more international-style corporate culture found in more developed regions.*
- *Fourth, these above illustrations show that the equilibrium approach in the Input-Output model used towards the examination of complexities of economic impacts in terms of profitability within regional-national structures is best.*

9.2 Labour Intensity

The effects as were explained in the previous chapter are described in terms of **Full Time Equivalents** (FTE) which is defined as a person employed on a year round basis and working 30 hrs, or more, per week. The definition is provided in order to avoid any ambiguities regarding the number of jobs created. Labour intensity was analysed through the values of sectoral employment multipliers.

Sectoral Employment Multipliers

In terms of total effects (direct, indirect and induced) of sectoral employment values can be explained as follows:

Table 9.2 *(Scale Effects on Employment Multipliers – See Annex)*, shows the total sectoral employment values within the 27 regions vary from the lowest of 0.0324 FTEs (*per million rupiah spend by tourists*) for homestay types in N-Sulawesi (low development, low density and medium access). This can be compared to the highest value of 1.53 FTEs (*per million rupiah spend by tourists*) for hotel units in N-Sumatera (high development, high density and medium access). The gap between regions in terms of employment multiplier values generators is quite high.

Table 9.2 also demonstrate the various values of sectoral employment multipliers for tourism related establishments in national as well as regional levels, together with the level of tourist expenditure that would be required to create one new full-time equivalent job (FTE).

Based on the above tables, the smaller and medium scale of establishments (losmen, homestays, and bungalows) tend to have the ability to generate higher employment compared to the bigger scale such as hotel type of tourism related activities.

Smaller and medium scales have the highest multiplier values within twenty (20) regions out of the twenty seven regions (27), compared to the larger scales such as hotels.

At national level, the bigger scale of establishments tend to generate only slightly larger values of employment compared to the smaller and medium ones. However, at regional level, small and medium scales are the ones that generate the highest FTE values.

In examining the multiplier values of employment within the three different variables (development, density and accessibility) to see whether they act as a single variable or act as a combination.

In terms of total values of sectoral employment multipliers, it was found that the highest multiplier values of employment is generated by medium scale (bungalows type) within the regions of medium and high development such as Jakarta, Bali, Yogya, S-Sulawesi and E-Java (based on Table 9.2 and Table 9.6-8). It requires only about Rp. 1,560 M in order to create one FTE for medium types within the higher level of development, compared to Rp. 3,301 M or more than double of what is required by the same type within lower level development regions. This demonstrates the importance of intersectoral linkages, which exist in a more integrated fashion within the higher level of development than the lower one, in determining the employment impact of tourism in the regions.

Tables 9.6. Scale Effects on Multiplier Values by Different Levels of Development

	NATIONAL			LOW DEVELOPMENT (N. Sul., S. Kal., W. Kal., Aceh, E. Nusa T., Jambi, C. Sul., SE. Sul., Bengkulu, C. Kal., Irian, E. Timor, W. Sum., Maluku)			MEDIUM DEVELOPMENT (Lampung, S. Sum., S. Sul, W. Nusa T., Yogya, E. Kal., Bali)			HIGH DEVELOPMENT (E. Java, W. Java, C. Java, N. Sum., Riau, Jakarta)		
INCOME	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS	BUNGALOWS	OTHERS	HOTELS
DIRECT	0.2993	0.2999	0.3039	0.1600	0.1601	0.1390	0.2112	0.2176	0.2327	0.2252	0.2291	0.2267
PLUS INDIRECT	0.5188	0.5192	0.5222	0.2681	0.2686	0.2673	0.3543	0.3597	0.3684	0.4097	0.4102	0.4109
PLUS INDUCED	1.0444	1.0452	1.0511	0.4407	0.4415	0.4652	0.6512	0.6616	0.6898	0.7170	0.7545	0.7559
EMPLOYMENT (FTEs)	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS
DIRECT	0.0578	0.0584	0.0593	0.1036	0.1038	0.1202	0.1403	0.1395	0.1566	0.1689	0.1714	0.2262
PLUS INDIRECT	0.2290	0.2299	0.2314	0.2464	0.2469	0.3052	0.2710	0.2715	0.3124	0.4792	0.4941	0.6372
PLUS INDUCED	0.4643	0.4652	0.4682	0.4622	0.4625	0.5850	0.5860	0.5946	0.6997	0.7992	0.8139	0.9989
GOVERNMENT REVENUE	HOTELS	BUNGALOWS	OTHERS	BUNGALOWS	OTHERS	HOTELS	OTHERS	HOTELS	BUNGALOWS	BUNGALOWS	HOTELS	OTHERS
DIRECT	0.0907	0.0922	0.0928	0.0041	0.0215	0.0219	0.0078	0.0079	0.0095	0.0200	0.0177	0.0174
PLUS INDIRECT	0.2196	0.2218	0.2226	0.0129	0.0826	0.0843	0.0194	0.0198	0.0238	0.0396	0.0384	0.0396
PLUS INDUCED	0.4582	0.4591	0.4597	0.0203	0.0892	0.0909	0.0323	0.0325	0.0393	0.0634	0.0663	0.0673
OUTPUT	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS
DIRECT	1	1	1	1	1	1	1	1	1	1	1	1
PLUS INDIRECT	1.8910	1.8907	1.8891	1.5078	1.5099	1.5554	1.5209	1.5163	1.4929	1.7064	1.7071	1.8289
PLUS INDUCED	3.7802	3.7812	3.7904	2.1159	2.1187	2.2652	2.5090	2.5182	2.5327	2.8442	2.8475	3.0126
IMPORTS	OTHERS	BUNGALOWS	HOTELS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS	OTHERS	HOTELS	HOTELS	OTHERS	BUNGALOWS
DIRECT	0.1043	0.1037	0.1005	0.4112	0.4069	0.4098	0.2853	0.2982	0.3027	0.1839	0.1845	0.1557
PLUS INDIRECT	0.2266	0.2293	0.2324	0.3421	0.4182	0.4185	0.2922	0.3059	0.3120	0.2444	0.2282	0.2615
PLUS INDUCED	0.6139	0.6141	0.6146	0.6056	0.6721	0.6731	0.5248	0.5389	0.5433	0.4993	0.5016	0.5642

Tables 9.7 Scale Effects on Multiplier Values by Different Levels of Accessibility

	NATIONAL			LOW ACCESSIBILITY (Lampung, S. Sum., W. Kal., Aceh, Bengkulu, E. Nusa T., C. Sul., SE. Sul., Jambi, C. Kal., Irian, E. Timor, E. Kal., W. Sum., Maluku)			MEDIUM ACCESSIBILITY (W. Java, C. Java, N. Sul., S. Kal., Yogya, Riau, N. Sum., W. Nusa T., S. Sul.)			HIGH ACCESSIBILITY (E. Java, Jakarta, Bali)		
INCOME	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS
DIRECT	0.2993	0.2999	0.3039	0.1336	0.1344	0.1126	0.2512	0.2540	0.2604	0.2987	0.3035	0.3767
PLUS INDIRECT	0.5188	0.5192	0.5222	0.2564	0.2575	0.2521	0.4006	0.4013	0.4108	0.4535	0.4562	0.5033
PLUS INDUCED	1.0444	1.0452	1.0511	0.4371	0.4392	0.4644	0.6977	0.6984	0.7026	0.8609	0.8661	0.9382
EMPLOYMENT (FTEs)	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS	BUNGALOWS	HOTELS	OTHERS
DIRECT	0.0578	0.0584	0.0593	0.1256	0.1260	0.1557	0.1305	0.1340	0.1700	0.0508	0.1248	0.1251
PLUS INDIRECT	0.2290	0.2299	0.2314	0.2830	0.2844	0.3619	0.3707	0.3847	0.4564	0.1207	0.3011	0.3000
PLUS INDUCED	0.4643	0.4652	0.4682	0.5489	0.5519	0.7331	0.6061	0.6192	0.7445	0.3029	0.6085	0.6090
GOVERNMENT REVENUE	HOTELS	BUNGALOWS	OTHERS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS	HOTELS	OTHERS	OTHERS	HOTELS	BUNGALOWS
DIRECT	0.0907	0.0922	0.0928	0.0035	0.0199	0.0203	0.0151	0.0138	0.0135	0.0188	0.0189	0.0237
PLUS INDIRECT	0.2196	0.2218	0.2226	0.0128	0.0781	0.0797	0.0292	0.0298	0.0308	0.0393	0.0396	0.0556
PLUS INDUCED	0.4582	0.4591	0.4597	0.0207	0.0847	0.0863	0.0468	0.0532	0.0540	0.0611	0.0612	0.0900
OUTPUT	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS
DIRECT	1	1	1	1	1	1	1	1	1	1	1	1
PLUS INDIRECT	1.8910	1.8907	1.8891	1.5567	1.5579	1.5858	1.5706	1.5708	1.6300	1.5659	1.5611	1.5094
PLUS INDUCED	3.7802	3.7812	3.7904	2.2112	2.2149	2.3636	2.5875	2.5875	2.6748	2.7120	2.7141	2.7423
IMPORTS	OTHERS	BUNGALOWS	HOTELS	BUNGALOWS	OTHERS	HOTELS	HOTELS	OTHERS	BUNGALOWS	BUNGALOWS	OTHERS	HOTELS
DIRECT	0.1043	0.1037	0.1005	0.4454	0.4248	0.4281	0.2217	0.2216	0.1812	0.0177	0.1051	0.1079
PLUS INDIRECT	0.2266	0.2293	0.2324	0.3746	0.4375	0.4389	0.2596	0.2454	0.2488	0.1068	0.1454	0.1494
PLUS INDUCED	0.6139	0.6141	0.6146	0.6167	0.6765	0.6781	0.5508	0.5521	0.5566	0.3150	0.3493	0.3503

Tables 9.8 Scale Effects on Multiplier Values by Different Levels of Density

	NATIONAL			LOW DENSITY (Lampung, S. Sum., W. Kal., Aceh, Bengkulu, C. Sul., E. Nusa T.,SE. Sul., Jambi, C. Kal., Irian, E. Timor, Lampung, S. Sum., E. Java, W. Java, C. Java)			MEDIUM DENSITY (W. Sum., S. Sul., Maluku, E. Kal., N. Sum., W. Nusa T.)			HIGH DENSITY (Bali, Jakarta, Riau, Yogya)		
INCOME	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS
DIRECT	0.2993	0.2999	0.3039	0.1853	0.1861	0.1627	0.1647	0.1683	0.1722	0.2298	0.2263	0.2895
PLUS INDIRECT	0.5188	0.5192	0.5222	0.2915	0.2920	0.2806	0.3304	0.3346	0.3354	0.4318	0.4328	0.4664
PLUS INDUCED	1.0444	1.0452	1.0511	0.4906	0.4919	0.5001	0.5819	0.5893	0.5954	0.8288	0.8314	0.8442
EMPLOYMENT (FTEs)	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS
DIRECT	0.0578	0.0584	0.0593	0.1341	0.1344	0.1683	0.1355	0.1367	0.1458	0.0845	0.0890	0.1195
PLUS INDIRECT	0.2290	0.2299	0.2314	0.2690	0.2689	0.3187	0.4436	0.4504	0.4989	0.2959	0.3085	0.2864
PLUS INDUCED	0.4643	0.4652	0.4682	0.5332	0.5342	0.6615	0.7177	0.7208	0.8146	0.5294	0.5429	0.5935
GOVERNMENT REVENUE	HOTELS	BUNGALOWS	OTHERS	BUNGALOWS	OTHERS	HOTELS	OTHERS	HOTELS	BUNGALOWS	BUNGALOWS	HOTELS	OTHERS
DIRECT	0.0907	0.0922	0.0928	0.0057	0.0222	0.0226	0.0095	0.0099	0.0110	0.0161	0.0121	0.0123
PLUS INDIRECT	0.2196	0.2218	0.2226	0.0138	0.0773	0.0790	0.0200	0.0205	0.0232	0.0455	0.0416	0.0446
PLUS INDUCED	0.4582	0.4591	0.4597	0.0248	0.0871	0.0887	0.0278	0.0282	0.0321	0.0779	0.0780	0.0806
OUTPUT	OTHERS	BUNGALOWS	HOTELS	HOTELS	OTHERS	BUNGALOWS	HOTELS	OTHERS	BUNGALOWS	BUNGALOWS	HOTELS	OTHERS
DIRECT	1	1	1	1	1	1	1	1	1	1	1	1
PLUS INDIRECT	1.8910	1.8907	1.8891	1.4742	1.4743	1.4981	1.6958	1.6929	1.7010	1.6768	1.7336	1.7385
PLUS INDUCED	3.7802	3.7812	3.7904	2.1715	2.1727	2.3093	2.5668	2.5740	2.5859	2.9654	2.9747	2.9754
IMPORTS	OTHERS	BUNGALOWS	HOTELS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS	OTHERS	HOTELS	BUNGALOWS	HOTELS	OTHERS
DIRECT	0.1043	0.1037	0.1005	0.4432	0.3926	0.3953	0.2438	0.2602	0.2618	0.0828	0.1641	0.1623
PLUS INDIRECT	0.2266	0.2293	0.2324	0.3825	0.3994	0.4006	0.2634	0.2846	0.2884	0.1767	0.2518	0.2255
PLUS INDUCED	0.6139	0.6141	0.6146	0.6598	0.6622	0.6633	0.5179	0.5314	0.5346	0.4116	0.4560	0.4607

Summary

The above illustrations show the following findings:

- *First, medium development and density when they act in a combined manner tend to generate more employment contribution compared to low and high development and density. This may be explained in that with high development and density, such as in Jakarta, job requirements may be more demanding, specialised and structured throughout the employment range compared to medium levels where entry points into the job market may be looser and less stringent.*
- *Second, for employment multipliers, density is more likely to be the main determiner of the scale effects on multiplier values unlike sectoral income where accessibility acts as the main determiner of the scale effects on multiplier values. This is because the level of density tends to relate especially with the level of the quality of the establishment, as well as the quality of human resources (HRD) required by the establishment. The level of human resources in tourism within regions with a medium level of tourism density tends to be better due to the wider experience and more interaction with the tourism industry compared to the quality of HRD in regions with lower tourism activity, without having more demanding job requirements.*
- *Third, in terms of job creation power, therefore, between different scales of establishments, it was found that the smallest scales, such as 'losmen' and homestays, in almost every different level of regions tend not always to have higher multiplier values. This is despite the propensity to overestimation that usually occurs in determining one FTE.*
- *Fourth, the medium scale of accommodation such as bungalows was found to have the highest multiplier values at almost every level of regional differentiation. The only condition in which bungalows type do not generate the highest values is in a region with high accessibility where smaller scales such as 'losmen' or homestays do better in generating employment. This suggests that medium scales of establishments tend to have more space to manoeuvre (flexibility) so that adjustment or adaptation can be made.*

9.3 Efficiency

The economic impact of tourism is also explained through an examination of whether tourism has an *efficient* performance in Indonesia and their regions. This examination will be based on the values of the output multipliers as well as the import content of the industry.

If tourism has a low import content, then an injection of final demand from tourism expenditures will have a much larger impact than if that industry was subject to higher propensities to import. Any input which leaks out of the economy are in the form of savings or imports, and does not generate further increases in income, employment, and government revenue.

9.3.1 Sectoral Output Multipliers

It can be seen from the Table 9.4 (*Scale Effects on Output Multipliers – Annex*) that within different scales of establishments, there is some variation from sector to sector in terms of their ability to stimulate regional as well as national outputs. Based on Table 9.4, regional values vary from the lowest of 1.65 for bungalow units (E-Nusa Tenggara) to the highest of 3.6 for homestay types in S-Sulawesi. This regional value of 3.6 is slightly lower than the national value, which is 3.8.

This means that for every additional Rp.1M spent according to the tourist expenditure pattern the level of output for the whole economy increases by Rp.1.65M if the additional Rp.1M is spent in the E-Nusa Tenggara region, or increases by Rp. 3.6M (more than double) if the additional Rp.1M is spent in S-Sulawesi region.

In terms of scales effects on output within different regions, Table 9.6, Table 9.7 and Table 9.8 show that the direct plus indirect plus induced multiplier values of the output range from 2.2 for hotels type activities to the 3.2 value associated with bungalows or medium scales establishment. This means that every Rp. 1 M that tourists spend on hotel type activities generates a total output effect within the regions with lower development of Rp. 2.2M. Whereas, if the Rp. 1M is spent in medium scales such as bungalows, the total effect on the level of output is more than Rp. 3M.

Once again it shows bungalow units tend to stimulate higher values. This is not only in profit and employment values as explained in the previous findings, but they also tend to stimulate higher output values across regions within all level of development, density as well as accessibility. This is because medium scale units have a noticeable impact within their region in terms of their volume of goods and services purchased. This can be contrasted with the largest units (hotels) which have sophisticated central purchasing systems and may well buy outside of the immediate region in which the hotel is located.

It also can be seen from the same tables that for every additional Rp.1M spent according to the expenditure pattern relating to those tourists staying in hotels within the lower density, the level of output for the regional economy as a whole increases by Rp.2.20 M. The same Rp. 1M tourist spend generates an output of Rp 2.60M if the Rp.1M spent in regions within medium density and Rp.3M if Rp.1M is spent in hotels within higher density regions.

Therefore, for every additional Rp. 1M spent relating to the same type of establishments stimulate different outputs in different types of regions. The higher the density region, it was found that the smaller types of accommodation tend to generate more output for the regional economy.

This finding again highlights the importance of having tourism related sectoral linkages within the regions in order to provide a platform for tourism to grow and generate benefits efficiently in the region concerned.

This statement is even stronger, when only the indirect and induced effect is examined.

As Table 9.6 shows, the differences in the sectoral output are even larger for the bungalow units within the higher density regions as they tend to stimulate the highest indirect as well as induced output values.

This demonstrates the need for certain degrees of differentiation or variety of intersectoral linkages between each of the sectors, in order to maintain the intersectoral flows and links and matches not only between sectors within a region but also within sectors and between regions. It is intersectoral as well as interregional linkages that actually have the ability to create benefits.

Tables 9.6-9.8 show different values generated within different levels of regional differentiation in development, density and accessibility when they act as a single factor. The range of values are from the lowest of 2.1 for hotel units within regions with lower level development to the highest of 3.0 for the bungalow type in regions within higher levels of development.

It also ranges from the lowest of 2.2 for hotel units in regions within low levels of density to 2.98 for homestay types in regions within high levels of density. The range is from the low of 2.2 for hotels in regions within lower level of accessibility to 2.75 for bungalow units in regions within higher level of accessibility.

When the three act as a combination, the value of the sectoral output is the same as when development acts as a single variable.

Therefore, it suggests that development is a stronger influence in determining output generation, followed in order by density then accessibility. Density is important for a number of reasons. Areas with many tourism establishments tend both to draw in labour as well as create higher wage scales across the board than low density areas with few tourism establishments. This is because there is more competition for trained or skilled personnel, and wages tend to be driven up so overall high density areas are likely to have higher income components.

Secondly, high density areas tend to have closer inter-linkages among tourism-related suppliers of goods and services given the volume of these establishments in the area.

There seem to be interesting findings regarding which variable plays the main role in determining profitability, efficiency, and labour intensity through generating different sectoral multiplier values. Accessibility plays the most important role in profit generation at regional level while development plays the most important role in generating both employment as well as output.

9.3.2 Sectoral Imports

Analysis of sectoral import multiplier values is essential to determine whether tourism not only has far reaching effects throughout the economy, but also has performed at least as well as other export industries in terms of its efficiency in bringing foreign exchange and investment.

The values of sectoral import multiplier effects show not only the import content, that is, those sectors directly related to tourism, but also the propensity to import of the tourist sector's suppliers and their related chains. For example, the induced sectoral effects reflect household propensity towards import.

Table 9.5 (*Scale Effects on Import Multipliers – See Annex*) shows that the total (direct, indirect and induced) sectoral import values vary from scale to scale as well as region to region. The range of the value is from the lowest of 0.28 for homestay types in E-Java (higher development) to the highest of 0.83 for bungalow units in Jambi (lower development region. This span demonstrates that regions with higher levels of development tend to have lower import contents and that the lower development tend to have higher import contents. This is obviously due to the strong intersectoral linkages within the sectoral diversification that exist within the more developed regions so that they are in a better position to supply import substitutions for tourism demand.

When only the indirect value was calculated, the range of the import multipliers vary from the lowest of 0.45 for Lampung to the highest of 0.20 for W-Kalimantan where the indirect import content was higher than the direct value.

This may be explained in that the Lampung region structurally acts as a hinterland zone of industrial region for Jakarta. Therefore, a word of caution is appropriate concerning the very low level of import contents in that it is extremely difficult to provide any precision in the estimation.

Tables 9.1-9.5 *(see Annex)* demonstrate that different scales of establishments generate different pattern of multiplier values. These values vary from region to region within different levels of development, density and accessibility. The range of the import contents or leakages are between the low of 0.32 for bungalows in regions with higher access to the high of 0.68 for hotel units in regions within lower levels of accessibility.

Based on the values from tables 9.1-5, it can seen that within regions of different levels of development, the range of the values are from the low of 0.5 for bungalows in regions with higher level of development to the high of 0.67 for hotels in regions within a medium level of development. It can be seen that within 6 out of 9 regional categories, hotel type of activities seem to have the highest level of leakages from the low of 50% to the high of 70% leakages.

Bungalow units seem again to be able to generate the lowest level of leakages (30%) in regions within higher accessibility; 40% in regions within higher levels of density; and 55% in regions within higher levels of development.

Summary

The above illustrations demonstrates that scale effects on leakages can be explained as follows:

- *First, the medium scales of accommodation such as bungalows have the ability to generate the lowest leakages by having import content of just 30% in order to deliver their service. The larger scales such as hotels generate more imports, up to as high as 70% in order to provide their service. This finding again confirms that medium scales, with more demand on local goods and services, have the ability to not only stimulate higher profits and labour intensity but also to perform more efficiently across the different regional economic structures.*
- *Second, accessibility again plays an essential role in not only being able to generate higher income but also to reduce import content within the industry. Therefore, access plays a very important factor both in income as well as leakages determination, while development plays an important factor in output generation.*
- *Third, these findings can help influence tourism policy formulation regarding whether improving access or increasing development levels within regions should be prioritised in order to generate more employment and efficiently benefit to the regions from tourism.*

CHAPTER 10

LOCATIONAL EFFECTS ON MULTIPLIER VALUES

10.1 Location and Economic Distance

The objectives of this analysis include the examination of how, using gravity models, the location affects multiplier values. The analysis also studies the determining factors within the variables of levels of development, accessibility and density that influence tourism multiplier values.

Data from 27 regions or cases are cross-tabulated by three categories of independent variables representing level of development, accessibility and density, with each variable categorised into small, medium and high levels respectively (*Appendix 1*).

Two scales of dependent variables are analysed: multiplier values of tourism impacts and the characteristics of tourism development.

In order to establish the nature of the relationship between the variables, multiple-regression analysis is employed. The following results of the regression coefficients are used to explain the main determining factors in generating multiplier values and the main issues representing characteristics of tourism development in Indonesia.

Table 10.1 shows the distribution of the most significant factors (at the 95% level of confidence) in determining multiplier values for different scales of establishments (hotel, bungalows and homestay). A comprehensive examination of all the multiple regression results shows that the *price-distance* factor is found to be the most positively significant factor in determining values of income multiplier effects across scales of establishments. Price-distance, as a determining factor, is not only the most significant factor but also the most consistent one across the scale of accommodation.

Table 10.1 Regression Correlation of Multiplier Values

INDEPENDENT VARIABLES	B	SE B	Beta	T	Sig. T
1. DEPENDENT VARIABLES : INCOME MULTIPLIERS					
HOTELS					
1. Price Distance (Access)	0.00491	7.18E-04	0.72503	6.835	0.0000
2. LOS in Star Hotel (Density)	-0.04576	0.015193	-0.31948	-3.012	0.0060
Constant	0.58537	0.057529	-	10.175	0.0000
BUNGALOWS					
1. Price Distance (Access)	0.00516	8.40E-04	0.77577	6.146	0.0001
2. LOS in Star Hotel (Density)	-0.05025	0.016793	-0.37775	-2.993	0.0122
Constant	0.60706	0.065200	-	9.311	0.0000
OTHERS					
1. Price Distance (Access)	0.00501	7.29E-04	0.73572	6.874	0.0000
2. LOS in Star Hotel (Density)	-0.04288	0.015427	-0.29752	-2.78	0.0104
Constant	0.57602	0.058414	-	9.861	0.0000
2. DEPENDENT VARIABLES : EMPLOYMENT MULTIPLIERS					
HOTELS					
1. LOS in Star Hotel (Density)	-0.11485	0.054003	-0.391414	-2.127	0.0435
Constant	0.93613	0.181039	-	5.171	0.0000
OTHERS					
1. FLIGHT FREQ. (Direct + Indirect)	0.00508	1.22E-03	0.922937	4.161	0.0004
2. TOT. TOURIST in StarH. (Density)	0.00000	5.87E-07	-0.733139	-3.305	0.0030
Constant	0.21543	0.111939	-	1.925	0.0662
3. DEPENDENT VARIABLES : GOV. REVENUE MULTIPLIERS					
BUNGALOWS					
1. LAB. FORCE (Development)	0.00424	4.36E-04	0.612324	9.729	0.0000
2. INFORMATION (Access)	0.00031	7.96E-05	0.207250	3.871	0.0038
3. REG. MOBILITY (Access)	0.00000	7.67E-09	0.964699	9.455	0.0060
Constant	-0.02925	0.004974	-	-6.537	0.0001
4. DEPENDENT VARIABLES : OUTPUT MULTIPLIERS					
HOTELS					
1. DIRECT FLIGHTS (Access)	0.00453	0.001485	0.521042	3.052	0.0053
BUNGALOWS					
1. INFORMATION (Access)	0.23999	0.007831	0.662399	3.065	0.0098
Constant	1.18010	0.450113	-	2.622	0.0223
OTHERS					
1. DIRECT FLIGHTS (Access)	0.00453	0.00147	0.524229	3.078	0.0050
Constant	1.80104	0.450113	-	2.622	0.0223
5. DEPENDENT VARIABLES : IMPORT MULTIPLIERS					
HOTELS					
1. DIRECT FLIGHTS (Access)	-0.002403	3.66E-04	-0.999317	-6.56	0.0000
2. DENSITY	8.81E-05	1.85E-05	1.462765	4.776	0.0001
3. INFORMATION (Access)	-0.005377	0.002374	-0.444014	-2.686	0.0135
4. T. INVESTMENT (Dev.)	-5.25E-07	2.22E-07	-0.67965	-2.363	0.0274
Constant	0.870708	0.050979	-	17.08	0.0000
BUNGALOWS					
1. DIRECT FLIGHTS (Access)	-0.002326	6.62E-04	-0.711816	-3.511	0.0043
Constant	0.717345	0.050771	-	14.129	0.0000
OTHERS					
1. DIR.+IND. FLIGHTS (Access)	-0.001716	3.66E-04	-0.711326	-4.684	0.0001
2. AV.TIME - DISTANCE (Access)	0.050848	0.015857	0.448902	3.207	0.0039
3. DENSITY	2.30E-05	9.24E-06	0.380270	2.494	0.0203
Constant	0.535855	0.092865	-	5.770	0.0000

Note : - Number of observations (27)
- Variables entered into model when significant at 0.05 level

A separate test is also conducted which excluded the price factor. This resulted in *time-distance* being the main factor in determining the income values. The result is even stronger when price and time factors act in combination rather than each singly. These findings show that accessibility in terms of price as well as time as economic distance appear to be the most significant factors in determining sectoral income multiplier values.

Table 10.2 Regression Correlation of Tourism Development Characteristics

INDEPENDENT	DEPENDENT				
	B	SE B	Beta	T	Sig. T
A. INTENSITY (Av. Room/Hotel)					
1. Reg. Mobility (Access)	1.412E-05	8.775E-07	0.454942	16.088	0.0000
Constant	17.420599	0.868686	-	20.054	0.0000
B. Quality (% starH)					
1. Time - Distance (Access)	0.428732	0.101567	0.645089	4.221	0.0003
Constant	17.201461	4.288045	-	4.011	0.0005
C. Progress (Rate)					
1. Edu. Level (Development)	-0.636635	0.162376	-0.564736	-3.924	0.0007
2. GDP (Development)	1.329009	0.448758	0.404713	2.962	0.0070
3. GDP Constant (Development)	1.73E-06	3.14E-06	0.373397	2.779	0.0107
Constant	23.612002	7.596005	-	3.108	0.0049
D. Expenditure					
1. Investment (Mixer)	3542235.53	696450.89	0.468114	5.086	0.0000
2. Investment (Foreign)	1466186.86	529825.32	0.381813	2.767	0.0110
3. Tourist (N-StarH)	5534412.67	1551430.95	0.365174	3.567	0.0016

Note :
- Number of observations (27)
- Variables entered into model when significant at 0.05 level

Figure 10.3 Total Distribution of Regions at the Shortest Distance by Total Tourists

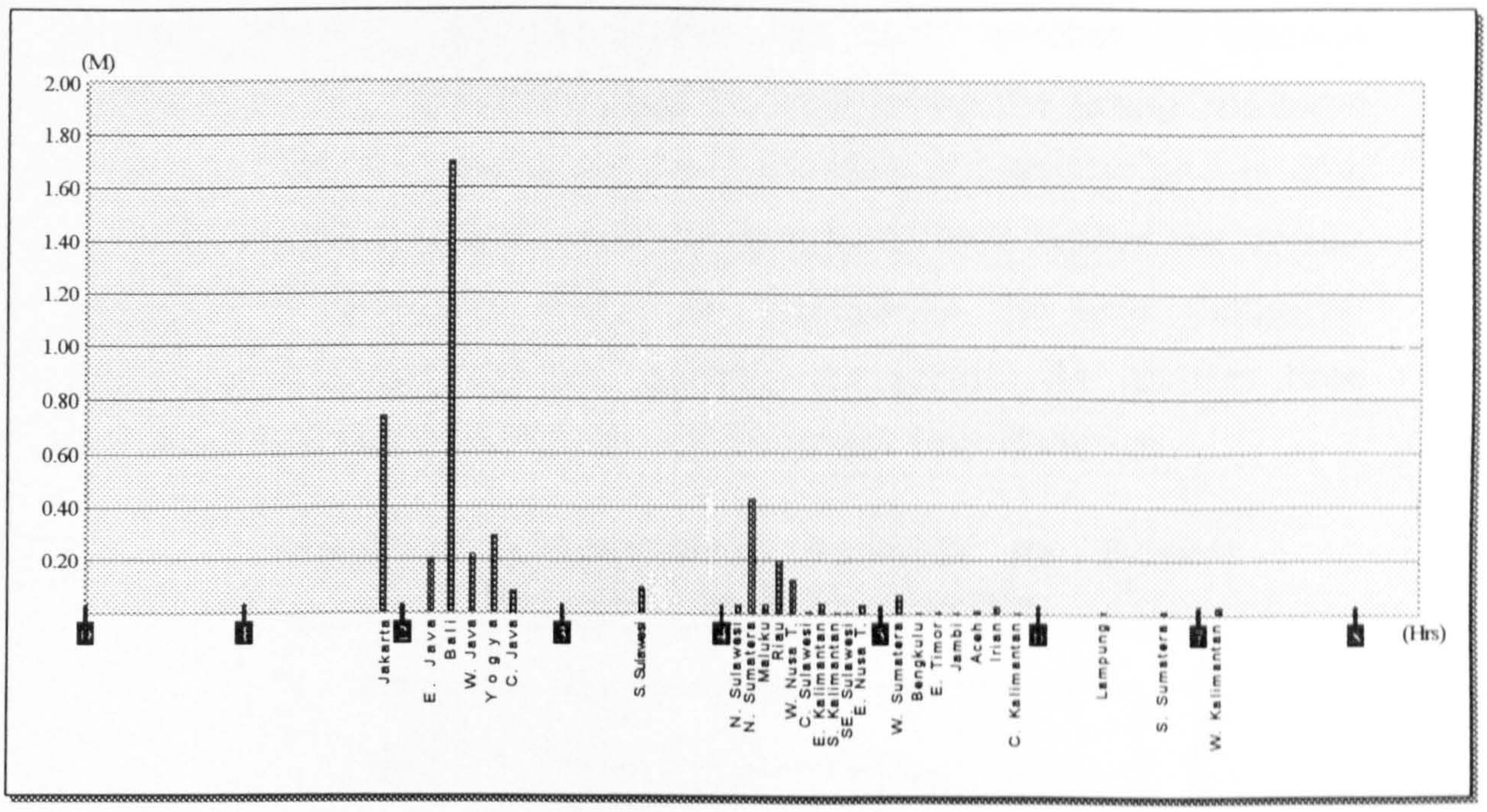
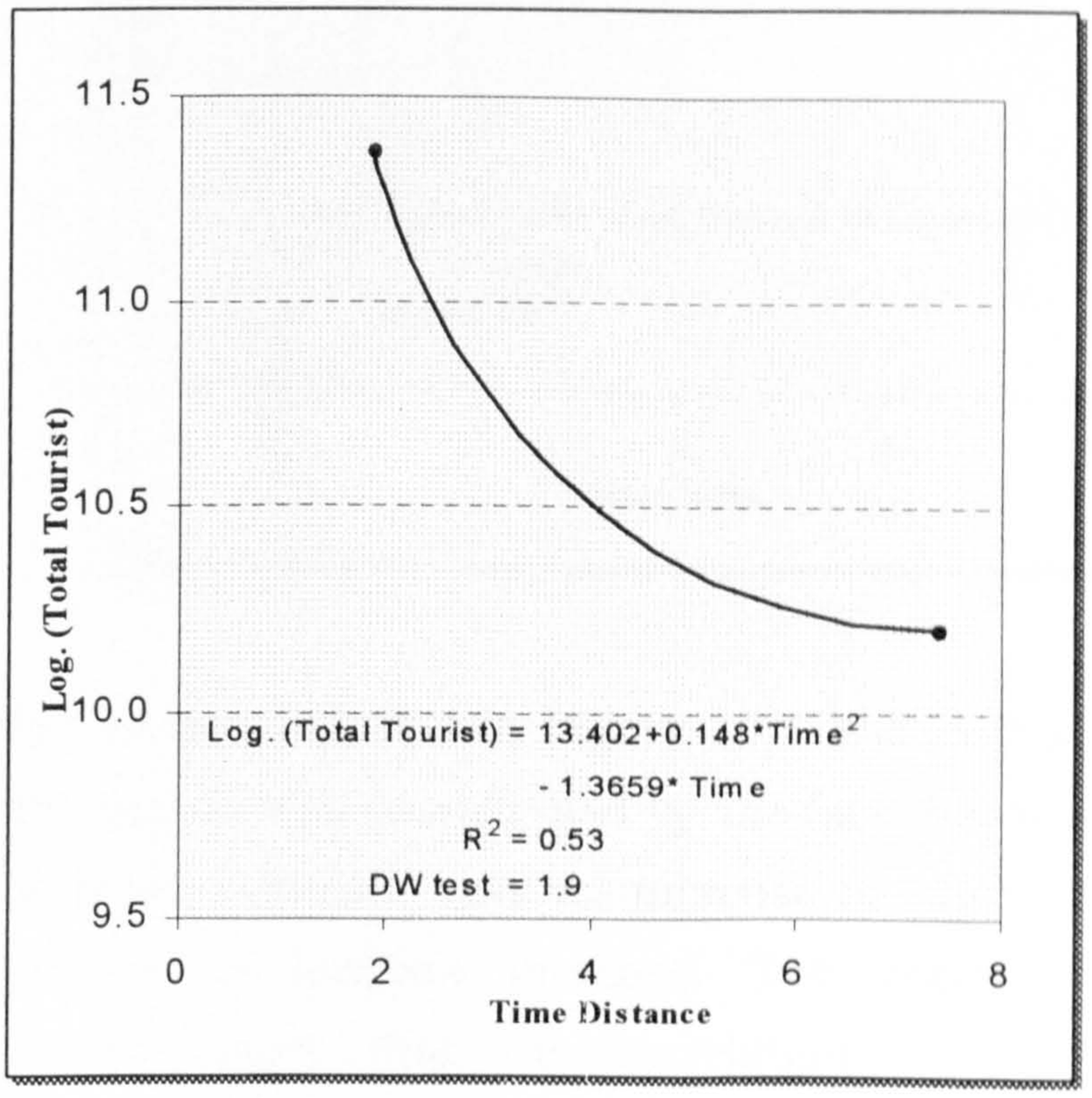
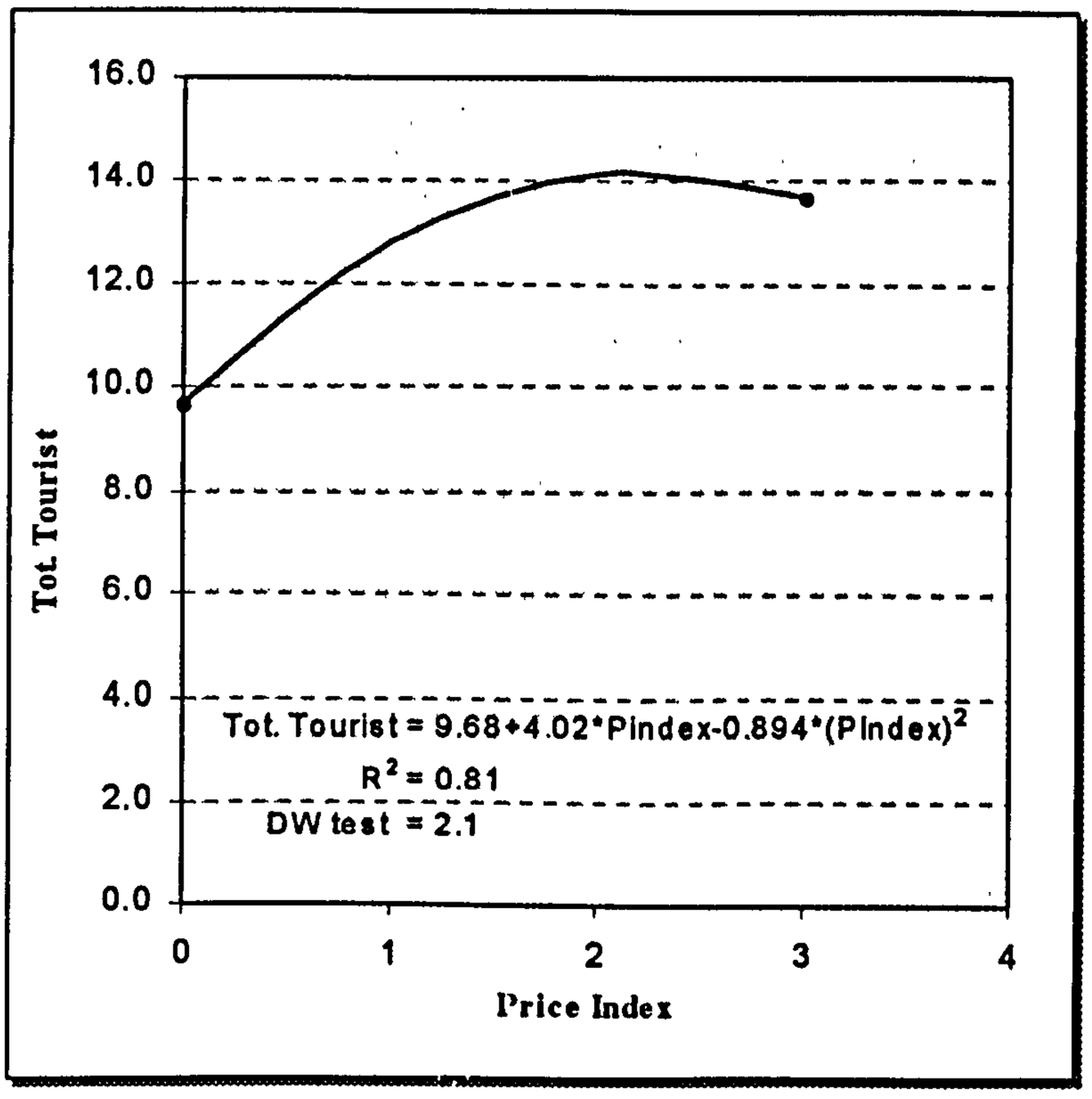


Figure 10.4 Regression Analysis on Time Distance and Total Tourists



Based on Figure 10.4, the fitting of a line to the data is complicated by the fact that when the time distance increases markedly (or moving further from the center, the total number of tourists decreases. The regression equation supporting the graph therefore uses the natural logarithms (total number of tourists) and is of a quadratic form. It is clear from the graph that the further the tourist destinations from the center (in relation to the time distance), increments in total foreign tourists are greater for shorter time distance compared to decrements for longer time distance.

Figure 10.5. Regression Analysis on Price Distance and Total Tourists



In regards to the price index, Figure 10.5 shows that fitting of a line to the data is also complicated by the fact that when the price index increases (which means an increase in price distance), the total number of tourists increase. The regression equation supports the graph that the correlation is in a quadratic logarithmic form (with curve).

Therefore, the further the regions are from the center economically, the lower the total number of tourists.

It is noteworthy when comparing the correlation between the total number of tourists and the price distance with the time distance, that the total number of tourists is likely to be more sensitive towards time than price factors. In the field of tourism where tourists must come to a destination in order to generate output, time needed by a tourist in order to reach the destination is considered to be a crucial factor. The concept of time becomes more important at the lower price index or higher price distance with the optimal band being about three hours radius from the center.

Figure 10.6 Regression Analysis on Price Distance and Income Multipliers

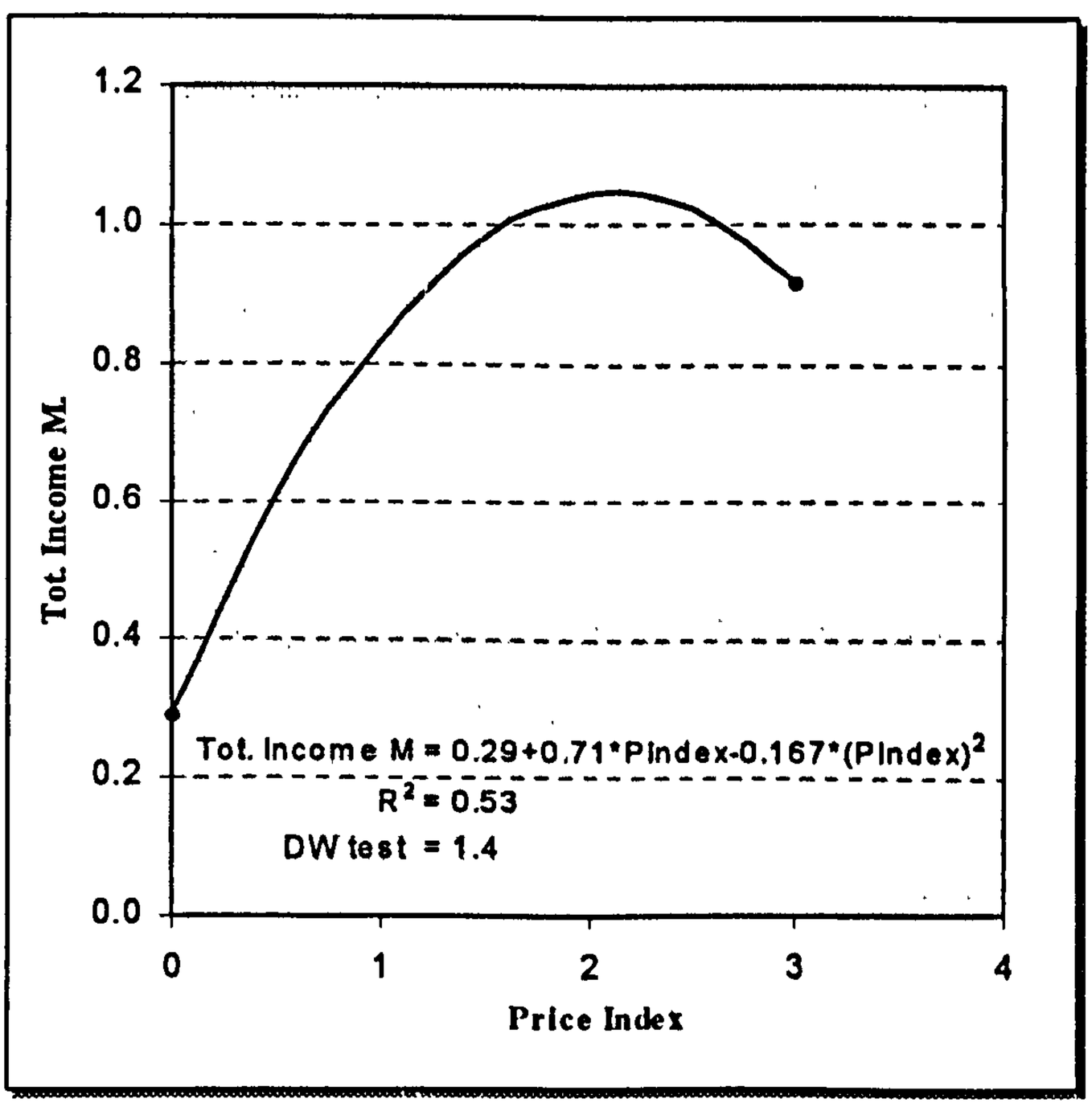
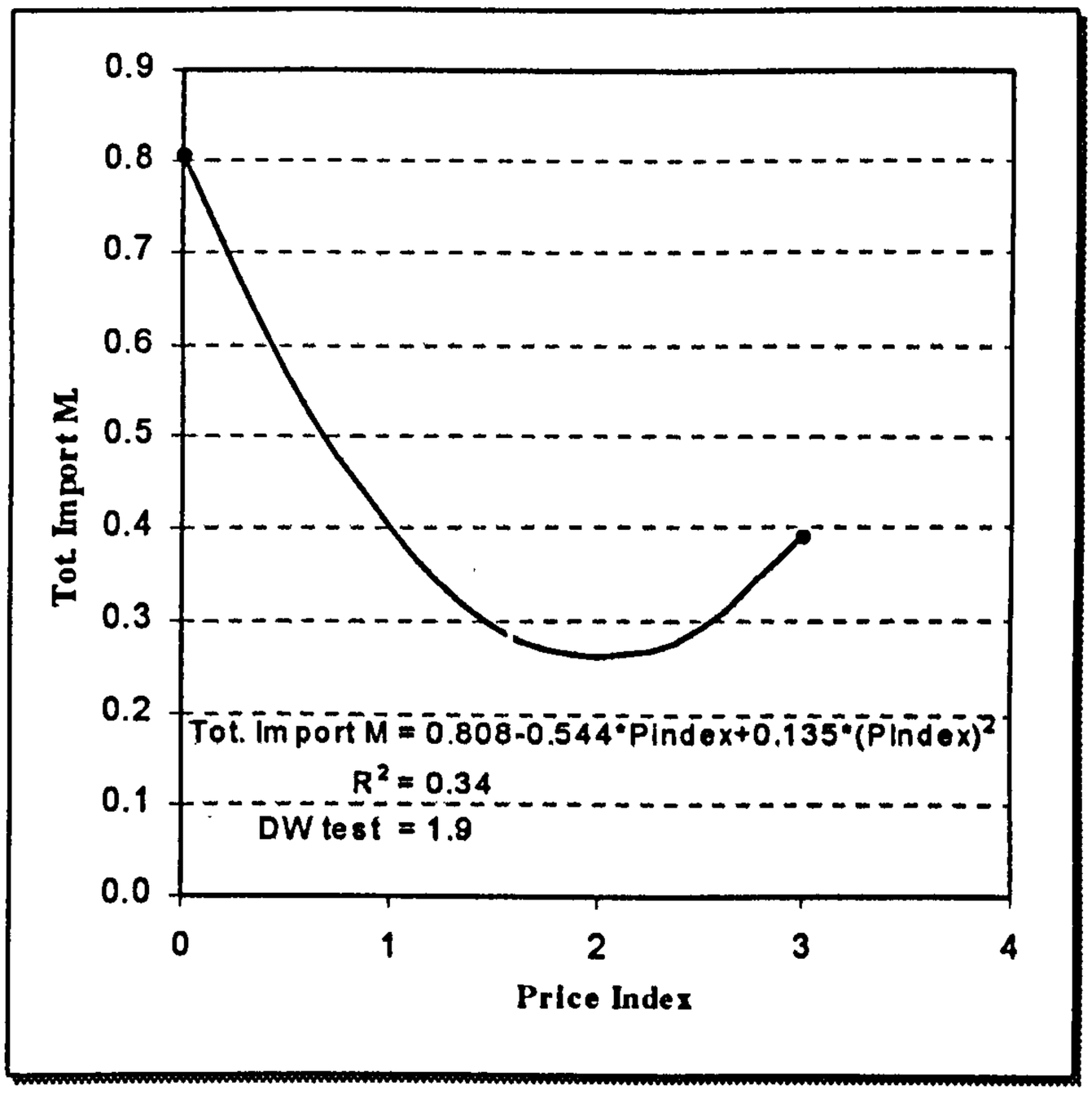


Figure 10.7 Regression Analysis on Price Distance and Import Multipliers



Figures 10.6-7 demonstrate how the price index correlates with total income and import multiplier values. The correlation between price and income, as well as imports, is complicated by the fact that when the price index increases (or the price distance decreases), total income multiplier values increase notably. The regression equation confirms the graph, which takes a quadratic form.

It is clear from the graph that when the price index increases (which means price distance decreases), the total income multiplier values increases. In other words, the further the regions move economically from the center, the lower the total income values generated by tourists in the regions. This may be explained in that the further the regions are from the economic centres, they are less likely to have close sectoral inter-linkages to support tourism demand in order to be able to absorb the benefits from tourism.

Similar to the optimal bands for time distance referred to above, the optimal level of multiplier income generation occurs within the three hour band radius from the center or within one third of the highest rank of the price index. The relationship in Figure 10.6 suggests that decreasing the average price index by a third from the highest level of price index is likely to be where the optimum level of income multiplier values tend to be generated.

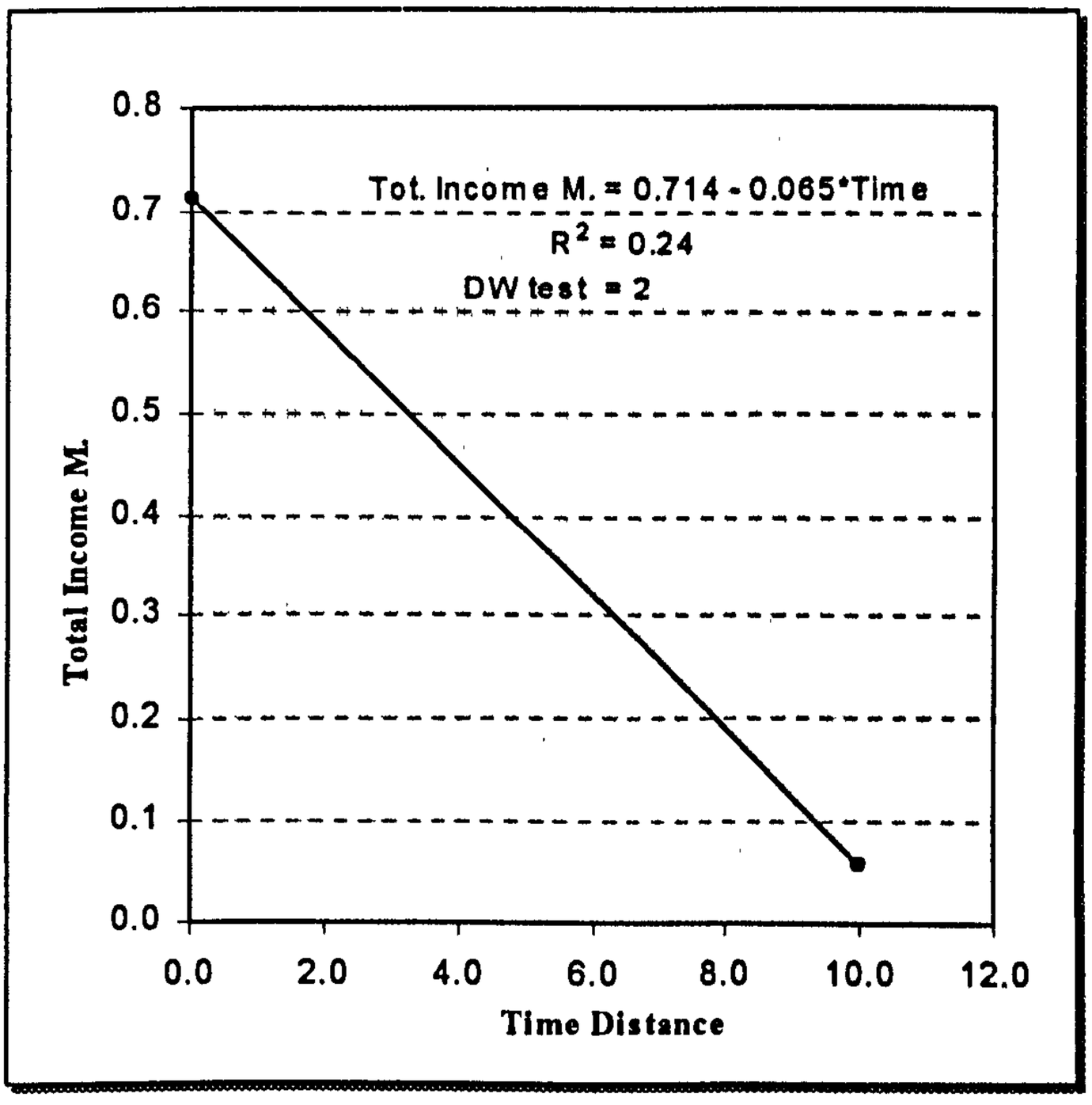
This relationship also suggests that increasing the price index by ten percent from the optimum level of 30% to 40 % would have actually reduced the values of total income multiplier generation by at least 50% (from 0.917 to 0.458).

Regarding total import multiplier values, fitting the line to the data is complicated by the fact that when the price index increases (which means the price distance decreases), the total import values decrease. The regression equation confirming the graph takes as a quadratic form (Figure 10.7). As opposed to the income multiplier values, it is clear from the graph that the increments in import multiplier values are greater for the lower price index than are the decrements for higher price index. In other words, the higher the price index or the closer the regions from the centre, the lower the import multiplier values.

This may be explained in that in order to supply tourism demand, this 'remote' category of regions must import goods and services from outside the region (or even outside the country). Therefore, they are associated with higher import values. When these kinds of 'import dependency' kinds of tourism grow over a period of time without having a more balanced supply as import substitution, it can lead to dependency and tends to create regional imbalances.

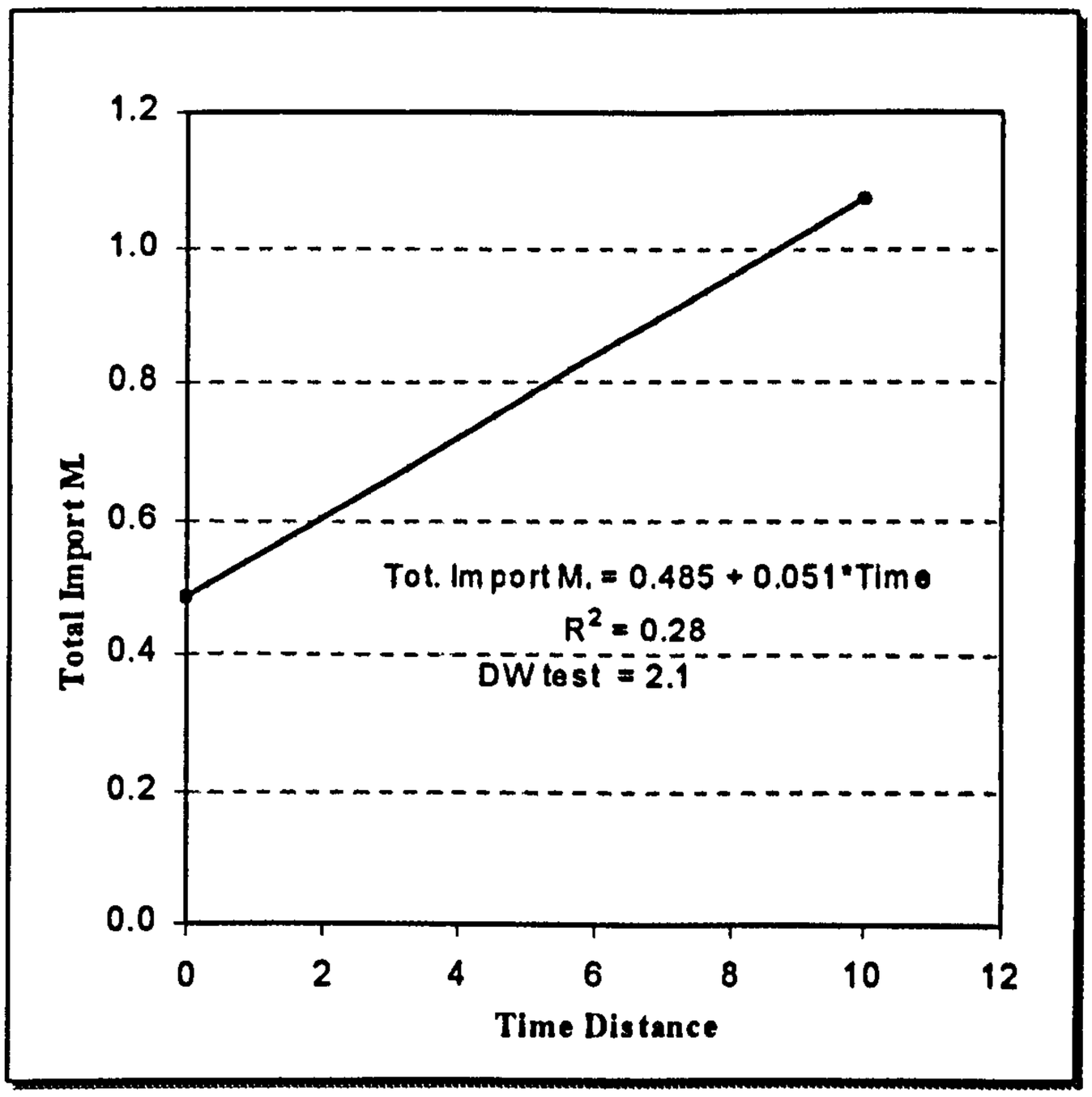
Based on the above illustration, the concept of gravity strongly applies not only to the number of tourists, but also to the value of income multipliers as well as reducing import values which are produced by tourists across the different scales of establishments -- hotels, bungalows and others.

Figure 10.8 Regression Analysis on Time Distance and Income Multipliers



In regard to the time distance, Figure 10.8 (Total Income Multipliers and Time Distance) demonstrates that fitting the line of the data is quite straight forward, in that the time distance increases markedly as the total income multipliers decrease. The regression equation supporting the graph therefore takes a linear (non-proportional correlation) form. It is clear from the graph that the total income values decreases along with the increases of time distances. The less easy the access, the lower the income multiplier values in the regions.

Figure 10.9 Distribution of Regions at the Shortest Distance by Income Multiplier Values



There is a similar correlation (except inversely) regarding the generation of import multiplier values. The regression equation confirming the graph takes a linear (non-proportional) form. The graph shows that the longer the time distance, the higher the total import multiplier values. In relation to the time distance, increments in total import values are lower in shorter time distances than are the decrements for longer time distance.

The greater the time distance, as well as the more expensive the price distance (or the smaller the price index), the smaller the number of tourists and the less income and import values generated in the regions.

This is due to the tendency for prices increases to be lower in better access regions to the centres and these regions tend to be more well-developed tourism areas where the multiplier values are likely to be higher than in regions with less easy access.

10.2 The Role of Accessibility

In looking at the findings of the comprehensive regression results, it indicates that there are two main 'blocks' of significant factor distributions, which are both dominated by accessibility related variables; price and time distance as well as frequency of weekly flights.

From the same Tables 10.1-2, it can also be noted that every single value of multipliers has at least one accessibility-related variable as a determinant factor. They are price distance factors for income multiplier values; total time of direct and indirect flights weekly for employment, output and import multiplier values; and regional mobility for government revenue multiplier values.

The total of direct and indirect weekly flights is found to be the most significant positive factor in determining the value generation of employment multipliers within the smaller scale of establishments. This means that when total flights increase or that time distances decrease, the values of employment multipliers for homestay scale of establishments increase.

This may be explained that by definition regions that receive a higher number of flights tend to be more developed and they have sufficient economies of scale to support their own residents.

Therefore, that there will exist more small-scale establishments that need to recruit outside help beyond the usual family employees. Conversely, the further the tourist destinations, the smaller scale establishments are associated with smaller values of employment multipliers as these establishments can rely solely on family help system and do not appear officially in the statistics.

The value of government revenue multipliers of bungalow scale is found to have positive significance determined by the regional mobility, which is the total trip numbers produced by the population in the region. This means that the higher the trip numbers produced by population in the region, the higher the values of government revenue multipliers associated with bungalow scale of establishments.

The total direct weekly flights are to be found as one of the most influential factors in determining the output and import values. The higher the total weekly flights or the lower the time distance to the tourist destination, the higher the values of output multipliers associated with hotel and homestay scales of establishments. Hotel and homestay scales tend to have higher values in the regions with lower time distance.

These flight factors are found to be negatively correlated regarding the values of import multipliers of hotel and bungalow scales of establishments. The higher the flight factors, the lower the import values. In other words, the further the tourist destinations or the more difficult the access, the higher the imports value that tend to be associated with hotel and bungalow scale of establishments. This seems as expected, as a hotel in a difficult-to-reach location is in a less developed area economically and therefore has to import more from outside the region.

It is interesting to also note that the important role of access is not only in the sense of 'hardware' accessibility which involves physical or geographical mobility, but also in a sense of 'software' such as access to information and media of all kinds. In developing countries like Indonesia, where this information access is still at a subsistence level, the role of information should be taken into account within the policy planning level, especially regarding marketing.

From Table 10.1, it can be seen that access to information is found to be positively correlated with output levels generated by bungalow units, while negatively related to import levels. This may be explained in that people with greater access to detailed information about an area are likely to be more adventurous and try accommodation lower down the scale than people with little information who stick to well known, star-rated hotels. Similarly, by providing information and exposure about local alternatives to spending their money in hotel restaurants, bars, and other activities, there will be less imports needed as the tourists will use more local goods and services available.

However, the inverse relationship between output and import multipliers is also probably true in terms of information access. When there is lower information access, there will be lower output multipliers and higher imports as visitors will stick to star-rated hotels both for lodging and other discretionary needs.

This is to suggest that any evaluation of the concept of accessibility within a tourism context should include not only 'hardware' but also 'software'. By being more exposed to the world, local people are more likely to appreciate what tourists are seeking and adapt their own resources.

It can also be shown that it is not the geographical or physical size of a region (sq. km. per capita) that is a determinant both to total numbers of tourists and multiplier effect values; rather, it is the size of the regional economy which is a significant factor in determining the values (Fletcher and Archer, 1991; Archer and Fletcher, 1996).

Within the regression of the characteristics of tourist development, three indicators of tourism development characteristics are used as independent variables. Statistics are computed for each dependent variable and a t-test is employed to test whether or not the difference between the sample means of cells is significant.

First, the difference in the average number of rooms per hotel is tested. The result (as shown in Table 10.2) is that the most important and highly significant factor is found to be the regional mobility rate (at a 95% confidence level). Regions with higher trips produced by the local population are usually regions with higher levels of economic activities and are found to be regions with higher tourism intensity.

Those regions with more tourists tend to have larger hotels (and therefore larger numbers of rooms per hotel), and they are regions with higher levels of development and higher intersectoral linkages to support tourism's growth. However, regions in which the local population do not travel much tend not to generate higher tourist numbers, and are regions with lower levels of development with less intersectoral linkages.

The second independent variable that is tested is the percentage of star-rated rooms per total number of available rooms, which represents the level of tourism development 'quality'. The percentage of star-class rooms is calculated based on the ten year period (1984-1994), a period of greatest tourism development in Indonesia.

It is found that the time distance factor (which is represented by the time index) is the most significant factor in determining the quality of tourism development.

The higher the time index means the shorter the time distance, and the higher the quality of the development, as defined above. The further the regions from the centre, the less quality of tourism development is found.

The third independent variable tested is the rate of growth of rooms per hotel for the ten-year period (1984-1994) which represents the dynamic progress of development. The level of regional development reflected by GDP (Growth Domestic Products) as well as the level of education are found to be significantly related to the rate of growth (or dynamic progress) of tourist development.

The additional variable tested is total direct expenditure per capita. It is interesting to note that the higher the number of tourists staying in non-star accommodation, the higher the total direct expenditure per capita compared to the national mean. This can be explained by visitors staying in these more modest non-star accommodation tend to spend money locally in related small enterprises clustered near the non-star accommodation that provide goods and services directly to tourists e.g. accommodation establishments, restaurants, grocery stores, souvenir shops, travel services and so forth.

Compared to the above illustration regarding factors influencing expenditures, factors influencing direct effects are more straightforward, while more complex factors are found to influence the multiplier values which involve indirect and induced forces. Within these development characteristics, two out of three of the most significant factors are accessibility-related variables, mobility and time distance.

In conclusion, income values are more sensitive to accessibility as well as density related factors while output and import multiplier values are more sensitive only to accessibility factors. The multiplier values of employment and government revenue are found to be more independent. In conclusion, gravity law and inter-linkage principles appear to play a very important role for generating multiplier values from tourism in the regions.

This is not only in relation to generating tourists and producing a higher quality of development but also to generate higher income multiplier values as well as in reducing import values.

It can be stated that government revenue multiplier values are concluded to be more independent. This is parallel with the above illustration of findings confirming both the input/output and gravity combined principles that the laws of both inter-linkages and gravity are strongly intertwined in determining multiplier values of tourism, especially for income, output and import.

A preliminary analysis from Table 8.2 (*cross-referenced from Chapter 8*) indicates that the development intensity (which is represented by the average number of rooms per hotel), in the category of *high level of accessibility* and *high level development regions* such as found in Jakarta and East Java, has a mean value (56.8) more than two times greater than the mean of the entire sample (27.98) within Indonesia. This value (56.8) is even greater (almost triple) when compared to the mean value (19.66) of the regions with low-level tourist density. This means Jakarta and E-Java are considered as regions which can benefit from being most developed regions.

Even though Jakarta and East Java are at the same level of high development and accessibility, the two regions have different characteristics when it comes to tourism development.

Jakarta alone has more than triple the mean value of average rooms per hotel (84.55) compared to the average mean of all the regions (27.98) in Indonesia, which shows that level of development intensity is the higher.

While in East Java, where the level of development and accessibility is the same high level as Jakarta, there is a low tourism density compared to the national mean. Jakarta has the ability to generate hotel value added per capita of 3.22, more than three times the national mean value of 0.97. Where as East Java hotel value added per capita is only 0.80, under the national mean value. Therefore, it can be seen that East Java is the only region which has a high, diversified economic structure but insufficient tourism demand.

East Java is the only region in Indonesia, which while it is subject to a high level of development as well as a high level of access, falls into the lower tourist density category. Having only an average mean value of intensity (29.05) compared to the value of the entire sample (27.98), East Java is considered a 'problematic' region in terms of tourism which reflect a lack of attractions. This is especially true when it is realised that both the level of quality and progress in this region is low.

From the geographical point of view, East Java is in a very strategic location. Located in the eastern part of the highly developed island of Java and next to Bali, East Java also serves as an international gateway and therefore has higher access. Furthermore, since Surabaya is the second largest business city in Indonesia, East Java has a high level of development as well.

Table 10.10 (*Annex*), which presents the distribution of regions at shortest distances by income multiplier values, shows that Jakarta (0.8) and Bali (0.9) are the two main centres. Table 10.10 shows that they are associated with the highest income multiplier values and that the values drop steeply the more the regions are located further from the two centres.

This evidence suggests that tourism in Indonesia is related strongly not only to development disparities but also to locational constraints. These are significant factors that should be addressed in the overall national intersectoral development plan for tourism.

The flow of tourism in the regions presupposes a certain level of development such as the existence of infrastructure and facilities. In many cases, these utilities are economically indivisible, that is to say, they can be employed for many public uses within the regions.

Many facilities such as roads, airports, water systems, telephone networks and other public facilities that are constructed to support tourism also provide a greater access towards wider markets for many locally produced goods.

It can be stated that the income multiplier values are more sensitive not only towards the level of accessibility and density but also for development characteristics in terms of quality and intensity. However, output and import multiplier values are more sensitive only towards the accessibility factors.

Table 10.2 shows that regional mobility is found to be the most significant factor in determining development intensity and that average time index is the main factor in determining development quality. Both these factors are accessibility-related factors, which are also found to be dominating factors within the first regression tests. This again confirms that gravity laws apply significantly and consistently across the test results.

In conclusion, gravity laws combined with inter-linkage principles can play a very important approach for developing tourism in regions not only in relation to generating tourists and producing higher quality of development but also to generate higher multiplier values especially for income and to reduce leakages or lower import values.

Furthermore, when the two combined gravity and inter-linkages principles act in combination, they produce strong intertwined influences as significant factors especially in generating income, output and import multiplier values. However, the multiplier values of employment and government revenue are concluded to be more independent.

This becomes fundamentally important in development planning for tourism, which is characterised by resource immobility, capacity constraints, seasonality and, most of all, the consumer's inability to experience the product before purchase. Therefore, the role of development characteristics becomes essential in generating the impact values.

The regression tests also found that the size of community in terms of both population and geographical size do not act as significant factors statistically in explaining the generation of tourism multiplier values; rather, it is the size of the economic structures and the infrastructures of the regions. The economy size has been found to be significant to influence the degree to which economic benefits leak out of the region. This actually confirms that historically tourism in Indonesia (similar to other developing countries) originally is initiated from outside or 'external' forces deciding among several potential attractive destinations. These forces interacted with internal actors then developed further followed by local entrepreneurs. Indonesian tourism is largely initiated by two main entry points -- a small island and colonial networks which is typical of other developing countries' experiences.

In Indonesia, Bali is the first example of small island tourism, and Java itself developed along the infrastructure networks used by the colonial regime along the network of economic exploitation linking region to region. This background can also help explain the domination of Bali and Java amongst the present tourism products, this can be contrasted against the other regions with little tourism compared to these two regions. Therefore even from the earliest stages, infrastructure in terms of accessibility has been a central concept in understanding the whole spectrum of tourism development in Indonesia (*Chapter 5*).

This once again demonstrates that market proximity towards the centres and easy accessibility are the main factors in explaining the hypothesis that not only total number of tourists numbers but also the value of multiplier effects are influenced by accessibility factors. When the travel distance increases (in terms of price and time), then the total tourist numbers, as well as the multiplier values that will be generated, decrease. The quadratic form of correlation between time and price distances also explains that the increments in price distance are greater for longer time distances than are the decrements for shorter time distance (*Chapter 4*).

These findings confirmed the importance of spatial interconnections as well as intersectoral linkages that usually take place within regions with higher development and easier access. This underlines the importance of the linkages both in term of sectoral and spatial qualities in order to support tourism that is associated with higher multiplier values.

This becomes a fundamental principle because tourism demands that the visitors must come to destinations in order to consume the product. Therefore, the role of inter-systems -- both *inter-sectoral* as well as *inter-spatial* -- are essential.

It is suggested that these findings, with the importance and understanding of the concept of *location*, may be one of key starting points to address national and regional tourism development planning for better impact generation.

10.3 Summary

Based on the above illustration, it can be concluded that the gravity concept regarding locational effects is a significant approach in examining the characteristics of values of multiplier effects. The income and import values are more sensitive to accessibility factors while employment, government revenue and output multiplier values are found to be more independent.

In conclusion, gravity law and inter-linkage principles appear to play a very important role for assessing the economic multiplier impacts of tourism in the regions. This is not only essential in relation with generating tourists and producing higher quality of development but also in order to achieve higher overall multiplier values.

- The above findings confirm that the input/output and gravity combined principles demonstrate the best analytical framework in order to understand how sectoral inter-linkages and locational constraints are strongly intertwined in determining multiplier values of tourism in Indonesian tourism.
- The archipelago setting, combined with the regional development disparity which characterises tourism products in Indonesia, influence the product and market structures, concentration and distribution, clustered location, segmentation and spatial competition.
- Supporting the importance of the concept of economic distance. The less developed the regions, the less easy the accessibility from the centre, the lower the resulting multiplier values. There is likely a concept of *'absorption'* involved in these relationships; that is, multiplier values are gradually 'absorbed' by intervening regions acting as mediators in proportion to flow per unit of economic distance from the centre. In summary, the deductive gravity model may be applied within the spectrum of tourism multiplier values generations in a regional context.

- This becomes a fundamental principle because the basic nature of tourism demands that the visitors must come to destinations in order to consume the product. Therefore, the role of inter-systems -- both inter-sectoral as well as inter-spatial -- are essential. It is suggested that these findings, with the importance and understanding of the concept of location, may be one of key starting points to address national and regional tourism development planning for better impact generation.

PART SIX

GENERAL COMPARISON, SYNTHESIS, IMPLICATIONS, CONCLUSION AND RECOMMENDATIONS

CHAPTER 11. GENERAL COMPARISON AND SYNTHESIS

11.1 General Comparison

The two main conceptual frameworks, based on the comprehensive results and findings from the previous three chapters, demonstrate the following understanding of tourism multipliers:

- Firstly, the main concept of multiplier, which is based on the recognition that various sectors make up the structure of the economy are interdependent, is a powerful tool to reveal the main nature of tourism impacts. This seems especially relevant for developing countries where the structure of economic diversification varies among regions.
- Secondly, in tourism, where tourists must visit the destination in order to consume its output, locational analysis of tourism destinations provides a effective description of how the spatial structure of the economy influences the generation of impacts.

In this chapter, a general comparison approach is used in order to synthesise the research findings into a more explicit framework with specific elaboration rather than using a case study approach. A comparative framework will be able to reveal further detailed identification of factors and main issues that need to be addressed. Explanation or generalisation through a comparative approach is usually sought in two ways: a positive approach in which similarities are identified or a negative one whereby the divergent outcomes are identified (Warwick and Osherson, 1973).

A comparative approach might be distinguished by first, the interrelated analysis and interpretation of phenomena in two or more contexts, and second, the purpose or objective for which research is undertaken.

Two main reasons for using a comparison approach at this stage are:

- Based on the practical considerations of the comparative quality found in these studies between two or more contexts, and the degree of its transferability to other cases.
- The extent to which comparisons may stimulate the development of a better understanding of the nature of multiplier values generation related to scale of accommodation establishment and location of the tourism destination.

It may be argued that there may be some questions regarding the degree of transferability, especially in researching tourism in the context of developing countries where tourism may be viewed as a strategic tool for economic development. This is very often not the same as in developed countries, where tourism is often seen as an issue related to capacity constraints.

Transferability is an essential part of the concept of a comparison framework and is related in part to the extent to which findings or experiences can be generalised. It is within the underlining concepts of transferability and generalisation that the comparative approach has the potential to make a contribution to constructing theoretical input. This can be related to theory building which involves stages such as: problem selection, systematic observation, generalisation, explanation, conjectures and refutation, then with whatever lessons learned, returning back to problem selections and so forth.

'Comparison in its broadest sense is the process of discovering similarities and differences among phenomena' (Warwick and Osherson, 1973). This involves more than just juxtaposition of case studies; for, in order to be comparative, the analysis should reveal the level of similarities and differences.

Some of the earlier applications of comparative approaches and studies in the tourism field were largely pragmatic in order to address or to solve specific practical problems (Pearce, 1993b).

Although analysis of a case study is not always without its problems, comparative studies offer a certain degree of generalisation with practical implications. These implications could then be developed to produce at least some cohesive general understanding.

The results of general comparison are not only more cohesive but also have a stronger sense of common directions. This is due to a more systematic base, which can function as a stronger foundation for exploring further development and broader analytical perspectives.

This general comparison covers three main areas:

1. The effects of similarities and differences of development, tourist density and accessibility on multiplier values, and whether there are any regularities in the effects.
2. The effects of homogeneity in cultural and geographical elements on multiplier values generation.
3. The characteristics of tourism development in Indonesia represented by a cross regional analysis of the scale and locational effects on the generation of multiplier values.

11.2 The Effects of Similarities and Differences of Development, Density and Accessibility on Multipliers

In the first set of comparisons, Table 11.1 demonstrates the multiplier values that are generated in regions with similarities and differences in development, tourist density and accessibility.

Table 11.1 Similarity and Differences of Development, Accessibility and Density

	DIF. ACCESS		DIF. DENSITY		DIF. ACCESS		DIF. DEVELOPMENT		DIF. DEVELOPMENT		DIF. DENSITY	
	BALI	LAMPUNG	JAKARTA	E. JAVA	E. JAVA	SE. SUL	E. JAVA	LAMPUNG	YOGYA	W.JAVA	W.JAVA	N. SUL
INCOME	Rs				PER UNIT EXPENDITURE BY TOURISTS							
DIRECT	0.3678	0.1623	0.2231	0.3163	0.3163	0.1765	0.3163	0.1623	0.2132	0.2200	0.2200	0.3533
PLUS INDIRECT	0.4991	0.2281	0.4325	0.4329	0.4329	0.2451	0.4329	0.2281	0.4333	0.3900	0.3900	0.3936
PLUS INDUCED	0.9304	0.4905	0.8471	0.8130	0.8130	0.4101	0.8130	0.4905	0.7569	0.6331	0.6331	0.6291
EMPLOYMENT (FTEs)					PER MILLION Rs EXPENDITURE BY TOURISTS							
DIRECT	0.0532	0.1324	0.0522	0.2580	0.2580	0.0593	0.2580	0.1324	0.1773	0.2374	0.2374	0.0137
PLUS INDIRECT	0.1244	0.2473	0.2584	0.4965	0.4965	0.1187	0.4965	0.2473	0.4289	0.3815	0.3815	0.0200
PLUS INDUCED	0.3051	0.8664	0.3896	1.1064	1.1064	0.3238	1.1064	0.8664	0.8646	0.5850	0.5850	0.0316
GOVERNMENT REV.	Rs				PER UNIT EXPENDITURE BY TOURISTS							
DIRECT	0.0237	0.0019	0.0115	0.0207	0.0207	0.0022	0.0207	0.0019	0.0082	0.0198	0.0198	0.0057
PLUS INDIRECT	0.0559	0.0042	0.0279	0.0335	0.0335	0.0066	0.0335	0.0042	0.0344	0.0350	0.0350	0.0090
PLUS INDUCED	0.0901	0.0084	0.0467	0.0458	0.0458	0.0102	0.0458	0.0084	0.0650	0.0644	0.0644	0.0162
OUTPUT	Rs				PER UNIT EXPENDITURE BY TOURISTS							
DIRECT	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
PLUS INDIRECT	1.5217	1.1560	1.8052	1.3507	1.3507	1.3164	1.3507	1.1560	1.8192	1.9063	1.9063	1.1055
PLUS INDUCED	2.7444	1.8363	3.0333	2.3498	2.3498	1.8301	2.3498	1.8363	3.1755	3.0903	3.0903	1.7824
IMPORTS	Rs				PER UNIT EXPENDITURE BY TOURISTS							
DIRECT	0.0189	0.6409	0.1902	0.1149	0.1149	0.4767	0.1149	0.6409	0.1471	0.1479	0.1479	0.2987
PLUS INDIRECT	0.1151	0.1994	0.2481	0.0700	0.0700	0.4996	0.0700	0.1994	0.2337	0.2235	0.2235	0.1803
PLUS INDUCED	0.3149	0.6976	0.4584	0.2809	0.2809	0.6580	0.2809	0.6976	0.5066	0.5222	0.5222	0.5654

Sim. = Similarity
Dif. = Differences

Similarity in development but differences in access tends to have higher total income multiplier values compared to similarity in development but differences in tourist density, thus reinforcing the view that access (or location) should be considered as the most influential factor for income generation.

For example, Table 11.1 presents that Bali is associated with almost double (0.9304) total income values compared to Lampung (0.4905); if only the direct effects are calculated, the difference in values is almost two and half times (0.3678 compared to 0.1623).

However, similarity in development but differences in tourist density tends not to yield very different total income values. Jakarta has a total income multiplier value of 0.8471 compared to E-Java, which has only the slightly different value of 0.8130. When only direct effects are calculated, the value of E-Java (0.3163) is higher compared to Jakarta (0.2231). These results are even stronger when only direct income values are compared. This comparison demonstrates that there appears to be a strong influence between level of access and the tourist spending patterns in the areas where tourists actually spend their money.

This may be explained in that the more accessible regions tend to have more interactions both culturally and economically with the 'outside world'. This results in a broader understanding of what tourists are seeking and thereby increased the ability to produce more appropriate tourism related goods and services in the areas where the tourists tend to spend their money.

The lower total income multiplier values of E-Java compared to the same values in Jakarta shows that access plays an important factor in determining more direct values than the value for indirect and induced effects. It is noteworthy that better intersectoral linkages usually accompany regions with better access so that they have a stronger ability to absorb the power of tourism spending patterns.

Similarities in development but difference in access tend to result in higher total income, even though this does not seem to be reflected to the same degree in higher employment multiplier values. Similarities in development but differences in access and density tend to have somewhat similar patterns of employment generation.

This means that employment generation may be more sensitive towards the level of development than accessibility. This is likely to be influenced by the fact that the definition of Full Time Employment (FTE) in tourism in developing countries is rather complicated especially in regions with combined lower development and access, as was described at length in the previous chapter (Chapter 8: Sectoral Employment Multipliers).

As for the income generation pattern, similarities in development but different access or density also do not tend to result in similar patterns of government revenue multiplier values. Access tends to influence the level of government revenue; however, this is not the same case regarding the density factor, which tends not to have any influence in determining government revenue multiplier values. This may be explained in that the generation of government revenue is consistently closely related with the relationship between centre and peripheral regions; therefore, central regions tend to generate more government revenue than peripheral regions.

Regarding output and import multiplier values, both access and density have the ability to influence the generation of output. This suggests that output and import values are influenced by similar patterns of access and density. This is because output and import are represented by a ratio of change in total output of each sector within the economic structure in the region which was caused by the initial changes that tourism expenditure brought about.

The import values show the import content, not only of those sectors directly related to tourism, but also takes into account the propensity to import of the tourist sector's suppliers, along with each sub-sector's chain of suppliers. Since induced effects are incorporated into this model, then the total multiplier values also reflect the household propensity to import.

Regions with higher access and tourist density tend to have the ability to supply their demand from local goods and services compared to regions with less access and low density.

These latter regions which are less exposed to -- and have a lower degree of interaction with -- the tourist industries may therefore have a lower level of experienced human resources in tourism. It follows that these regions generate lower output and higher imports as part of the whole spectrum of tourism impacts. This is due to the phenomenon that the farther the regions are from the centre of economic activities, the less their ability to adapt in producing the needed goods and services which can function as import substitutions.

Similarities in density but different access result in similar patterns of multiplier values when compared to similarities in density but different development. For instance, similarities in density but different access resulted in contrasting values of 0.8130 for E-Java and 0.4101 for S.E Sulawesi.

Both access and development were found consistently to play important roles in determining total income multiplier values. It is interesting to note that when comparing income values within regions with similar development but different access and density, it was found that access tended to be dominant. Similar results happened when comparing income values within regions with similar tourist density but different access and development; it also showed the strong influence of access.

Regarding employment multiplier values, regions with similarities in density but different access tended to have different values. The same pattern of results was found when comparing government values for regions with similar density but different development. This demonstrates that both access and development have the ability to influence the total income multiplier values.

Once again, employment generation is more influenced by the more independent factors of access and development, rather than the degree to which regions have tourist activities. This again refers to the important argument regarding the difficulties in defining the measurement unit for employment. It is extremely complicated in terms of estimating the precision of what category of employment is dedicated to tourism activities, rather than just general industries or trade involved within the chains of tourism consumption.

The same patterns of government revenue and income multipliers are found within regions with similar density but different access and development. This finding shows the consistency of access as a strong influence across all multiplier value generation. The same value patterns were found in terms of output and import multipliers, when generated within regions with similar density but different access and development.

The last set of tests of similarities and differences examined in this chapter concerns similarities in access but different development and density. An interesting finding is that differences in both development and density in regions with similar access do not tend to have much difference in income value generation. This again confirms the strong influence of access in generating income across regions with similarities in development, density and access. Based on the above illustration, it is instructive to note that similarities in access -- regardless of development and density differences -- tend to yield similar patterns of income, import and output values.

These findings show the importance of tourism as a spatial phenomenon. In other words, the impact of distance upon tourism should be studied further and treated as part of the whole development planning process.

Tourism in this context is viewed as not only an economic activity or as a sectoral linkage based industry, but as the interrelation of human beings and resources in the process of inter-spatial activities. Therefore in evaluating multiplier values, it is important to consider the distance variable within the framework of regional analysis. These findings can be summarised as follows:

- On average, as the access or distance from the centre increases, the value of the multipliers decreases, and different types of multipliers have different degrees of sensitivities to the distance variable. Income multiplier values tend to be the most sensitive, followed by import and output types; while employment and government revenue can be rather insensitive due to the minimum tendency to fall off with distance.
- The significance of the distance variable was also demonstrated by the determination of the similarities and differences that was based on the aggregate data. Therefore it tends to conceal the significance for international activities such as tourism within the disparity or uneven pattern of regional resources.

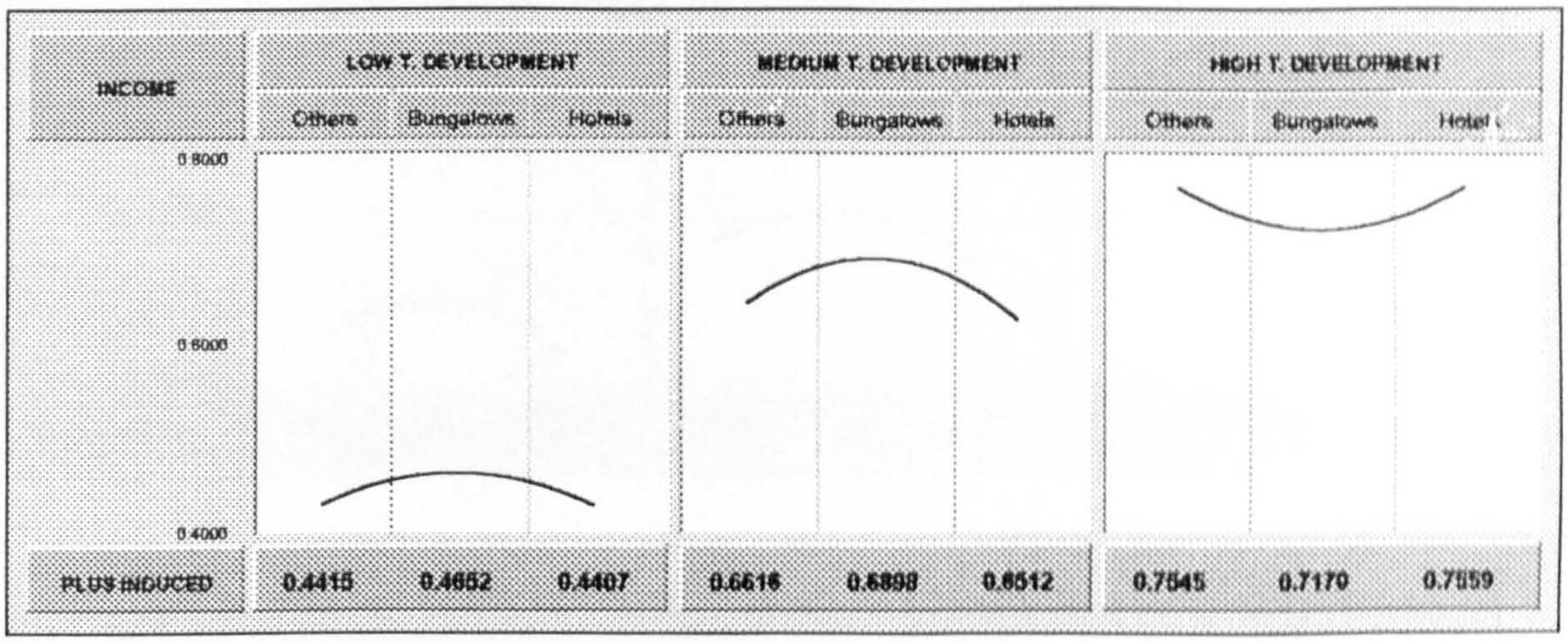
- It is recognised that there is significant consistency among the value gradation, which may have regularities, and which are associated with variation in distance factors and need to be further studied.
- In a number of cases during the calculations, the statistical processing and techniques may be limited or deficient. Nonetheless, it is undeniable that the concept of distance manifests itself in a number of important ways in generating impacts of tourism.
- The impact of accessibility (both direct and indirect) appears to be a crucial factor, especially in the analysis of regional economic development. Indirect and induced effects are important factors in relation to the spatial framework of tourist destinations that should not be ignored.

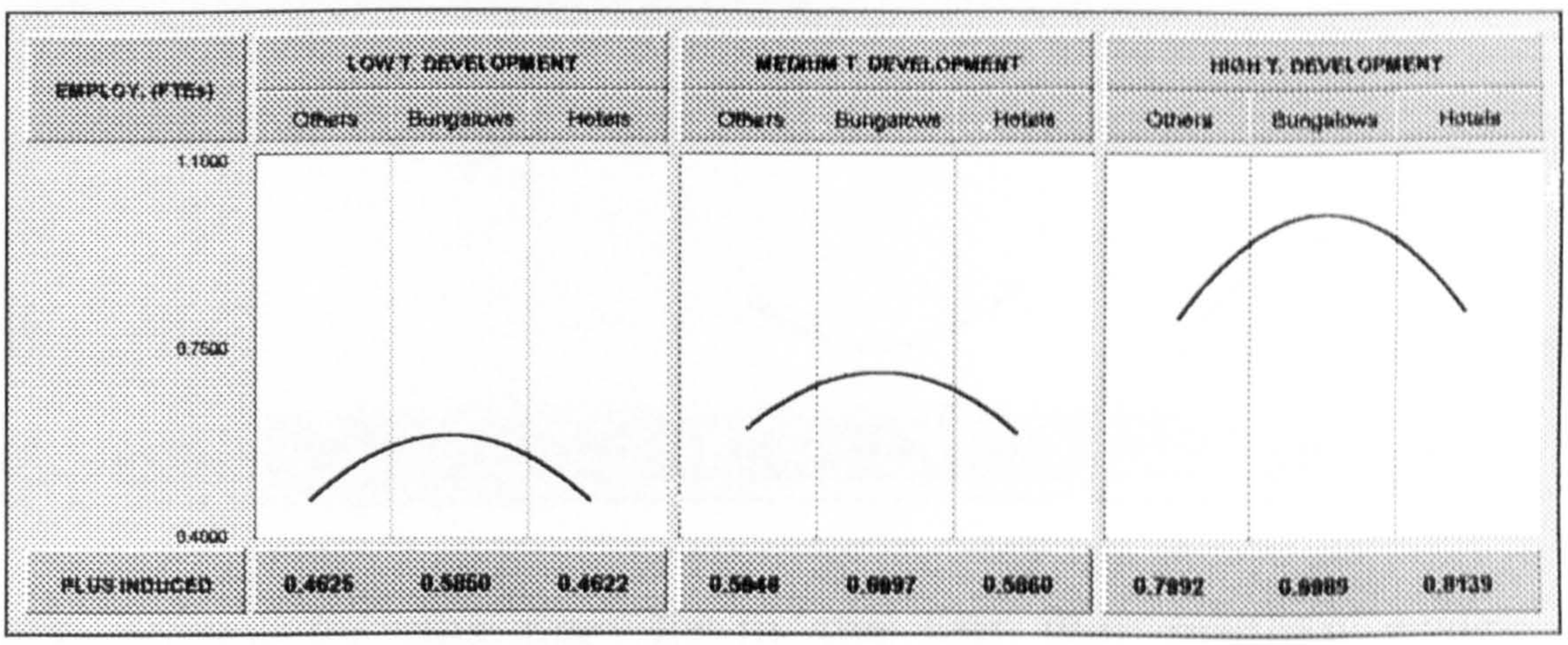
11.3 Multipliers of Different Scales of Accommodation within Regions with Levels of Similar Development, Accessibility and Density.

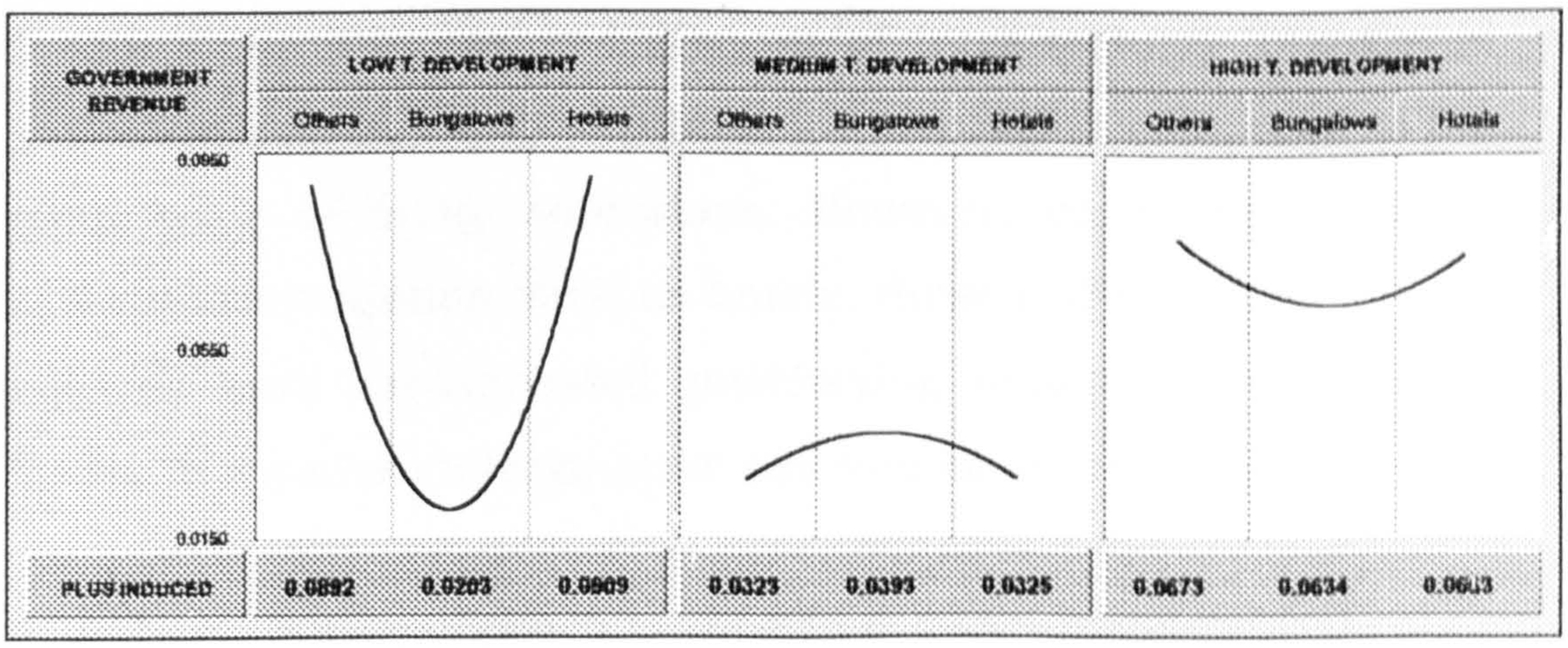
Figure 11.2 demonstrates a comprehensive comparison of multiplier values patterns associated with different scales of accommodation (Homestays/'losmen', Bungalows and Hotels) across regions with similar levels of development, accessibility and density. It was found that medium sized establishments seem to have more ability to stimulate higher values for almost any region in terms of income generation.

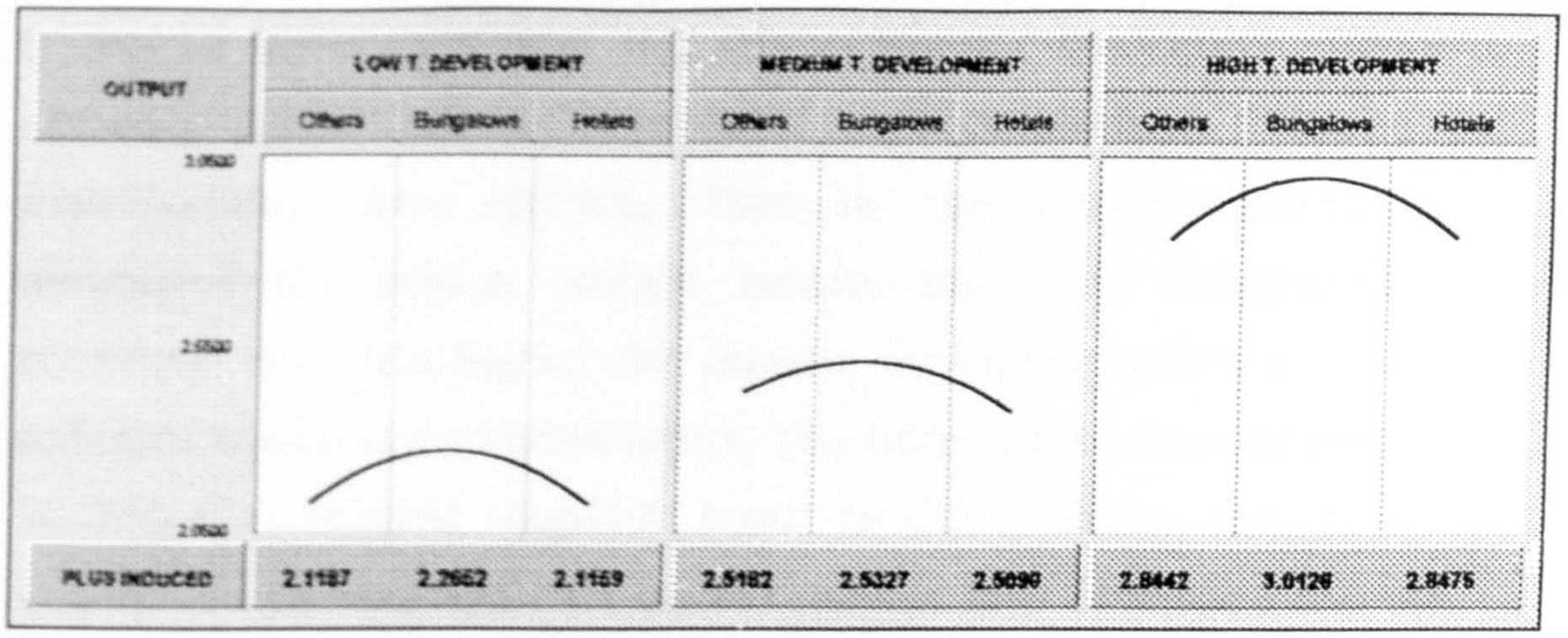
It is interesting to note the findings that the bigger scale of establishments tend to have higher income multiplier values only when the region has a combination of higher level of access, development and density. Therefore, bigger scales of establishments or bigger type of activities such as hotels do not necessarily always mean more benefits in terms of income for any regions.

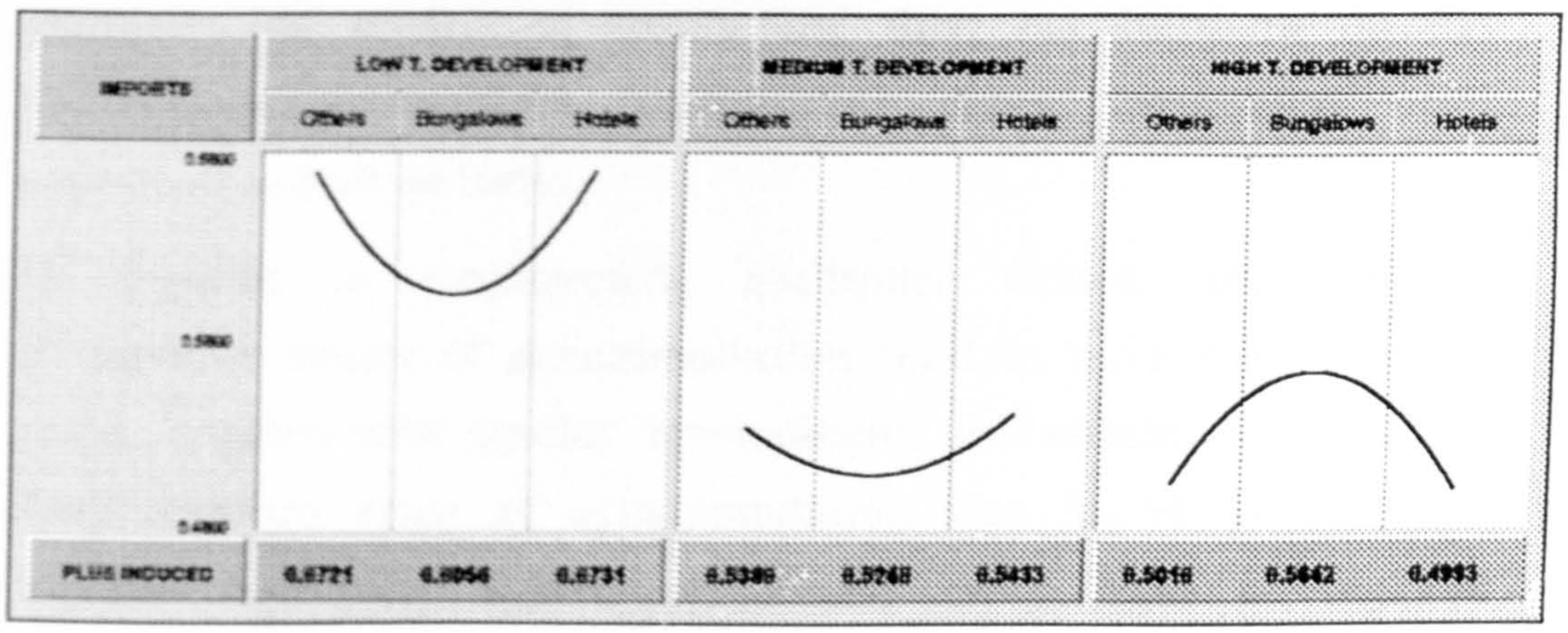
Figure 11.2 Multiplier Value Patterns with Similar Levels of Development











The reason for this may lie in the fact that medium scale establishments have a large enough demand to be significant in terms of the diversity and amount of inter-sectoral linkages in goods and services they purchase in their region compared to the micro-scale of many homestays. However, compared to larger scale accommodation such as hotels, these mid-size units do not tend to have sophisticated purchasing departments found in hotels that can seek large-scale wholesales in other regions.

It can be concluded that the size of income multiplier effects is strongly influenced by the level of accessibility, followed by development, then density. That is, the more accessible and developed the region (which means the more integrated the economy) then the higher the income multiplier values across the different scales of establishments. The hotel scale of establishments in more developed regions tend to have lower tax revenue multipliers compared to the same scales in less developed regions.

This is due to the fact that these large size units may have more sophisticated means of minimising their tax burdens through allowances, deductions, unreported items, write-offs, profit repatriation and so forth.

In regards to employment multiplier values, the medium (bungalow) scales of accommodation tend to have higher values within regions with similar development, accessibility and density. This medium scale of accommodation was found to have the highest multiplier values at almost every level of regional differentiation with the exception of regions with high accessibility.

In these regions (such as Bali or Jakarta), smaller scales of accommodation such as losmen or homestays do better in generating employment. It may be that in these high accessibility regions where there is a large plant of star-rated hotels, medium-sized accommodation may be squeezed out in terms of competition from such a wide range of star-rated hotels which supply a high diversity of employment.

In terms of imports, medium scales of accommodation such as bungalows have the ability to generate the lowest leakages by having import content of just 30% in order to deliver their services. The larger scale of accommodation such as hotels generate more imports, up to as high as 70% in order to provide their services.

This finding again confirms that medium scale accommodation with more demand on local goods and services have the ability to not only stimulate higher profits and labour intensity, but also to perform more efficiently across the different regional economic structures.

11.4 Multipliers in Culturally and Geographically Homogenous Regions

As a resource based industry, tourism in Indonesia relies mainly on cultural and natural assets, and the development of tourism inevitably has caused various changes including both positive and negative effects on these assets. The characteristics of these impacts are determined by a complex relationship among factors such as the intensity of tourism as an outside force; the resilience of the host regions; and, to what extent, and in what manner, the nature of the interactions occurs.

Indonesia, as has been noted earlier, is characterised by very distinctive geographic and cultural differences. Based on the above criteria, a distinction may be drawn between those categories which are culturally and geographically homogenous in Indonesia (as presented in Table 11.5) which include the islands of Bali, Java, Sumatera, Kalimantan, Sulawesi with the remainder consisting of a group of smaller islands in eastern Indonesia.

The specific implications of the geographical elements of impacts usually include size of impacts per capita, GRDP per capita, and location. Based on a regression test and analysis, it was found that land area size per capita and GRDP per capita were not significant, or there was no relation between the two and the power of impact generation. This confirms again that it is rather the level of development and not the size of the regions that determine the values of multipliers.

For instance, Table 11.2 (below) shows how E-Kalimantan, the largest sized region (more than 10% of the total landmass of Indonesia) has a very low income multiplier value (0.52). In contrast, Bali, a relatively small island (0.3 % of the total landmass of Indonesia) has the highest income multiplier value (0.93) in the country.

The concept of culture is defined here as a pattern of behaviour as observed through social and material relations (Singer, 1968:540), such as the ability to transform local traditions into tourism sectoral linkages through the generation of small/medium scale enterprises by art and culture entrepreneurs. The number of entrepreneurs involved in art and culture enterprises is likely to be one of the culturally specific implications on impact generation from tourism.

For example, flower arrangements in roadside and household offerings are part of the daily ritual of observances by the Hindu population in Bali. These have been transformed from traditional uses into an integral part of the tourist image and part of the product on the island including supplying hotels, guesthouses, restaurants etc. with flowers and offerings.

Other implications of cultural elements with economic impact generation may be represented by the use of local language, tradition-values and ideas, gastronomy, art and music, history, architecture, religion and philosophy and its manifestations, dress and handicrafts. There is an anecdote regarding tourism in Bali people's positive attitude towards learning foreign languages in the saying, *'When you speak English you are rich, when you speak Indonesian you are okay, and when you speak only Balinese then you are poor'*. This is not an attitude that would necessarily be found in other regions.

Table 11.5 demonstrates that within regions in Java, Yogyakarta is the only region with a GRDP lower than the national average but with income multiplier values higher than the national average. This may be explained in that Yogyakarta, with its long cultural history and primary scale of cultural attraction (Borobudur), has that universal element that means it can attract visitors across a wide range of market segments.

Therefore, a region with this characteristic tends to generate more diversified and fragmented scales of tourism related enterprises (small to large) and to encourage higher income value generation.

In another example, within the regions in Sumatera, Riau and N-Sumatera are the two regions with higher income multiplier values. However, rather than cultural factors and primary attractions such as those found in the former regions (Yogyakarta and Bali), in these latter regions the higher values are likely due to factors of level of development and accessibility or location (time and price distances).

Table 11.5 demonstrates how Bali, as the region with the highest value of income generation (more than the average value of the regions in Java), indicates that size and GRDP per capita do not necessarily determine the generation of multiplier *values (Tables 11.3, 11.4, and 11.6 - Annex*).

Table 11.5 Multipliers in Culturally and Geographically Homogeneous Regions

		INCOME			EMPLOY. (FTEs)			GOV. REVENUE			OUTPUT			IMPORTS		
		Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced	Direct	Plus Indirect	Plus Induced
NATIONAL		0.301	0.521	1.048	0.056	0.228	0.464	0.093	0.223	0.461	1.000	1.890	3.786	0.103	0.221	0.614
BALI		0.366	0.499	0.930	0.053	0.124	0.305	0.024	0.056	0.090	1.000	1.522	2.744	0.019	0.115	0.315
JAVA	JAKARTA	0.223	0.433	0.847	0.052	0.258	0.390	0.011	0.028	0.047	1.000	1.805	3.033	0.190	0.248	0.458
	E. JAVA	0.316	0.133	0.813	0.258	0.497	1.106	0.021	0.034	0.046	1.000	1.351	2.350	0.115	0.070	0.281
	YOGYA	0.213	0.433	0.757	0.177	0.429	0.865	0.008	0.034	0.065	1.000	1.819	3.175	0.147	0.234	0.507
	C. JAVA	0.265	0.410	0.680	0.142	0.307	0.526	0.024	0.038	0.068	1.000	1.511	2.544	0.234	0.202	0.522
	W.JAVA	0.220	0.390	0.633	0.237	0.381	0.585	0.020	0.035	0.064	1.000	1.906	3.090	0.148	0.223	0.522
SUMATERA	RIAU	0.112	0.362	0.781	0.053	0.371	0.557	0.005	0.060	0.121	1.000	1.816	2.958	0.291	0.296	0.562
	N.SUM	0.255	0.409	0.786	0.247	1.081	1.531	0.031	0.048	0.059	1.000	1.724	2.744	0.175	0.308	0.666
	W.SUM	0.093	0.257	0.499	0.097	0.454	0.802	0.005	0.013	0.016	1.000	1.442	2.025	0.187	0.099	0.269
	LAMPUNG	0.162	0.228	0.490	0.132	0.247	0.866	0.002	0.004	0.008	1.000	1.156	1.836	0.641	0.199	0.698
	S. SUM	0.094	0.254	0.474	0.180	0.351	0.597	0.002	0.015	0.028	1.000	1.661	2.733	0.465	0.415	0.663
	ACEH	0.040	0.259	0.443	0.252	0.513	0.840	0.002	0.009	0.015	1.000	2.180	3.119	0.379	0.487	0.804
	JAMBI	0.163	0.228	0.406	0.192	0.264	0.542	0.002	0.004	0.008	1.000	1.239	1.764	0.619	0.649	0.814
	BENGKULU	0.161	0.220	0.404	0.105	0.157	0.359	0.002	0.006	0.015	1.000	1.316	1.814	0.514	0.600	0.780
KALIMANTAN	S. KAL	0.331	0.373	0.594	0.018	0.026	0.053	0.004	0.005	0.010	1.000	1.127	1.836	0.354	0.226	0.559
	E. KAL	0.143	0.313	0.526	0.076	0.112	0.159	0.001	0.003	0.005	1.000	1.622	2.442	0.362	0.387	0.610
	W. KAL	0.192	0.407	0.439	0.032	0.407	0.440	0.001	0.003	0.004	1.000	2.379	2.862	0.109	0.293	0.740
	C. KAL	0.140	0.219	0.361	0.148	0.237	0.388	0.003	0.010	0.015	1.000	1.395	1.843	0.410	0.522	0.752
SULAWESI	N. SUL	0.353	0.394	0.629	0.014	0.020	0.032	0.006	0.009	0.016	1.000	1.105	1.782	0.299	0.180	0.565
	S. SUL	0.096	0.317	0.503	0.178	0.456	0.729	0.007	0.030	0.045	1.000	2.366	3.576	0.254	0.278	0.540
	SE. SUL	0.176	0.245	0.410	0.059	0.119	0.324	0.002	0.007	0.010	1.000	1.316	1.830	0.477	0.500	0.658
	C. SUL	0.138	0.208	0.385	0.117	0.222	0.480	0.004	0.011	0.017	1.000	1.246	1.747	0.589	0.435	0.709
OTHERS	W.NUSA T.	0.288	0.434	0.737	0.151	0.326	0.674	0.009	0.017	0.027	1.000	1.530	2.534	0.137	0.259	0.525
	MALUKU	0.146	0.264	0.477	0.050	0.161	0.325	0.003	0.009	0.014	1.000	1.416	2.032	0.464	0.349	0.596
	IRIAN	0.154	0.252	0.388	0.106	0.224	0.458	0.004	0.014	0.020	1.000	1.498	2.003	0.340	0.489	0.768
	E. TIMOR	0.138	0.230	0.387	0.039	0.078	0.204	0.004	0.014	0.021	1.000	1.492	2.000	0.357	0.456	0.767
	E.NUSA T.	0.127	0.190	0.375	0.105	0.269	0.913	0.002	0.010	0.020	1.000	1.174	1.669	0.669	0.456	0.754

11.5 Main Findings of Tourism Characteristics in Indonesia

11.5.1 Locational Constraints

A comprehensive examination of all the findings (Tables 11.7-8) show that both *price-distance* and *time-distance* factor were found to be the most positively significant factors in determining values of income multiplier effects across scales of establishments.

Price-distance, as a determining factor, is not only the most significant factor but also the most consistent one across the scales. Unlike in other fields where distance is usually interpreted in only geographic or physical distance, in the field of tourism, distance involves both price and time considerations or 'economic distance'.

It follows therefore that distance measurement as a time and cost variable is a better measure for travellers than physical distance. So that distance in tourism may be perceived as a time and cost, in which however, there is an opportunity cost of time, as well as money involved.

Whilst for many people the act of travel is itself a pleasurable experience and they may not perceive a time and cost in travelling, but still there is always a hidden concept of money and opportunity cost involved.

The concept of *time-distance* was found to be the most influential in determining both income and import values (as shown in Table 11.7). The result was even stronger when price and time factors acted in combination rather than each alone. This analysis suggests that accessibility in terms of price as well as time is the most significant factors in generating income multiplier values.

Table 11.7 'Summary Factors Determining Multiplier Values'

INDEPENDENT VARIABLES	DEPENDENT VARIABLES														
	INCOME MULT.			EMPLOY. MULT.			GOV-REV. MULT.			OUTPUT MULT.			IMPORT MULT.		
	H	B	O	H	B	O	H	B	O	H	B	O	H	B	O
PRICE - DISTANCE (Access)	1 (+)	1 (+)	1 (+)												
LOS STAR-H (Density)	2 (-)	2 (-)	2 (-)					2 (-)							
REG. MOBILITY (Access)								3 (+)							
LABOUR FORCE (Development)								1 (+)							
DIR+IN. FLIGHTS (Access)						1 (+)									1 (-)
TOURIST STAR-H (Density)						2 (-)									
DIRECT FLIGHTS (Access)										1 (+)		1 (+)	1 (-)	1 (-)	
POPULATION / KM^2													2 (+)		3 (+)
INFO ACCESS (News)													3 (-)		
INFO ACCESS (Radio)											1 (+)				
INVESTMENT (Development)													4 (-)		
AVERAGE TIME (Additional)															2 (+)

It is interesting to note that the concept of gravity strongly applies not only to the number of tourists (as explained in the previous chapter), but also in determining income multiplier values which were produced by tourists across the different scales of establishments -- hotels, bungalows and others.

The greater the time distance, as well as the more expensive the price distance (or the smaller the price index), the smaller the number of tourists and the less the values of the multiplier income in the regions. This is due to the tendency for prices to be lower in, and access is easier to, the well-developed tourism areas where the multiplier values are likely to be higher.

It can also be observed that every single value of multipliers has at least one accessibility-related variable as a determinant factor.

They are price distance factors for income multiplier values; total time of direct and indirect flights weekly for employment, output and import multiplier values; and regional mobility for government revenue multiplier values.

This may be explained in that regions that receive a higher number of flights tend to be more developed, and that there will be more small establishments that need to recruit outside help beyond the usual family employees. Conversely, the further the tourist destinations, the smaller scale establishments are associated with smaller values of employment multiplier as these establishments can rely solely on family help and which may not appear in the official statistics.

The value of government revenue of bungalow types was found to have positive significance with the regional mobility, which is the total trip numbers produced by the population travelling outside the region. This means that the higher the trip numbers produced by population in the region, the higher the values of government revenue multipliers associated with bungalow type of establishments.

The total direct weekly flights are to be found as one of the most influential factors within output and import value generators. The higher the total weekly flights or the lower the time distance to the tourist destination, the higher the values of output multipliers for hotel and homestay types of establishments.

Hotel and homestay types tend to have higher output values in the regions with lower time distance. These findings confirmed the importance of interconnections as well as intersectoral linkages that usually take place within regions with higher development and easier access. This underlines the importance of the linkages both

in term of sectoral and spatial qualities in order to support tourism that has higher multiplier values.

The higher the flight factors, the lower the import values. In other words, the further the tourist destinations or the more difficult the access, the higher the imports value that tend to be generated by hotel and bungalow type of establishments. This seems as expected, as a hotel in a difficult-to-reach location is in a less developed area economically and therefore has to import more from outside the region.

It is interesting to also note that the important role of access is not only in the sense of technical accessibility which involves physical and geographic factors, but also as access to information and media of all kinds.

In developing countries like Indonesia, where this information access is still at a minimal level, the role of information should be taken into account within the policy planning level, especially regarding marketing.

It can be seen that access to information is positively correlated with output values generated by bungalow units, while negatively related to import values. This may be explained in that people with greater access to detailed information about an area are likely to be more adventurous and try accommodation lower down the scale than people with little information who stick to well known, star-rated hotels. Similarly, by providing information and exposure about local alternatives to tourists spending their money in hotel restaurants, bars, and other activities, there will be fewer imports needed, as the tourists will use more local goods and services available.

However, the inverse relationship between output and import multipliers is also probably true in terms of information access. When there is lower information access, there will be lower output multipliers and higher imports, as visitors will stick to star-rated hotels both for lodging, food as well as discretionary needs such as shopping.

This is to suggest that in order to evaluate the concept of accessibility within a tourism context, it should be broaden not only to include 'hardware' but also 'software'. By being more exposed to the world, local people are more likely to appreciate and adapt their own resources.

This once again demonstrates that market proximity towards the centres and easy accessibility is the main factors in explaining the hypothesis that not only total tourists numbers but also the value of multiplier effects are influenced by accessibility factors.

When the travel distance increases, in terms of price and time, then the total tourist numbers as well as the multiplier values that will be generated decrease. It can also be shown that it is not the geographic or physical size of a region that is a determinant both to total numbers of tourists and multiplier effect values; rather, it is the size of the regional economy which is a significant factor in determining the values.

It can also be demonstrated that it is not the geographic or physical size of a region that is a determinant both to total numbers of tourists and multiplier effect values; rather, it is the size of the regional economy which is a significant factor in determining the values.

Those regions with more tourists tend to have larger hotels (and therefore larger numbers of rooms per hotel), and they are regions with higher levels of development and higher intersectoral linkages to support tourism's growth.

However, regions in which the local population do not travel much tend not to generate higher tourist numbers, and are regions with lower levels of development with less intersectoral linkages.

The higher the time index means the shorter the time distance, and the higher the quality of the development. The further the regions from the centre, the less quality of tourism development was found. The level of regional development reflected by GDP (Growth Domestic Products) as well as the level of education were found to be significantly related to the rate of growth (or dynamic progress) of tourist development.

In conclusion, income values are more sensitive to accessibility as well as density related factors while output and import multipliers values are more sensitive only to accessibility factors. The multiplier values of employment and government revenue were found to be more independent. In conclusion, gravity law and inter-linkage principles appear to play a very important role for generating multiplier values from tourism in the regions.

This is not only in relation to generating tourists and producing a higher quality of development but also to generate higher income multiplier values (Table 10.6) as well as in reducing import values.

It can be stated that government revenue multiplier values were concluded to be more independent. This is parallel with the above illustration of findings confirming both the input/output and gravity combined principles that the laws of both inter-linkages and gravity are strongly intertwined in determining multiplier values of tourism, especially for income, output and import.

This becomes a fundamental principle because tourism demands that the visitors must come to destinations in order to consume the product. Therefore, the role of inter-systems -- both *inter-sectoral* as well as *inter-spatial* -- are essential.

It is suggested that these findings, with the importance and understanding of the concept of *location*, may be one of key starting points to address national and regional tourism development planning for better impact generation.

11.5.2 Low Volume Tourism Development

In focusing on the length of stay, Table 6.5 (*Expenditure by Foreign Visitors and Length of Stay*) suggests that a longer length of stay results in a lower per day expenditure and it also yields lower income multiplier values. By this finding, it demonstrates that, for instance, five tourists staying one night in a star-rated hotel will generate higher total expenditure and income multiplier values compared to one tourist staying five nights in the same type of hotel.

In Indonesia, these issues become crucial where the tourism product consists mainly of 'fragile' nature and culture-based resources, and therefore smaller numbers of tourists or lower volume may be the ideal answer in terms managing supply over the long term.

However, these research findings suggest that actually the concept of *'number'* of tourists (or a quantity target of short-stay, high spending visitors) was found to be highly significant in generating higher expenditure and income values.

This 'volume-oriented' policy, which is commonly used as an objective in government tourism strategies in developing countries, can sometimes result in conflicts with local tourism resource characteristics and product availability as well as demand preferences. Therefore, appropriate marketing and development strategies need to be formulated that address these kinds of issues.

With respect to the employment multiplier values associated with the smaller type of establishments, the second most significant factor determining the multiplier values (negatively) is total tourists staying at star-rated hotels. That is, the analysis indicated that in regions with more tourists staying at the star-rated hotels, the smaller the employment multiplier that will be for homestay accommodation.

This may be explained by the ability of the respective kinds of establishments (hotels vs. homestays) to respond to the volume of visitors. In structured environments such as star-rated hotels, there will always be a constant base number of employees to ensure basic services, maintenance etc. regardless of the number of visitors at any given time. However, small businesses such as homestays that are more reliant on family and informal employment patterns are highly sensitive to any changes in volume and will adjust employment accordingly.

These findings also reflect the patterns in less developed, low density regions in Indonesia where the building of a star-rated hotel will immediately affect various aspects of multiplier values for smaller accommodation units as there will be real choice for visitors.

Over time, it can be argued if one examines higher developed regions with higher density tourism, that this relationship will be less sensitive as sufficient volume grows that there are more business links for all levels of accommodation.

Proposing to build a star-rated hotel in a region, therefore, can be interpreted as benefits for some and costs for others. Consensus among various interests is never easy to achieve but it is essential in order to distribute more equally job opportunities for the local inhabitants. This is especially true in that the smaller types of establishments tend to belong to local ownership.

In the long term, this is an important issue to be addressed as larger social issues can develop such as jealousy, income disparity, gap between rich and poor, local vs. external ownership, all of which may contribute to a wide spectrum of dissatisfaction with tourism development.

From a tourism product point of view, the image of tourism destinations in Indonesia may be described to be mainly dominated by Bali, followed in second place by Java for cultural monuments and landscapes. So-called 'special interest types' of tourism products dominate the remainder of destinations. These types of fragile resources are to be found along the less developed regions, such as in regions containing tropical forests, wild life and tropical marine tourism in the eastern part of Indonesia, as well as cultural-ethnic tourism in most of the rural villages throughout the country.

The main problems with these low-volume tourism products are that they tend to be associated with economic subsistence levels combined with fragile environments, traditional culture, uniqueness and remoteness. The areas in Indonesia that reflect this profile include East, Central, South and West Kalimantan, Irian Jaya, Maluku, North and S-E Sulawesi. These are regions characterised by not only low GRDP per capita (averaging 0.08 compared to the national mean 0.97) but also low hotel value added per capita and low accessibility.

The vulnerability of these regions to external pressures such as tourism can be explained as follows:

- The lower GRDP indicates that the natural and cultural assets are less available due to the lack of a 'pull' factor created by higher accessibility, and therefore the economy has a less diversified structure.
- The low populations in these regions tend to be associated with low availability of human resources both in terms of quantity and skills. It should be noted that the total population of these regions is only 5% of the national population.

- These regions generate the lowest domestic tourism activities, which are essential in order to achieve economies of scale and form close economic sectoral linkages that can act as a catalyst for regions to absorb development from tourism.
- These low volume tourism products tend to have fewer advantages both in terms of limited facilities as well as weak demand.

Regions that are characterised by these higher degrees of fragility (physically, socio-culturally and economically) will make it complex to determine to what extent some regions have the ability to absorb tourism development, and to what extent some regions may not have the ability at all. Not all destinations or regions exhibit the same degree of fragility or resilience or should be expected to develop tourism at all. It can be argued, for instance, that nature reserves are ecological assets for the nation and should not be expected to generate income through any kind of development.

On the other hand, low volume tourism (which is usually accompanied by a longer length of stay) requires a high quality of human resource support in order to absorb the more intensive level of interactions needed between the tourists and the establishments. Therefore, caution needs to be observed regarding the concept of *carrying capacity*, in order to achieve a 'dynamic equilibrium' between short term and long term benefits from tourism development.

For instance, economic carrying capacity can be the main cause of problems for other capacities such as physical, psychological, social as well as institutional. Economic capacity has been defined as the ability to absorb tourism activities without displacing or disrupting desirable local activities (Hall, 1994; Mathieson and Wall, 1982; Hunter and Green, 1995).

A more precise definition of economic carrying capacity has to also take into account the economic effects from the injection of tourism in that it doesn't cause undesirable economic impacts such as inflation, or unfair competition to local businesses due to larger enterprises' ability to minimise unit costs.

Targeting a low volume of tourism development as a concept needs to be viewed in a broader approach within a more comprehensive planning context. A low volume of tourism development is not always parallel with the smaller scale of development that appears appealing as an alternative to traditional mass tourism. A critical perspective needs to be applied when considering whether low volume tourism is a desirable strategy towards a more sustainable future.

What is low in one region may potentially be more environmentally degrading or economically disrupting to the local communities or to the regions than the higher volume or larger scale operation in other regions. Allowing or encouraging certain types of tourism development because they appear to be *'low volume'* development is not only dangerous but also can degrade the region.

This is because although 'low' by some standards, it may not be in proportion to the local structure and may lead to more dependency, as the region still may not be able to supply the needs. Therefore, all proposed types of tourism development should not only be defined in the conceptual level as 'high' or 'low' volume but rather need to be critically examined within the policy, planning, implementation and management context.

11.5.3 Regional Imbalances and Development Disparities

From the economic point of view, where tourism acts in a demand-supply relationship, there are three principles that underline the concept: tourism as a flow of income, tourism as a flow of trade, and tourism as a flow of foreign exchange.

This supply-demand relationship requires resource allocations and involves physical movement outside habitual living spaces. It can be described from Figures 11.7-8 that accessibility related variables are the most significant factor in determining not only the number of tourists but also the economic impacts, especially for income and import multipliers.

Table 11.7 shows that there is a strong direct correlation between the intensity and quality of tourism development towards both the values of income multipliers and total direct expenditures in the regions. The more rooms per hotel built of higher quality tend to generate higher values of income and increase the efficiency of tourism development. The quality of the development is found to be one of the most important factors in determining the income multiplier values.

A preliminary analysis from Table 8.2 indicates that the development intensity (which is represented by the average number of rooms per hotel), in the category of *high level of accessibility* and *high level development regions* such as found in Jakarta and East Java, has a mean value (56.8), more than two times greater than the mean of the entire sample (27.98) within Indonesia. This value (56.8) is even greater (almost triple) when compared to the mean value (19.66) of the regions with low-level tourist density. This means Jakarta and E-Java are considered as regions that can benefit from being most developed regions.

Even though Jakarta and East Java are at the same level of high development and accessibility, the two regions have different characteristics when it comes to tourism development.

Jakarta alone has more than triple than the mean value of average rooms per hotel (84.55) compared to the average mean of all the regions (27.98) in Indonesia, which shows that level of development intensity is the highest.

While in East Java, where the level of development and accessibility is the same high level as Jakarta, but it has a low tourism density especially in hotel value added per capita compared to the national mean. Jakarta has the ability to generate hotel value added per capita of 3.22, more than three times the national mean value of 0.97.

Whereas East Java hotel value added per capita is only 0.80, which is under the national mean value. Therefore, it can be seen that East Java is the only region that has a high, diversified economic structure but insufficient tourism demand.

The rate of growth of rooms per hotel in Jakarta over the ten-year period (1984-94) is also higher than the average mean value, even though the rate of hotel growth is relatively low (4.79). In fact, it is only half of the average mean value of the entire sample (9.33). Jakarta and East Java, being the most developed regions, are regions that are the most diversified and self-contained economically compared to the rest of the country.

Jakarta is considered the highest or most developed region in Java due to the 'capital' factor – the centre for all major forces: political, financial and economic decision-making. Tourism in West Java, geographically adjacent to Jakarta, has therefore developed due to the 'piggy backing' effects resulting from the capital spreading out into adjacent areas.

East Java and Central Java both have developed as port hubs with trade links between Java and other islands in Indonesia.

East Java is the only region in Indonesia, which while it is subject to a high level of development as well as a high level of access, falls into the lower tourist density category.

Having only an average mean value of intensity (29.05) compared to the value of the entire sample (27.98), East Java is considered a 'problematic' region in terms of tourism, which reflect a lack of attractions. This is especially true when it is realised that both the levels of quality and progress in this region is low.

From the geographic point of view, East Java is in a very strategic location. Located in the eastern part of highly developed island of Java and next to Bali, East Java also serves as an international gateway and therefore has higher access. As well, since Surabaya is the second largest business city in the country after Jakarta, East Java has a high level of development as well.

The relationship between Yogyakarta and Central Java is probably the best case representing the need of a *regional* rather than a provincial approach in balancing regional development. Compared to Central Java, Yogyakarta is in a better position in terms of tourism density while in fact the main attractions for visitors to Yogyakarta are actually located in the Central Java region.

In terms of GRDP per capita and hotel value added per capita, Yogyakarta is the only region in Indonesia that has a lower GRDP than the national level but higher hotel value added per capita than the national mean. Even though Yogyakarta has a lower GRDP than the mean, it is in a medium level of development due to the strong small and medium scale tourism-related business sectors. Therefore, tourism in Yogyakarta has the potential to be developed further and increase GRDP without necessarily leading to dependency.

When examining the balance between intensity, quality and progress for a region in the category of higher density, Yogyakarta is in a better position. Central Java has a low level of dynamic progress development and therefore, a strategy should be addressed towards the issue the subordinate relationship Central Java has with Yogyakarta in order to restore an acceptable balance that is sustainable in the long term.

It is interesting to note that Yogyakarta is actually the only region with less trade links with Jakarta, and therefore the level of economic development within the region is relatively low but it has ability to generate higher tourist density. Table 8.2 also shows that within the island of Java, Yogyakarta is the only region with a low level of economic development, but which produced a higher level of tourist density. Another interesting characteristics of tourism in Yogyakarta is more fragmented into smaller-medium scales of tourism related entrepreneurship especially in art and culture products and small scale establishments such as homestay or 'losmen'.

The rest of the provinces of Java -- Jakarta, West Java, Central Java, and East Java -- are in the category of having a high level of economic development. Jakarta and East Java have a higher level of accessibility compared to Yogyakarta, West Java, and Central Java, which have medium levels of access.

Table 8.2 shows the variation of mean values for all possible combinations of the three independent variables: level of accessibility, level of development and level of tourist density.

A preliminary analysis indicates that the average number of rooms per hotel in the category 'high tourist density, high level of accessibility' in Type 1 regions (Jakarta and Bali) has a mean value (61.61) more than double (2.2 times greater) the mean of the entire types or sample (27.98).

This value (61.61) is even greater when compared to the mean value (19.66) of the regions with low-level tourist density -- in fact, triple their mean value.

It is interesting to note that when a comparison is made between the mean value for these two most developed regions compared with the rest of the regions, this results in a three times larger value as well. This indication reveals that as far as tourism is concerned, Indonesia consists mainly of Jakarta and Bali.

Only these two regions have an above average intensity of tourist development while the rest of the regions (Types 2,3,4,5,6 and 7) are all in the category of below the average.

Even though Jakarta and Bali are at the same level of high density and accessibility, the two regions have different characteristics when it comes to tourism development. Jakarta alone has more than triple the mean value (84.55) compared to the average mean of all the regions (27.98) which shows that the level of development intensity is highest.

While the rate of growth of rooms in Jakarta is also higher than the average mean value, the rate of growth in actual numbers of hotels (4.79) is only half of the average mean value of the entire sample (9.33). This situation of more rooms in fewer but larger hotels is likely due to the fact that Jakarta is the capital. This capital effect means that land is limited and expensive and also that only large international hotel chains can afford to build.

Compared to Jakarta, Bali is in a more balanced position in terms of overall tourism development. It has a higher rate of hotel growth, a higher rate of room growth, a better quality of development and a smaller number of rooms per hotel average – all of this indicates a less vertical hotel chain domination.

All these variables give an indication that Bali is the only holiday-based tourist region in Indonesia that is very stable in growth (both rooms and hotels) combined with a stable length of stay and higher income multiplier values. Looking at the above illustration, the fact that the tourism in Indonesia relies strongly and mainly on Bali . confirms the need for critical strategies both in marketing and development planning in order to develop tourism in other regions.

The second highest possible mean combination of tourism intensity after the primary regions (Jakarta and Bali (61.61) falls into Types 2 and 3 (Riau, Yogyakarta, North Sumatera and W. Nusa Tenggara) with a mean of 23.45. This number is only about one third of the mean in the primary regions and lower than the average mean value (27.98).

Table 10.6, which presents the distribution of regions at shortest distances by income multiplier values, shows that Jakarta (0.8) and Bali (0.9) are the two main centres. This table shows that they generate the highest income multiplier values and that the values drop steeply as a quadratic pattern the more the regions are located further from the two centres.

This evidence suggests that tourism in Indonesia is related strongly not only to development disparity but also to locational constraints, which are significant factors to be addressed in the overall national intersectoral development plan.

The disparity in terms of quality and progress of tourism development in the secondary regions is less evident. The primary regions (high density) have a mean value of quality of (69) and progress of (11.62) compared to a quality mean value of (43) and a progress mean value of (9.05) of the secondary regions (medium density); and, a quality mean value of (39) and progress mean value of (9.8) of the entire sample.

It is important to also note that the level of progress shown by regions with low tourist density have a higher mean value compared to the regions in the medium or high tourist density. This means that even though low tourist density regions are less intensive and less qualitative, they are not necessarily less dynamic in term of progress. This is due to the rate of growth of hotels and rooms proportionally dependent on the size of the region. In the smaller regions an addition of a few rooms or hotels results in a high progress rate growth.

However, caution should be used when comparing the two types of regions because in the lower density regions, the definition of what is really 'one new full-time employment (FTE)' can sometimes be problematic for social and cultural reasons as noted before.

Bungalow types of establishments are not yet considered to be the most desirable types of accommodation. In thirteen regions out of 27 (or about 50% of the regions within the whole country) have two or less bungalow scale accommodation that appear in the official statistics.

Figure 11.7 shows that the total investment on tourism related activities (both for domestic and foreign investment) was found to be significant with the values of import multipliers for hotel types of establishments.

This finding suggests that tourism related investment has not been interested in medium and small scales such as bungalows or others. However, caution should be observed regarding this, as at this relatively small level of investment that rely exclusively on domestic and family investment, it may not be officially registered as investments. However, the overall findings indicate the need to bear in mind as to whether certain kinds of establishments within particular regions should be prioritised in order to generate better economic effects especially as income and employment generators.

Crucial policy and development strategies are needed to address these particular issues in order to encourage stimulation to the increases of income and output multiplier values. Development strategies taking into account appropriate scales of tourism development, development characteristics, and quality of human resources are among the relevant issues that should be addressed in developing tourism in various regions. The ability to generate income and employment multipliers is the main reason tourism tends to be more effective than other industries in the regions.

Regions within a country are usually less economically self-contained and hence a far greater proportion of the money is likely to leak out of the regional system into other regions.

Tourism seems to be more effective in generating income especially in the less developed regions. This is due to the fact that, within these less developed regions, tourism income values can create the most significant impacts. In these regions where the population who live at an economic subsistence level such as farmers, fishermen and across informal sectors, tourism may offer a better way to improve their income and employment than other industries. However, caution needs to be taken as if the region is not able to offer interlinkages between sectors supporting tourism, then it is easy to lead to imbalances in the region.

This may be due to factors such as easy entry due to many levels of the skill requirements thereby not needing a high level of education; the in-house training offered by most tourism related establishments; the reliance on traditional hospitality skills; and so forth.

As well, working in a service sector such as tourism is often seen as prestigious by rural people in small agricultural communities, thus it offers an attractive way to soak up rural under- and unemployment and to generate the potential income and employment increases that tourism brings.

The flow of tourism in the regions presupposes a certain level of development such as the existence of infrastructure and facilities. In many cases, these utilities are economically indivisible; that is to say, they can be employed for many public uses within the regions. Many of the those facilities such as roads, airports, water systems, telephone networks and other public facilities which are constructed to support tourism also provide a greater access towards wider markets for many locally produced goods.

Tourism also offers an outlet for many local art and handcraft products that are consumed by tourists as direct purchases through hotel souvenir shops and displays. Therefore, tourism impacts in these less developed regions are very often seen as a sign of development in a greater sense than the impacts generated in the more developed regions.

It can be readily understood why there is a perception that tourism has the potential to be seen as a means of generating flows of income, foreign exchange and trade both directly and indirectly to increase the welfare of the local population. This in turn may help to balance regional development and economic growth.

This perception is perhaps strongest in the less developed regions where the significance of tourism is seen as a sign of development and modernity in tangible form.

However, it should be acknowledged that there is a potential danger of growing dependency on other regions (or even outside the country) to supply the needed goods and services in less-developed regions without the necessary preconditions of inter-sectoral support.

International tourism is an invisible export in that creates a flow of foreign currency into the regional economy of a destination; therefore, it directly contributes to the current account of the balance of payments. As in many other export industries, this inflow of revenue generates benefits in terms of income, employment and government revenue. The generation process continues in re-spending activities throughout the economy and leads to the total impact made by the initial tourist expenditures as explained by the multiplier values.

It is important in any case when calculating tourism impacts to include the power of secondary and tertiary effects. Therefore, the values of the multiplier effects play a very important role in the process of distributing impacts and may be used as a balancing force in regional development and reducing the disparity among regions.

While the role of domestic tourism is very important especially in order to achieve economies of scale in serving their own citizens and redistributing domestic currency for regional development. However, from the point of view of a tourist region within a country, domestic tourism can be seen as a form of invisible export (Pearce, 1993a, Liu and Jenkins, 1996).

In this research, the scope is limited to the role of international tourism in generating an injection of foreign currency into the regional economy, rather than its domestic role involving the domestic currency.

11.5.4 Characteristics of Tourism Development

As noted previously, quality is one of the highly correlated variables within the characteristics of tourist development especially those that affect income and import multiplier values. Three indicators of tourism development characteristics were tested and a t-test was employed to test whether or not the difference between sample means of cells was significant.

First, the difference in the average number of rooms per hotel was tested. Table 11.8 shows the results which was the intensity of tourism development was to be found highly correlated with the income multiplier values across the scales (hotels, bungalows and others). Regions with higher intensity of development are expected to be regions with higher income multipliers. Those regions with more tourists tend to have larger hotels, and they are regions with higher level of income multiplier values. This is due to the higher level of development, which produces higher inter-sectoral linkages to support tourism to grow and generate income (*Table 11.8 –Annex*).

The second dependent variable tested was the percentage of star-rated rooms per total rooms that represent the quality of tourism development. The percentage of star-rated room was calculated based on the ten-year period (1984-1994).

As shown in Table 11.8, it was found that there was a high correlation between the quality of development and the generation of income values. This is especially true for bigger and smaller scales of establishments.

The third dependent variable tested was the rate of growth of rooms per hotel for the ten-year period (1984-1994) which represents the dynamic progress of tourism development.

It is interesting to note that the dynamic of progress of tourist development seems independent and there is no correlation between the growth rate and multiplier generation.

The additional variable tested was the total direct expenditure. It can be observed that the total direct expenditure is highly correlated with income values, as well as output and import multipliers. This can be explained in that regions with higher total tourist numbers tend to generate higher direct multiplier effects received by those establishments where tourists spend their money directly e.g. accommodation establishments, restaurants, souvenir shops and so forth.

It can be stated that the income multiplier values are more sensitive not only towards the level of accessibility and density but also for development characteristics in terms of quality and intensity. However, output and import multiplier values are more sensitive towards the accessibility factors. Table 11.7 shows that regional mobility is to be found to be the most significant factor in determining development intensity and that average time index is the main factor in determining development quality.

Both these factors are accessibility-related factors, which were also found to be dominating factors within the first regression tests. This again confirms that gravity laws apply significantly and consistently across the test results.

In conclusion, gravity laws and inter-linkage principles can play a very important approach for developing tourism in regions not only in relation to generating tourists and producing higher quality of development but also to generate higher multiplier values.

Furthermore, when gravity and inter-linkage principles act in combination, they produce strong intertwined influences as significant factors especially in generating income, output and import multiplier values. However, the multiplier values of employment and government revenue were concluded to be more independent.

This becomes fundamentally important in planning for tourism that is characterised by resource immobility, capacity constraints, seasonality and especially the consumer's inability to experience the product before purchase. Therefore, the role of development characteristics becomes essential in determining the impact values. The regression tests also found that the size of community in terms of both population and geographical size do not act as significant factors in explaining the value of tourism multipliers; rather, it is the size of the economic structures and the infrastructures.

The economy size has been found to be significant to influence the degree to which economic benefits leak out of the region. This actually confirms that historically tourism in Indonesia (similar to other developing countries) originally was initiated from outside or 'external' forces deciding among several potential attractive destinations.

These forces interacted with internal actors then developed further followed by local entrepreneurs. Two main entry points -- a small island and colonial networks largely initiated Indonesian tourism, which is typical of other developing countries' experiences. As explained in detail in Chapter 5, Bali was the first example of small island tourism, located at the tip of Java; and Java itself developed along the infrastructure networks used by the colonial regime along the network of economic exploitation linking region to region.

This background can also help explain the domination of present tourism products by Bali and Java, then followed by the rest of the regions in Indonesia. Therefore even from the earliest stages, infrastructure in terms of accessibility has been a central concept in understanding the whole spectrum of tourism development in Indonesia.

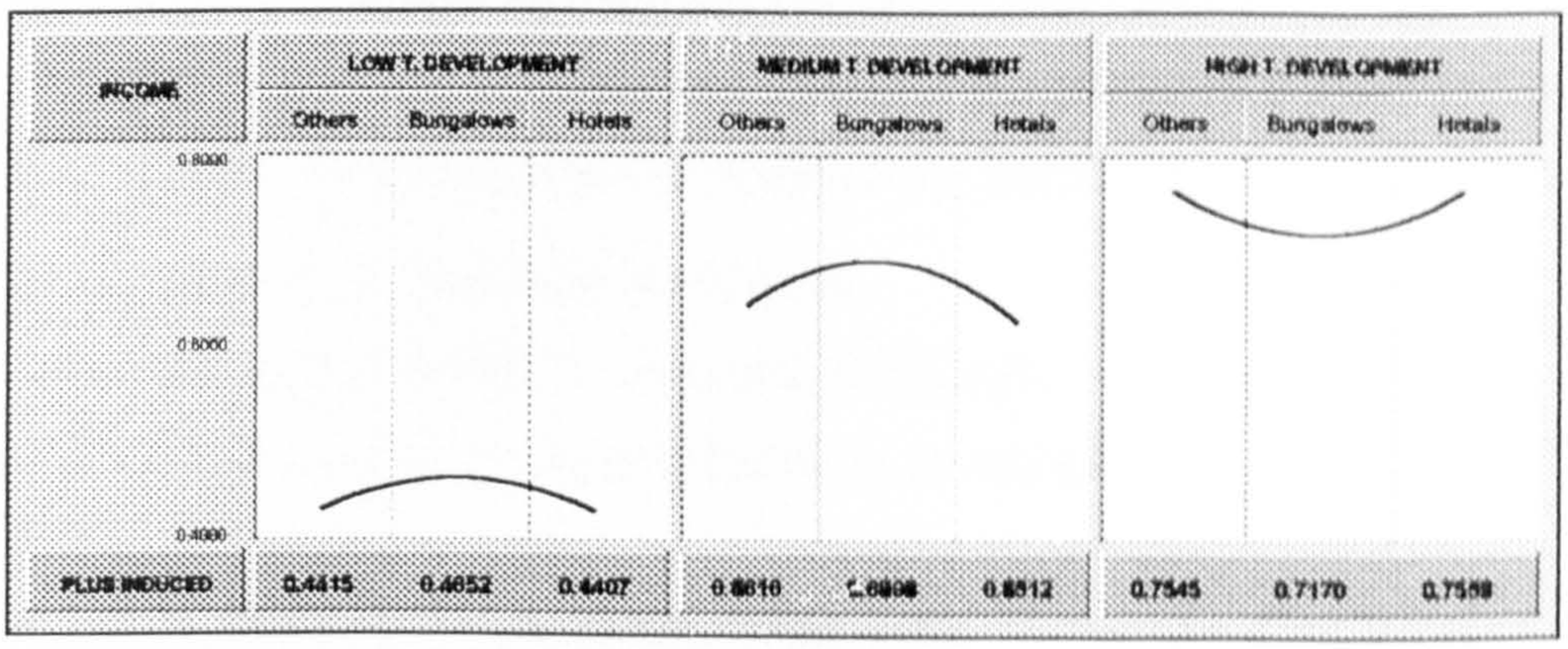
11.5.5 Summary

- Based on the above illustration, it can be concluded that the gravity concept regarding locational effects is a significant approach in examining the values of multiplier effects. Income values are more sensitive to accessibility as well as density related factors while output and import multipliers values are more sensitive only to accessibility factors.
- The multiplier values of employment and government revenue were found to be more independent. In conclusion, gravity law and inter-linkage principles appear to play a very important role for assessing the economic multiplier impacts of tourism in the regions. This is not only essential in relation to generating tourists and producing higher quality of development but also in order to address the generation of higher multiplier values.
- The main problems with low-volume tourism products are that they tend to be associated with economic subsistence levels combined with fragile environments, traditional culture, uniqueness and remoteness. The vulnerability of these regions to external pressures such as tourism can be explained as follows:
- The lower GRDP indicates that the natural and cultural assets are less available due to the lack of a 'pull' factor created by higher accessibility, and therefore the economy has a less diversified structure.
- The low populations in these regions tend to be associated with low availability of human resources (both in terms of quantity and skills). It should be noted that the total population of these regions is only 5% of the national population.
- These regions generate the lowest domestic tourism activities, which are essential in order to achieve economies of scale and form close economic sectoral linkages that can act as a catalyst for regions to absorb development from tourism.

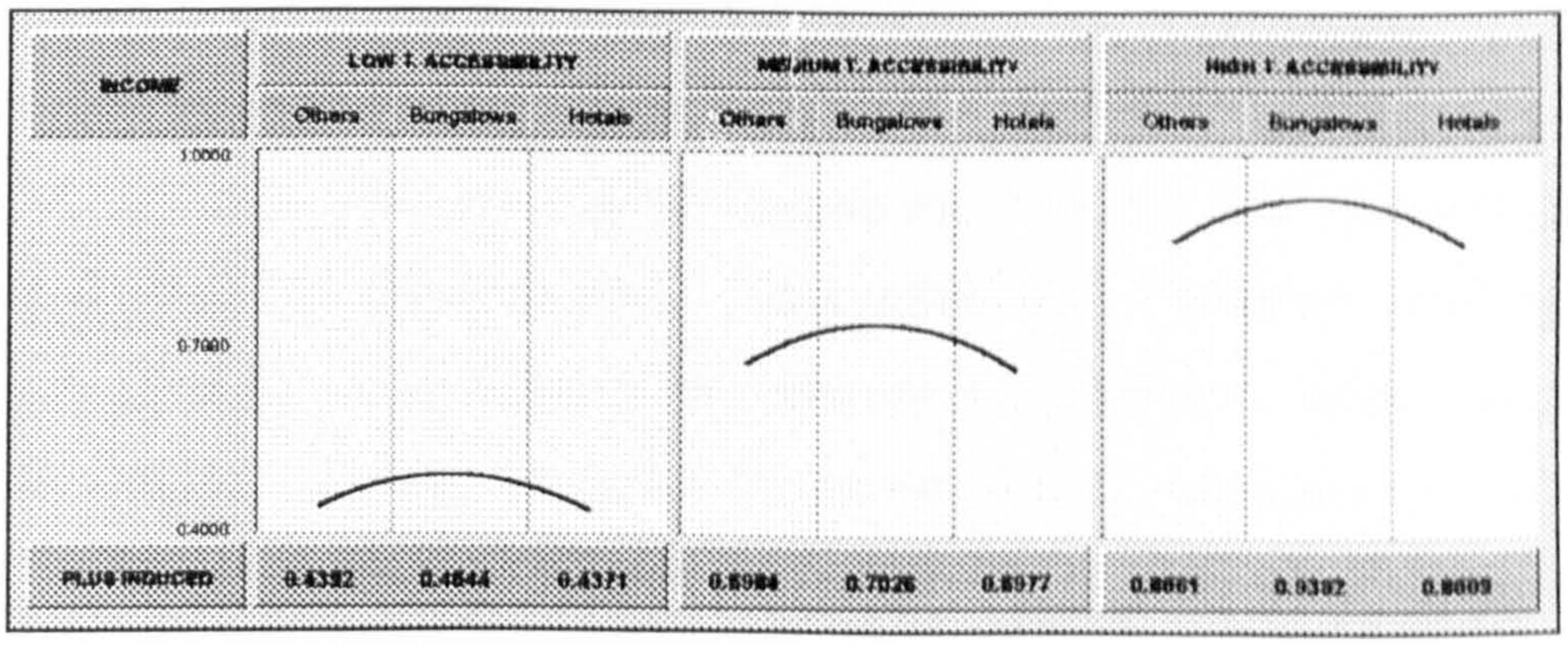
- These low volume tourism products tend to have fewer advantages both in terms of lower multiplier values generation, direct, indirect and induced impacts.
- This is parallel with the above illustration of findings confirming both the input/output and gravity combined principles that the laws of both inter-linkages and gravity are strongly intertwined in determining multiplier values of tourism. The less developed the regions, the farther the accessibility from the centre, the smaller multiplier values.
- There is a concept of 'absorption' involved in these relationships, that multiplier values are gradually absorbed by the medium in proportion to flow per unit economic distance. In conclusion that the deductive gravity model is applied within the spectrum of tourism multiplier values generations.
- This becomes a fundamental principle because the basic nature of tourism demands that the visitors must come to destinations in order to consume the product. Therefore, the role of inter-systems -- both inter-sectoral as well as inter-spatial -- are essential. It is suggested that these findings, with the importance and understanding of the concept of location, may be one of key starting points to address national and regional tourism development planning for better impact generation.

Figure 11.9 Income Multipliers within Similar Levels of Development, Accessibility and Density

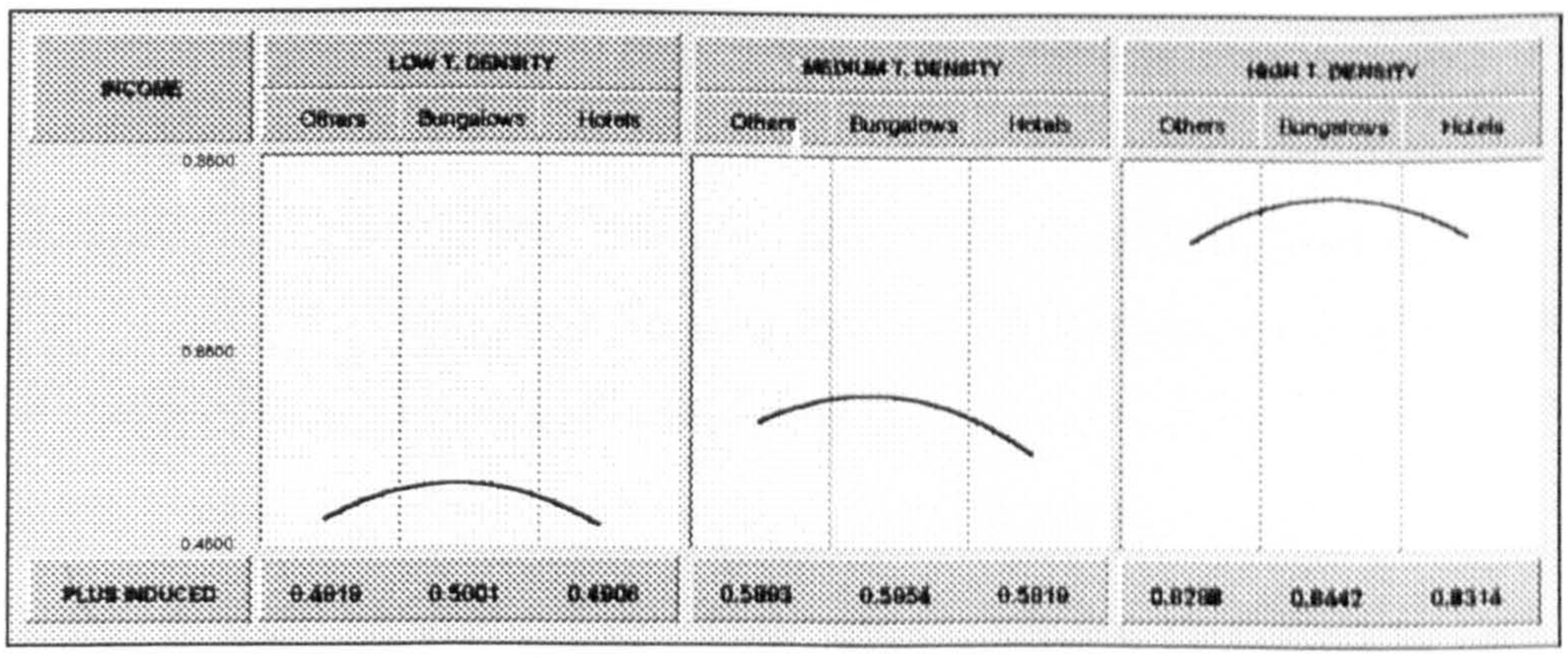
1. Income within Level of Development



2. Income within Level of Accessibility



3. Income within Level of Density



CHAPTER 12

IMPLICATIONS

Based on the previous chapter (General Comparison), the scale of accommodation and locational effects on multipliers may influence various aspects of tourism development such as:

- The nature of tourism products;
- The characteristics of tourism demand;
- The structure and development of strategies.

12.1 The Nature of Tourism Products

The implication of tourism multiplier characteristics on tourism products cover issues such as decisions on production, resource allocation and distribution among these chains of products such as attractions (which are mainly based on cultural and natural based resources), accommodation, transportation, brokers and other facilities and amenities. The issues of resource allocation and distribution are of concern to government, especially regarding whether national or regional decisions are needed to allocate those tourism resources, and to what extent, and where, so that their impacts can be maximised for the benefits of the regions concerned.

With respect to cultural resource based attractions, to some extent the ability to attract tourists depends on whether the cultural civilisation has a long history such as found in Java and Bali, meaning that they have longer period of exposure historically or longer interaction with outside world.

These cultural assets usually include architecture or archaeological monuments and sites, exotic traditions, art and crafts, music and folklore, museums, traditional villages and costumes. In the natural arena these assets can include resources such as mountains, parks, marine environment, and deserts.

In the arena of natural resources, major tourism attractions usually depend on the geographical and topographical settings of the regions, and thus location may influence the various aspects of tourism development. For Indonesia, as far as tourism attractions are concerned, it has been characterised by two main resources. They are the cultural and natural tourism in Bali and the cultural archaeological landscape in Java.

While the rest of the country's tourism resources are basically more adventurous based tourism activities such as jungle and interior life in Irian Jaya, Kalimantan, Sumatra, Sulawesi and marine activities in the eastern part of Indonesian islands. Based on the resource assets, the potential of tourism destination images have to be explored and may have potential to be capitalised both as a marketing image and a catalyst of the regional tourism development.

12.1.1 Scale of Attraction

Another important dimension is the scale of the attraction itself, whether having primary, secondary, or little attraction on a scale for international tourism (Jenkins, 1993). Two primary tourism assets such as Bali and Borobudur (the world's largest Buddhist Monument) located in Central Java, are cultural objects that have sufficient universal and unique values in their own right to generate across segments of tourists from across the world.

Unlike other types of attractions that may be sufficient for the domestic markets, these primary scales of attractions are able to function as the main motivation for tourists to visit the destination. Therefore, regions with this primary scale of attractions in them are likely to have higher levels of tourist density, accessibility and tend to be associated with higher multiplier values.

Regions with a significant proportion of primary scale of attractions are associated with a wide range of scales of tourism related business sectors such as smaller and medium scales of accommodations and other tourism-related business. Very often these primary scales of tourism attraction are located in regions with lower level of development in terms of GRDP per capita. Regression analysis on GRDP, GRDP per capita and number of tourists in regions in Indonesia suggest that there is no significant correlation.

In examining Bali and Yogyakarta, for example, Bali is categorised at a medium level of development (*Table 8.1: Regional Tourism Categories-Chapter 8*) while Yogyakarta notably is the only region in Indonesia with GRDP per capita lower than the national mean values. However, it managed to have higher added accommodation values than the national mean values.

Table 11.3 (*Annex)* demonstrates how Bali generates the highest value of income generation (more than the average value of the regions in Java) even within a medium level of development. This indicates that size and GRDP per capita do not necessarily determine the multiplier values in the regions.

Regions with primary scales of attraction tend to attract more diversified market segments due to the universality and uniqueness of those attractions. Therefore, hospitality in these two regions generates more diversified scales of accommodation in small, medium and large scale units. The accommodation sectors in these regions demonstrate a more balanced proportion of scale distribution in terms of the numbers of rooms with varying proportions between hotels, bungalows and homestays (*Table 3.1 – Chapter 3*).

The role of tourism resources in terms of its attraction scale (whether primary or secondary) in the regions, however, seems to be one of the drawing power of complementary relationships between different scales of accommodation establishments and other tourism related businesses in generating higher multiplier values. Therefore, the role of scale of both natural and cultural assets in one region needs to be studied further and may have the potential to be capitalised as a tool for regional tourism identity in order to enhance regional development.

12.1.2 Interdependency between Scales of Accommodation

It seems likely that there is an interdependent relationship between different scales of accommodations, as in regions where the proportion of different scales are more balanced such those as found in Bali and Yogyakarta, with higher multiplier values. For example, larger scale establishments help strengthen the image of the destination, and therefore assists in attracting different types of tourists who patronize medium and small scale accommodation, as well as other tourism businesses such as souvenir shops, restaurants, and local transportation services.

Therefore, a region with an integrated tourism product characteristic tends to generate more diversified and fragmented small-medium scales of tourism related enterprises and therefore tend to encourage higher income value generation. In another example, Riau (Batam) is another region with high income multiplier values. However, rather than cultural factors and primary attractions such as found in the previous regions (Yogyakarta and Bali), in Riau the higher values are likely due to factors of accessibility or location (in relation to time and price distances). In terms of Riau, it is its close proximity to Singapore and excellent transportation links by sea.

12.1.3 Resource Allocation and Distribution

In regards to the accommodation sector, the combination of resource allocation and location between sectors is likely to be the factor with the strongest influence in determining the most appropriate scale of establishments that should be developed for one particular region. However, the implications of location on tourism development is affected by non-economic factors as well. For instance, there are arguments made both for and against tourism development that is isolated or integrated with the local community, in terms of their socio-cultural impacts (Jenkins, 1982). For example, small scale tourism development may bring more direct economic benefits to the local community but also may transfer directly unwanted socio-cultural impacts such as social jealousy, lifestyle imitation, drugs and so forth.

From an economic viewpoint, the issue of most appropriate scale is significant regarding resource allocation between industries and scales of establishments. For example, the different scales found in the accommodation sector are associated with different patterns of multiplier values in the regions.

Resource allocation in a region is reflected through the distribution of sectoral transactions in each region, and the economic structure or the level of development represented by GRDP per capita. The location of tourism destinations is closely linked to areas that are represented by high levels of accessibility and density. The greater the time distance (as well as the more expensive the price distance), the smaller the number of tourists and the less the values of the income multiplier values in the regions.

The price distance is lower in more central regions, and access is easier to the more economically integrated regions where the multiplier values are likely to be higher. This is because central regions are characterised by higher competition and less monopolies in the various economic sectors, including transportation.

It can also be observed that every single value of multipliers has at least one accessibility-related variable as a determining factor. There are price distance factors for income multiplier values; total time of direct and indirect flights weekly for employment, output and import multiplier values; and regional mobility for government revenue multiplier values.

Nevertheless, regions with lower level of development, density and accessibility are likely to have fewer facilities and infrastructures; although they very often may be more attractive from the tourism attraction point of view especially for 'special interest' type of activities. These 'special interest' activities tend to have higher levels of tolerance and higher levels of acceptance regarding infrastructure limitations and accommodation choices.

Furthermore, the wide range of scales as well as quality of accommodation, and the variety of products offered gives an additional dimension due to fundamental economic factors that characterise the accommodation sector such as perishability and seasonality.

Regions with higher level of development, GRDP per capita and accessibility tend to have not only the ability to offer higher quality infrastructure and public facilities, but are associated with the larger scale hotel operation units and tend to provide better quality of goods and services. This is due to the level of competitiveness which tends to influence pricing strategies, profit levels, product differentiation, cost structures within tourism related sectors such as local transports, restaurants and souvenirs.

Though in terms of price in general, tourism related products in less developed regions tend to be more expensive due to the absence of competition across the chains of tourism sector products.

In other words, less developed regions, with lower location costs (buildings, land, labour etc.), tend to have a higher element of monopoly because the intensity of competition is less as demand within this area is lower. Unlike producers in higher development regions which means a more competitive market, therefore, that the monopolies in less developed regions have considerable control over the product price and level of output quality of both goods and services. Unfortunately, in developing counties, these various components of tourism supply across regions are very often deliberately organised through monopolies controlled from the centre and therefore there may be leakages.

Larger scales of accommodation tend to cluster in or around large urban areas, airports and on main transportation networks. Resort or holiday hotels are more likely to be independent and more widely dispersed, such as resorts attached to main tourist attractions. In this sense, the accommodation sector is actually similar to monopoly activity in which accessibility is a central determinant. Key locations, which are represented by being closer to the centre, show more commercial advantages and benefits and therefore generate higher profits. This is perhaps that larger scales of accommodation, which tend to monopolise locations, are likely to outbid the smaller scales in areas closer to centre where the costs of location are higher.

The distribution pattern of accommodation regarding scale and locational effects likely constitutes one important aspect on multiplier values. They help determine the amount of impacts generated by different scales of accommodation with different location distribution.

In summary, it is suggested most of the larger vertical chains of establishments in the accommodation sector tend to dominate the market in the higher developed regions, especially close to the centre.

However, in the higher tourist density regions, where the services provided by the hospitality sector are usually more fragmented into many small and medium scale units, location and spatial distribution of accommodation are important factors in determining the competition.

This is due to the fact that higher density regions tend to be able to offer more tourism-related product differentiation responding to the market segmentation and spatial competition, so that almost a symbiotic relationship between different scales of establishments occurs. Overall, accommodation establishments, as one of the principal components of tourism products, may be understood from two perspectives:

- Firstly, from the point of view of tourism as an industry, the characteristics of scale effects on multipliers likely determine the market structure, resource allocation, distribution, concentration, product differentiation and segmentation.
- Secondly, from the point of view of regional development, locational effect on multipliers determines the spatial distribution of tourism activities and spatial competition.

In the transportation sector, one of the complex challenges is how to maintain profitable routing and balanced capacity between regions, especially in the less developed regions. As in most developing counties, the air transport sector in Indonesia is characterised by strong government support, control and regulation (*Chapter 5*).

This is due both to the nature of the tourism industry, as well as a weak private sector, or a combination between a weak private sector and an over-centralised system of governance.

Therefore, the role of government in the air transport sector is beyond the role of facilitator, but acts in an entrepreneur and often a monopoly capacity. This is where the complex realities take place where they have to face with typical major air transport problems such as periodicity, seasonality and capacity. These are more acute in regions which are less developed and less accessible and depend very much on state subsidies.

It has been identified that locational constraint is likely to be one of the main determinants in generating benefits through the values of multiplier effects. Therefore, a combined approach of a more liberated air transportation policy and increasing economic interlinkages will likely assist tourism to generate higher benefit to the regions.

The population pattern is also significantly correlated with the generation of total employment and output multiplier values. The higher the population in a region means a more integrated regional economy, with higher employment and output values and lower import values. This supports the implication regarding resource allocation and distribution for tourism development in the regions.

The more adventurous tourism products such as found in Kalimantan, Sumatera, and the eastern part of Indonesian islands may only require low cost investment, but without a sufficient level of economic development, tourism is unlikely to generate enough benefits to the regions. As well, the distribution of TDCs (Tourism Development Corporation) and the distribution of KAPETs, Integrated Economic Growth Zone with tourism as a priority for economic development (*Figure 13.1 Gradation of Tourism Multiplier Values by Location from the Centre (with TDCs and KAPETs) – Chapter 13*) shows some of the TDCs and KAPETs are located in regions furthest from the centre economically. Therefore, these peripheral settings are unlikely to generate benefits desired from tourism and may lead instead to dependency and regional disparity.

12.2 The Characteristics of Tourism Demand

12.2.1 The Interdependency between Foreign and Domestic Tourism

As has been explained in the previous chapter, the demand for tourism in this research is focused on foreign rather than domestic tourism. However, it should be recognised that there is an interdependency between foreign and domestic tourism in maximising the benefits from tourism in regional development.

Domestic tourism plays an important role in forming the economies of scale within the regions in order to create closer linkages among tourism related goods and services, which enable regions to generate higher sectoral multiplier values. However, the domestic tourism market in a region tends to have a similar proportion to its regional population. Furthermore, the more developed the region, the higher the travel propensity of the population to travel outside the region.

The total number of foreign tourists and their patterns of expenditure in a region was found to be to be closely associated with the region's income level (or level of development), location or (level of accessibility) and the intensity of tourism activities or (level of tourism density). With respect to the pattern of expenditure, they are closely associated with the level of development, accessibility and density, and they also show similar patterns according to the population size.

Figure 12.5 (*Population and Total Number of Tourists - Annex*) shows that the correlation between population and total tourists is in a logarithmic linear graph. It is clear that higher tourist densities occur in regions with higher population density. The pattern of correlation between population and total income values

is consistently similar with the patterns of employment, output, total tourists and import (inversely). They are all strongly correlated in a similar linear form (*Figure 12.5-8 – Regression Analysis on Hotel Value Added Per Capita and Multipliers – Annex*).

The number of tourists as well as their scale of expenditure has considerable economic effects on income, employment, government revenue, output and input and balance of payment as well as environment and socio-culture of the tourist destinations. A fall in demand can bring about a decrease in income, living standards and raises unemployment. Conversely, an increase in demand can bring higher income and output but also can raise inflation and may raise environmental and socio-cultural concerns. Thus tourism demand affects all sectors of an economy (whether as individual, private or public business) as evidenced by the multiplier values.

The regression equation is represented in the graph that takes a logarithmic linear form of interaction. This may be explained in that regions where the population is higher, in Indonesia they have a more integrated economy it means that they have a higher level of suppliers, which seems likely to be linked with the higher level of domestic tourism. Domestic tourism is important in that it helps form the economies of scale within the regions in order to create closely related tourism goods and services, which is associated with higher income multiplier values.

The large scale of accommodation may be unable to attain significant economies by tapping the demand for tourism from domestic residents alone because of the more limited extent of market demand. International demand for their products can enable them to increase their output sufficiently to attain the desired increasing returns to scale.

The smaller scale of establishments in lower levels of development regions with lower demand, may be unable to compete within an international scale of products and prices and may be eliminated from the market even before they are able to gain sufficient economies of scale to compete effectively.

In such situations, therefore, there may be a case for short-term protection from the government to create a pioneering infant tourism industry, as an 'embryo' until it has achieved economies of scale and can form a *'net'* with other larger intersectoral establishments or other sectoral suppliers. The role of government in such situations (which are typical developing countries) becomes more crucial, not only in that the government has to play a public role but very often it also has to act as well as a pioneering agent in the private sector.

12.2.2 LOS, Expenditure and Maximising Benefits

Regarding the effect of multiplier characteristics within the framework of tourism demand, in terms of direct effects, the highest values were generated by tourists who stay a shorter length of stay (LOS) but exhibit higher spending behaviour. Figure 6.5 (*Length of Stay and Expenditure – Chapter 6*) and Figure 12.6 (*Total Income and Hotel Value Added per Capita – Annex*) explained that the correlation between the two is rather complicated by the fact that when hotel value added per capita increases, the total income values increase markedly. The regression equation represented by the graph which takes a logarithmic quadratic form.

Therefore, this may be explained that based by cross-references between Figure 6.5 and Figure 12.6, the higher the direct effects (in relation to hotel value added per capita), the higher the total income values generated within the region.

This is an interesting finding in that it appears to show that actually shorter stay tourists but with higher spending patterns of behaviour tend to not only generate higher direct effects but also total (indirect and induced effects) income multiplier values.

This finding has important implications in order to maximise the benefits to the regions in terms of tourism demand and preferences within marketing strategies as well as product planning and development.

Based on the above illustration, it is preferable to define targets in terms of the number of tourist length of stay (days) and to move towards maximising the expenditure per day. In this case, it suggests that significant gains can be made if the average length of stay can be reduced without reducing the total spend.

The implication is that expenditure for a reduced number of days would be increased. For example, the increase in the average of length of stay in 1994 from 5 to 7 days, for the same number of tourists has actually reduced total expenditure by Rp. 148 billions or 21%. Alternatively, reducing the length of stay to 3 days would have increased expenditure Rp. 352 billions or 50 %.

In regards to the overall income multiplier values (direct, indirect and induced), the implications of the income multiplier values for a given number of days in a length of stay is that when the length of stay increases, it would decrease the total income multiplier values generation.

For example, the increase of the average length of stay from 2 to 5 days for the same total number of tourist days, has actually reduced the total income effects by Rp 591 billions or 30% (*Figure 12.9 Regression Analysis on Income and Length of Stay – Annex*).

The reduction of the total income effects for the increasing length of stay from 2 to 5 days (the same number of expenditure and number of tourists) is even higher of 42% compared to the reduction of the direct effects. In regards to the total import multiplier values (*Figure 12.10 Regression Analysis on Imports and Length of Stay – Annex*) shows that the increase in length of stay from 2 to 5 days for the same number of tourists expenditure, has increased the total import effects from 0.541 to 0.75 or 34%. It appears that the longer the length of stay, the higher the leakages that will likely be generated.

However, it is necessary to take a comprehensive view regarding policy formulation towards length of stay and maximising benefits. There may be other considerations regarding policy implications, in relation between supply and demand to the characteristics of distances and length of stay, such as the cost of tourism development. The further the regions are from the centre or the more remote the potential destinations are, they are very often characterised by more adventurous activities of tourism, such as types of tourism products which need smaller costs or investment.

This is due to the demand characteristics within these types of destinations characterised by low demand and longer length of stay in less developed regions where visitors find it easier to adapt and accept more limited tourism services and products. Therefore, in regards to the length of stay, there are other considerations that may have implications leading to a longer length of stay being preferred. For example, the longer the length of stay, the higher possibility for visitors to stay in less expensive accommodation.

Within this consideration, therefore, that it is important to set the targets for the REPELITA and RIPNAS (National and Regional Tourism Master plans) formats. They need to be sensitive in aiming to achieve an average of optimal length of stay in relation to not only the direct effects but also the total generation of both income and import multiplier values.

In regards to the location effects from a demand point of view, on average as the access or distance from the centre increases, the total number of tourists decreases. A similar pattern occurs within income multiplier values. When the distance from the centre increases, there is simultaneously a significant pattern that occurs whereby there is an decrease in the corresponding of income multiplier values and an increase of import multiplier values.

However, there are differences in terms of sensitivity to the increases and decreases. The overall types of multipliers have different degrees of sensitivities to the distance variable. Income multiplier values tend to be the most sensitive, followed by import and output types; while employment and government revenue can be rather insensitive due to the minimum tendency to fall off with distance.

Figures 10.4-9 (*Time and Price Distances and Total Multiplier Values – Chapter 10*) demonstrates that increasing the distances from the centre would reduce the total number of tourists and income multiplier values, but would increase import values. The increasing time distance from 2 to 4 hours would reduce the income values from 0.584 to 0.454 or 22% less. In addition, increasing the time distance to six hours would have reduced total income values to 0.324 or by a total of 28% and increasing the time distance to eight hours would have reduced total income values to 0.194 or 40% less.

Within the first two hours time distance, the reduction of income values are 11% for each hour; and for the third and fourth hours time distance the income values' reductions increase at the rate of 14% per hour (or 3% more than the first two hours). Then for the fifth and sixth hours time distance, the reduction of the income values is 20% per hour.

There seem to be a pattern of regularities in the decreasing values of total income in relation with per unit distance. This finding supports the importance of the concept of *absorption* that exists in this relationship; multiplier values are gradually absorbed by successive regions in proportion to flow per unit of economic distance.

Figure 10.8 (*Regression Analysis on Time Distance and Income Multiplier Values – Chapter 10*) demonstrates that the further the regions from the centre, the less the income multiplier values generated by tourist establishments. The concept of centre here is in relation to the levels of accessibility, development and tourist density. Higher tourist density helps to contribute to the degree of 'closeness' between sectoral linkages, which support the performance of tourism activities in the regions.

With regards to import multiplier values, Figure 10.9 (*Chapter 10*) demonstrates that the further the location is from the centre, the larger the import multiplier values. The increasing time distance from 2 to 5 hours would have increase import values from 0.587 to 0.74 or increasing by 26%, and that increasing to 7 hours would have increased the total import values to 0.842 or an additional 13% more.

The significance of the distance variable was also consistently demonstrated by the determination of the similarities and differences of level of development that was based on the aggregate data.

Therefore it tends to conceal the significance for international activities such as tourism within the disparity or uneven pattern of regional resources. The complexities of the effects of these regularities of gradations which may be associated with variations in distance factors on the generation on multiplier effects needs to be studied further.

The impact of accessibility on the direct, indirect and induced effects is a crucial factor, especially regarding the analysis of regional economic development. Indirect and induced effects are important factors in relation to the spatial analysis of prioritising the development of tourist destinations and should taken into consideration.

12.3 The Structure and Development of Strategies

12.3.1 Balancing Objectives and Priorities

Development strategy is a central part of the government's role and activity in tourism policy and regional development. This is especially true when considering that the nature of tourism in any given region is the product of a complex interrelationship between economic and political factors on how to match the demand and supply resources. Hence there is a complex chain of interactions and feedback which adequate policy and planning models must aim to represent. However, the implications of development strategies in the field of tourism and regional development have not yet received that much attention and need to be further studied (Pearce, 1995).

Based on the notion that tourists must come to destinations in order to consume its product, therefore that the areas of interaction between supply and demand directly involve the host regions. In developing countries, planning policy for tourism is essential, especially as tourism has very often been viewed as having dependency elements to the international forces. That is, where an inherently exploitative relationship is seen to exist between wealthy tourist-generating 'more developed' countries' and relatively poor tourist-receiving 'less developed countries' (ECTW, 1988 and Lea, 1988).

The economic objectives for host regions as tourism destinations is mainly to increase their share of income and employment as well as maintaining the balance between population and their regional resources, while for the tourist industry it is principally to increase profits in a relatively short time. The political objectives are that the community of a region with potential tourism destinations should be allowed to participate actively in the decision making process in order that they may have access to alternative development possibilities.

The tourism industries have no formal political agenda but they have their own needs regarding the development of tourism attractions, which may generate conflicts with the development objectives in the regions. Hence, the important role of the state or national government to act as a mediating structure within the regional development process and between regional development objectives seems essential.

The interdependence between tourism and the host regions as tourism destinations is a very complex phenomenon. This intricate relationship brings forth issues such as the relationship between national and regional goals which sometimes generate conflicts; controls over international forces such as facilitation of investment generation; tourism entry policy; planning policy as well as regulation which involves international standardisation and qualifications etc.

For example, there are a series of factors that need to be considered in relation to the location of tourism destination allocation and distributions such as transport cost and proximity, availability of suitable labour, capital and land, supply of goods and services, ethos of government policy and socio-political stability.

Conflicts and issues relating to the relationship between subordinate-dominant or centre-periphery regions are probably inevitable, especially within developing countries with archipelago settings such as Indonesia. This is due to its regional economy that is characterised by a series of structural constraints.

12.3.2 Matching the National Market System with the Regional Supply System

In considering the issues of regional disparities and locational constraints, tourism in Indonesia can function as a centrifugal force in a 'hub and spoke' system, while at the same time it also has the potential to balance regional disparities through the power of its multiplier effects. Tourism can play an increasingly important role within regional entities that are sometimes characterised by isolation and the disproportionate allocation of both resources and population. Therefore, the role of government policy becomes very central in an attempt to minimise the centrifugal effects and to maximise regional balances.

The common issues that usually arise when the social valuation of tourism activities exceeds the private valuation at the margin, are within cases where governments wish to increase the level of consumption (Sinclair and Stabler, 1997). This is especially true in most regions within the developing countries where the number of tourists is considered as the main target due to urgent need for foreign exchange.

In other words, problems which become apparent are due to the imperfect match between the national market system and the regional supply system, which very often tends to lead to unsuitable tourism product development. Therefore, within this framework, the government's role becomes even more important especially in optimising the level of activities involved in tourism based on the regional development approaches rather than centrally planned tourism.

A national economy is divided into a set of regions, and that within each region, it is grouped into sectors. Therefore, a comprehensive approach to regional development analysis requires considering a region through a micro-approach in terms of its economic structure, through a macro-approach within a group of regions as a system, and all within the national context. In more specific terms, the analysis of tourism for regional development requires a certain degree of relatively compatible structural accounts, in order to assess the regional impact of a given economic change on one of the tourism components. As in many other countries (especially in most developing countries), such information in Indonesia is incomplete, and therefore, it makes the relationship between tourism and regional development analysis a difficult task.

At the regional level, there are two main activities which support development, the exogenous forces such as exports, and endogenous forces in the form of local materials (Hewing, 1985). The first type of activity is actually the main raison d'être for a region to exist.

The rationale behind this is that these exogenous forces are a combination of factors of access to local raw materials that have contributed to help define a region. The region produces goods and services for export to other regions. Tourism, as an intangible form of export in the regions, thus dependent upon the mechanism of market distribution over which regions have had little control because normally they are controlled by the centre. In parallel with the central place theory, the activities of the endogenous forces, are seen to be a function of centre-periphery relationship (King, 1984).

There is a need to acknowledge, therefore, that Indonesia consists of different regions with uneven rates of development, with some regions developing relatively fast and others tending to be left behind or even marginal in characteristics. These inequalities are usually in the form of:

- inequalities in regional standard of living
- inequalities in culture resources and identity
- inequality in social structure

For policy implications of tourism in regional development within the case of marginal regions, therefore, political, economic and socio-cultural platforms are required within the regions itself. The key factors for developing these platforms are integration, cooperation, professionalism, and quality (Speelman, 1991).

Within these regional inequalities and locational constraints, tourism has to function as a development tool for the regions. Therefore the issues of resource allocation and distribution which involve locations and scale of tourism related establishments should be one of the most important considerations within the tourism policy planning framework both nationally and regionally.

CHAPTER 13

CONCLUSION AND RECOMMENDATIONS

13.1 Fundamental Issues

Tourism may constitute a powerful strategy for regional development in many developing countries for variety of reasons. Assessing the contribution of tourism to regional development is mainly characterised by the prime concern of addressing the main issue of *narrowing the gap* in the broadest sense between different levels of development across regions. Tourism, therefore, is very often considered to serve as a means to redistribute benefits from higher developed regions, or more central regions, to peripheral regions. For these reasons, both national and regional government authorities include tourism as one of their main strategies to address their regional development goals and objectives.

However, the relationship between tourism and regional development is a complex phenomenon. The complexities and contradictions within tourism and regional development can arise by the fact tourism has the power to distribute benefits and stimulate sectoral interdependence into the less developed regions' economy through its multiplier values. However, simultaneously, this power may also create leakages and dependencies on external inputs from the more developed regions. Tourism leakages can occur at a regional as well as national level, and the degree of these leakages is determined by a number of key factors. These include the relationship between the nature and level of the regional development itself; the level of accessibility or locational constraint of the region; and the nature and density of tourist activities in the region.

It may be argued that tourism in regions where most of the input required can be provided from within the region itself through the networks of regional entrepreneurs supplying goods and services, then many of the tourism benefits will remain within the region concerned. Conversely, tourism in regions where tourist development depends primary on external inputs for capital, labour, technology, resources, expertise and infrastructure, then leakages from regional economies can be very high and may lead to dependence. This dependence, if occurs over a longer term, can lead to regional instability and imbalances, rather than generate development.

However, it shouldn't be argued that the conclusion from this argument is that regions should attempt to be completely self-sufficient. Regions develop because of differentiation – especially external differentiation -- and therefore a healthy interdependence based on complementary interplay among regional linkages should be sought.

Fundamentally, the goal for a regional approach should parallel the principles of comparative advantage theory that underpins international trade among nations. These principles underline global trade in which the goal is for each country to produce the goods and services at the most efficient rate and to sell those to other countries and vice versa (Vernon and Wells, 1991). However, in the real world, there are many obstacles to this goal including domestic protection, tariffs, hidden taxes, export restrictions and so forth which international organizations such as the World Trade Organization and APEC are trying to remove.

Therefore, in developing tourism in a regional context in Indonesia, the implications are that each region should develop its own comparative advantage rather than trying to produce all the goods and services needed to support tourism.

With this in mind, for example, it would be possible for one region to have most of the hotels while a nearby region supplied most of the agricultural products that the tourists staying in those hotels needed.

In summary, not all regions need necessarily develop 'tourism' in the same way.

In developing countries, the relationship between tourism and development is unique in that characteristics of tourism means it has a direct interaction with the regional social-cultural structure in that -- for the product to be produced -- the consumer must come to the destination. Many regions within the twenty- seven regions in Indonesia are still characterised as traditional societies, especially in the less developed regions. Therefore, the relationship between tourism and development in the regions is very often characterised by contradictions. For instance, regions with a higher level of development (such as Jakarta and Surabaya) are regions where their societies have modern attitudes towards economic activities especially in regards to overall tourism entrepreneurship.

The level of development is highly associated with the results of a broad process of modernisation taking place within societies in the regions. Regions with stronger traditions tend to be associated with less individualistic values compared to modern (or Western) attitude, values, knowledge and culture. Obviously, a region in which some societies are highly modern and others are still traditional will be less homogenous than a region in which all societies are at comparable high level of modernity.

Patterns of traditional or agriculture societies and social structures are very dependent on the natural environment rather than the pattern of service societies, which are based on market principles.

Within traditional societies, their social structure is shaped by geography, while service societies are likely to derive from differences in culture and social structures rather than geography, and that the former is more tangible while the latter more intangible (Huntington, 1996).

13.1.1 Interdependencies and Imbalances

Interdependence, as an ideological meaning, is simply a reflection of an interaction among different actors. However, as a concept, interdependence is a situation where a mutuality of interest and benefits have been stressed. The relation between interdependencies and imbalances within the contribution of tourism to regional development, therefore, is used in a context where the complex interactions involved have the potential to be formulated as mutual interaction or it can lead to dependencies and generate imbalances.

Within the tourism context, the concept of interdependencies and imbalances reflects the reality of tourism as one of the most intersectoral and cross-cultural activities in the world. This understanding is essential in order to be able to situate tourism in the increasing globalisation of various kinds of international industries and relationships.

This globalisation encompasses a wide range of factors affecting socio-cultural issues, the economy, ecology, and increasingly global flows of information, ideas, images, money, industry and especially people' s interaction. With these factors and concerns affecting the international tourism industry, the more complex tourism becomes. Somewhat paradoxically, it can be said that the bigger the economy, the more important the small players become (Naisbitt, 1996).

Therefore, in structural adjustment in tourism, the key element becomes the region rather than the nation-state (Ohmae, 1995).

The concept of multiplier, which forms the underlying framework of this research, is based on the recognition that the various sectors that make up the structure of the economic development are interdependent. Within this conceptual illustration, therefore, lies the essential nature of multiplier analysis, as a powerful tool that can help us understand the complexities of tourism characteristics. These include its impacts as well as its implications on the whole spectrum of tourism resources, demand and policy planning that are needed in order to try to match supply and demand.

The implications of tourism multiplier characteristics on tourism products cover complex issues, which are faced by governments in developing countries in day-to-day decisions. These issues cover the distribution of benefits from tourism, production, resource allocation and distribution among these chains of products such as attraction accommodation, transportation, other facilities and amenities.

The issues of both resource allocation and distribution are important especially regarding whether national or regional decisions are needed to allocate those tourism resources. Moreover, it has to be decided to what extent, and where, the resources should be allocated so that their positive impacts can be maximised, and the negative impacts can be minimised for the benefits of the regions concerned.

These national and regional decisions cover issues such as allocation, distribution, regulation and co-ordination within the multilevel decision making process for national, regional and local units.

13.1.2 Intersectoral and Interspatial Systems

As set out in Chapter 4, what makes tourism a unique phenomenon compared to any other consumer-production relationship is that tourists must travel to the location of the destination in order to consume its products. Since tourism largely produces intangible services rather than tangible economic goods, therefore, the effectiveness of their output requires the simultaneous interaction of supply and demand at the destinations.

The location of a tourist destination reflects a complex relationship involving consumer-production, consumers, inter-regional differentiation in terms of access, economies of scale of operation as well as the whole chains and characteristics of its operation. By definition also, tourism involves travel to a destination away from a usual habitat; therefore, accessibility has to be considered to be one of the fundamental factors determining the contribution from tourism.

The level of accessibility of a region significantly affects the value patterns of multiplier value generators. Based on the above illustration, it can be concluded that gravity concept, which underlines the role of distance and the pulling power of the destination regarding locational effects, can be a significant tool in examining the values of multiplier effects.

Income values are found to be more sensitive to accessibility as well as density-related factors, while output and import multiplier values are more sensitive only to accessibility factors. The multiplier values of employment and government revenue are found to be more independent.

In conclusion, gravity law and intersectoral linkage principles appear to play a very important role for assessing the economic multiplier impacts of tourism in the regions. This is not only essential in relation to generating numbers of tourists and producing higher quality development but also in order to address the generation of higher multiplier values.

These findings confirm that historically tourism in Indonesia originally was initiated by outside or 'external' forces deciding among several potential attractive destinations. These forces interacted with internal actors, which then was further developed by local entrepreneurs. Two main entry points -- a small island and colonial networks were the foundation of Indonesian tourism.

Bali was the first example of small island tourism, located at the tip of Java; and Java itself developed along the infrastructure networks used by the colonial regime along the network of economic exploitation linking region to region. This background can also help explain the domination of present day tourism products in Indonesia by Bali and Java, in contrast to the rest of the regions. Therefore even from the earliest stages, infrastructure in terms of accessibility has been a central concept in understanding the whole spectrum of tourism development in Indonesia.

Another important dimension is the scale of the tourism attraction in the region itself, whether having primary, secondary, or little attraction on a scale for international tourism (Jenkins, 1993). For example, two primary tourism assets in Indonesia such as Bali, and Borobudur, (the world's largest Buddhist Monument) located in Central Java, are cultural objects which have sufficient universal and unique values in their own right to generate interest across different segments of tourists from all over the world.

In regards to cultural resource based attractions, the level of attractions usually depends on whether the cultural civilisation has a long history such as found in Java and Bali, meaning that they have longer period of exposure historically or longer interaction with outside world. Unlike other types of attractions that may be sufficient for the domestic markets, these primary scales of attractions are able to function as the main motivation for tourists to visit the destination.

Therefore, regions with significant scales of attractions are associated with generations of different scales of tourism related business sectors such as smaller and medium scales of accommodations and other tourism-related business. They are likely to have higher level tourist density, accessibility and tend to generate higher multiplier values.

The role of tourism resources in terms of its attraction scale (whether primary or secondary) in the regions, however, seems to be one of the drawing powers of complementary relationships between different scales of accommodation establishments and other tourism related businesses in generating higher multiplier values.

Therefore, the role of scale of both natural and cultural assets in any region needs to be studied further and may have the potential to be capitalised as a tool for regional tourism identity as a marketing image and product development in order to enhance regional development.

In regards to the accommodation sector, the combination of resource allocation and location between sectors is likely to be the factor with the strongest influence in determining the most appropriate scale of establishments that should be developed for one particular region.

This issue is significant due to the differences in resource allocation between industries and scales of establishments. For example, the different scales found in the accommodation sector stimulate different patterns of multiplier values generated into the regions.

Regions with higher level of development, GRDP per capita and accessibility tend to have not only the ability to offer higher quality infrastructure and public facilities, but also to attract larger scale hotel operation units and to provide better quality of goods and services. This is due to the level of competitiveness which tends to influence pricing strategies, profit levels, product differentiation, cost structures within tourism related sectors such as local transports, restaurants and souvenirs.

Though in terms of price in general, tourism related products in less developed regions tend to be more expensive due to the absence of competition across the chains of tourism sector products. In other words, less developed regions, with lower location costs (buildings, land, labour etc.), tend to have a higher element of monopoly because the intensity of competition is less as demand within this area is lower.

Unlike producers in higher development regions that have a more competitive market, the monopolies in less developed regions have considerable control over the product price and level of output quality of both goods and services. Unfortunately, in developing counties, these various components of tourism supply across regions are very often deliberately organised through monopolies controlled from the centre.

Larger scales of accommodation tend to cluster in or around large urban areas, airports and on main transportation networks. Resort or holiday hotels are more likely to be independent and more widely dispersed, such as resorts attached to main tourist attractions.

In this sense, the accommodation sector is actually similar to monopoly activity in which accessibility is a central determinant.

Key locations, which are represented by being closer to the centre, show more commercial advantages and benefits and therefore generate higher profits. This is perhaps because larger scales of accommodation, which tend to monopolise locations, are likely to outbid the smaller scales in areas closer to the centre where the costs of location are higher. Scale and locational effects on multiplier generation therefore likely constitute one important aspect in the distribution pattern of accommodation. They help determine the account of impacts generated by different scales of accommodation with different location distribution.

In regards to the target market, tourists with a profile of a short length of stay but higher expenditure are likely to be the main target in order to generate higher multiplier values.

However, a longer of length of stay would result in a lower generation of benefits to the regions. Therefore, it is likely that making tourism as a development tool with a longer length of stay as the target will likely lead to regional imbalances and disparity, rather than generating more benefits to the regions.

Within this consideration, therefore, that it is important to set the targets for the REPELITA and RIPNAS (National and Regional Tourism Master plans) formats. They need to be sensitive in aiming to achieve an average of optimal length of stay in relation to not only the direct effects but also the total generation of both income and import multiplier values.

This strategy though is not without difficulty for many reasons among which are the main product characteristics which are likely to pose problems for the rest of the regions outside of Bali and Java which are characterised by 'low volume' tourism development.

The main problems with low-volume tourism products are that they tend to be associated with economic subsistence levels combined with fragile environments, traditional culture, uniqueness and remoteness. The vulnerability of these regions to external pressures such as tourism can be explained by a number of important factors.

The lower GRDP indicates there is low accessibility meaning that the natural and cultural assets are less available, and therefore the economy has a less diversified structure. The population in these regions have a lack of access to centres higher education and tend to need considerable human resource training to develop the necessary skills. Furthermore, the combined population of these regions is very small, less than 5% of the total for Indonesia.

These regions therefore generate the lowest domestic tourism activities, which are essential in order to achieve economics of scale and form close economic sectoral linkages that can act as a catalyst for regions to absorb development from tourism.

In such situations, therefore, there may be a case for short-term protection from the government to create pioneering infant tourism industry, as an 'embryo' until the local tourism industry has achieved economies of scale and can form a *'net'* with other larger intersectoral establishments or other sectoral suppliers. The role of government in such situations (which are typical of developing countries) becomes more crucial, not only in that the government has to play a public role but very often it also has to act as well as a pioneering agent in the private sector (Jenkins and Henry, 1982).

13.2 Main Research Findings

The objectives of this research as stated in Chapter 1 were to examine the influences of scale and location on the multiplier values associated with tourism expenditure in each of the regions of Indonesia. A summary of the main findings and fundamental issues in this research are as follows:

- Each region has its own regional differentiation, uniqueness, and similarity in characteristics. These differences involve location or accessibility, proximity to the centres of economic activities, regional economic structures, type and characteristics of tourist activities and spending patterns. These main characteristics have all influenced the patterns of multiplier values found within the twenty- seven regions and at the national level.
- Within the different types of multipliers, the scale of accommodation and location play a variety of roles. Income and import multiplier values are strongly influenced by the scale of accommodation and location, while output, employment and government revenue multiplier values are less sensitive.
- In almost all cases within regions, the medium scale of accommodation, such as bungalows, tend to be responsible for higher sectoral income and output multiplier values. They also tend to have the lowest import multiplier values. This may be because the larger scale of accommodation is more likely to be characterised by centralised volumes of purchasing power, and therefore they have a greater ability to buy goods and services from outside the regions or countries, which leads to greater import values. Whereas the smaller scales of establishments tend to have a relatively small volume and operate within a more unstructured or less integrated economy, which has a lesser ability to absorb regional tourism purchasing.
- The less developed regions were found to be associated with higher direct imports relative to indirect and induced values. This may be due to the lack of inter-linkages available in relatively underdeveloped regions to absorb tourist purchasing power, therefore producing smaller indirect and induced multiplier values.

- The complexity of estimating the values of employment multipliers is shown to be extremely difficult. This is especially true when attempting to calculate one FTE (full time employment) within the Indonesian context where the combination concepts of extended family and helpers (*'pembantu'*) are strongly applied. The employment impacts, however, tend to concentrate in the regions where the direct income values are higher or where tourists spend money directly (e.g. in hotels).

- The seasonal nature of tourism activities from region to region makes it even more difficult to assess employment generation. This is especially true in terms of full-time permanent jobs, which can be compared with those created by most other industries. Therefore, the assessment of employment multipliers was not entirely satisfactory since there is a considerable degree of arbitrariness in weightings used. As well, the method conceals qualitative differences between the type of job created, whether full-time, permanent or seasonal, or whether it is even called a 'job'.

- At the regional and national levels, there has been considerable contrast. While the average regional income values are about 0.49 which is about half of the national value of 1.05. This implies that the Indonesian economic structure as a whole is able to absorb considerable levels of benefits from the flows of tourism related business turnover, while it leaves considerable disparity within the regions.

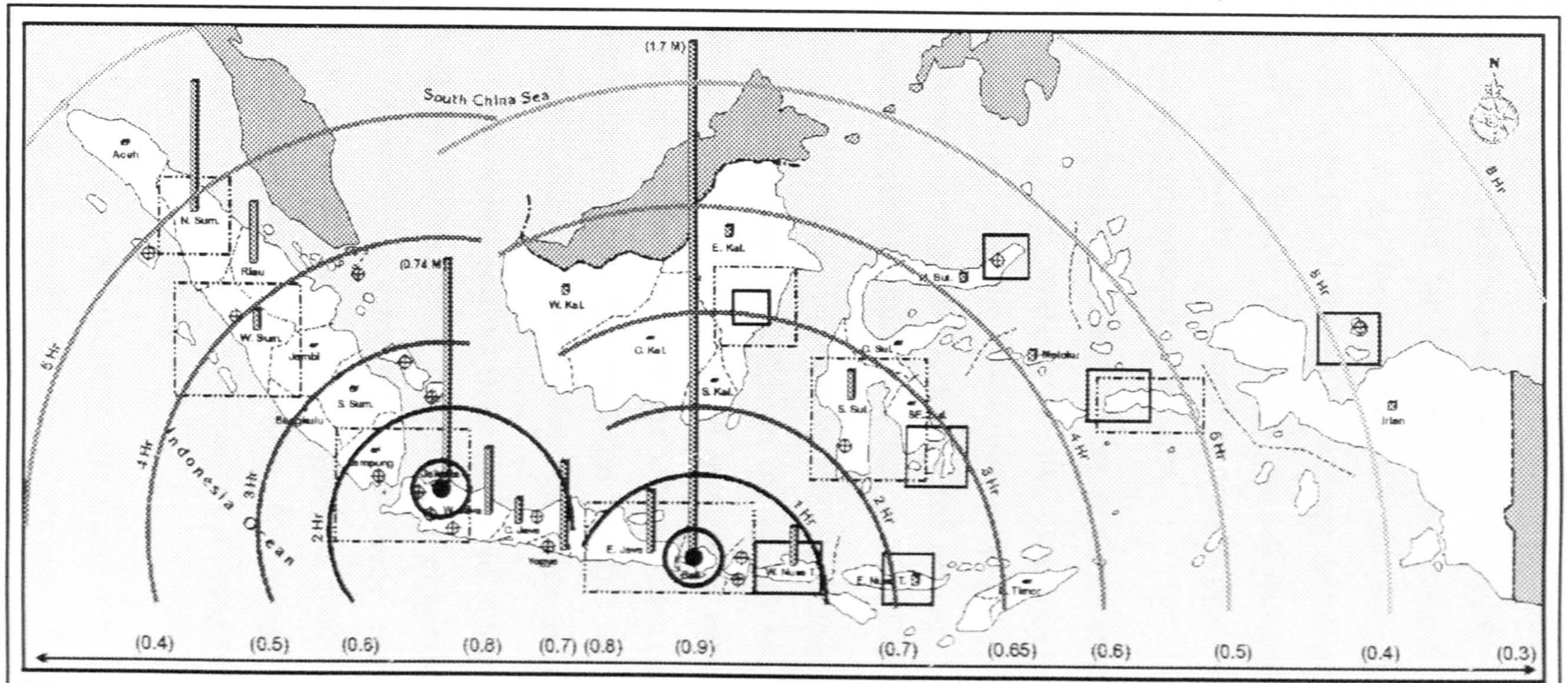
  Nevertheless, caution needs to be observed regarding the comparison between national and regional values in relation to national/regional imbalances. This is because even if there was a perfect balance between regions, the regional multipliers would still be much lower than the national one. In fact, the more balanced the regions, the lower could be the regional multiplier values. This is due to the power of multipliers that lie in the dynamic interlinkages that they create within an integrated economic structure.

- In regards to the location effects from a demand point of view, on average as the access or distance from the centre increases, the total number of tourists decreases. A similar pattern occurs within income multiplier values when the distance from the centre increases, there is simultaneously a significant pattern whereby there is a decrease in the generation of income multiplier values and an increase of import multiplier values.

- Figure 13.1 (demonstrates that within the first two hours time distance, the reduction of income values are 11% for each hour; and for the second and third hours time distance, the income values reductions increase at the rate of 14% per hour (or 3% more than the first two hours). Then, for the fifth and sixth hours time distance, the reduction of the income values are 20% per hour. There seem to be a pattern of regularities in the decreasing values of total income in relation with per unit distance. This finding supports the importance of the concept of *absorption* that exists in this relationship, successive regions in proportion to flow per unit of economic distance gradually absorb multiplier values.
- The policy implications that flow from Figure 13.1 is that the government should attempt to push out the 'contour' lines to widen the economic benefits from tourism through the regions.
- The evidence suggests that tourism in Indonesia is related strongly not only to development disparities but also to locational constraints. These are significant factors that should be addressed in the overall national intersectoral development plan for tourism.
- In conclusion, the deductive gravity model is applied within the spectrum of tourism multiplier values. This becomes a fundamental principle because the basic nature of tourism demands that the visitors must come to destinations in order to consume the product. Therefore, the role of inter-systems -- both inter-sectoral as well as inter-spatial -- are essential. It is suggested that these findings, with the importance and understanding of the concept of location, may be one of key starting points to address national and regional tourism development planning for better impact generation.

This has implications in terms of government decisions concerning resource allocation and distribution for tourism development within the nation-region policy- making relationship. It suggests that not all regions are suitable for the same kind of tourist development as many different factors play an important role such as the national and regional supply and demand, the characteristics of distances, scale of accommodation, type of tourism, length of stay, the cost of tourism development, and the policy on investment regarding subsidies and compensation.

Figure 13.1 Gradation of Multiplier Values by Location (With TDC and KAPET)



LEGEND :

- Total Tourists
- T D C
- Tourism as a priority (KAPET zone)

• TOTAL INCOME MULTIPLIER VALUES •

TOTAL INCOME	
JAKARTA	0.85
BALI	0.93
RIAU	0.78
YOGYA	0.76
N.SUM	0.77
W.NUSA T.	0.74
S. SUL	0.50
E. KAL	0.53
W.SUM	0.50

TOTAL INCOME	
MALUKU	0.45
E. JAVA	0.81
W.JAVA	0.63
C. JAVA	0.68
N. SUL	0.63
S. KAL	0.59
LAMPUNG	0.49
S. SUM	0.47
W. KAL	0.44

TOTAL INCOME	
ACEH	0.44
E.NUSA T.	0.38
C. SUL	0.36
SE. SUL	0.41
JAMBI	0.41
BENGKULU	0.40
C. KAL	0.36
IRIAN	0.39
E. TIMOR	0.39

For example, the findings suggest in Indonesia that a radius band within three hours time distance from the centre is likely to be the optimum band for tourism development. However, it does not follow that any location beyond the three-hour radius is therefore unsuitable for all forms of tourism development. It is precisely the need to recognise the importance of integrating economic linkages and accessibility as simultaneous factors within the structure of tourism development strategies.

In developing countries, where regional levels of development vary and they are even typically characterised by disparity and imbalances, the role of tourism becomes even more essential. Due to these realities, tourism can not be approached only in terms of master planning and marketing, it is a problem of development.

This is especially true when the implications of the 'Asian crisis' started to occur and affected travel and tourism activities through the problems of overvalued exchange rates and inflation. When such countries turned to the IMF for short-term assistance (or the World Bank for the medium term), '*structural adjustment*' is usually a prerequisite for the assistance to flow (De Kadt, 1996).

The main ideas behind the concept of structural adjustment takes the forms of reducing government expenditure, and diminishing the political or administrative scope for decision making on resource allocation and the supply of goods and services. This is a parallel concept of shrinking the range of centrally planned economic activities by government moving towards decentralisation into the regional levels.

This structural adjustment approach will make the market more influential in terms of the allocation of resources for tourism development and management rather than having resource allocation politically inspired and administratively guided.

This will have implications for a new spectrum of tourism privatisation issues on a substantial scale and also affect social policy, which should be considered as an equal priority within the macro-economy equilibrium of tourism policy.

13.3 Recommendations for Policy Makers

Tourism policy is the product of complex, interrelated economic and political factors and the political aspects of tourism are interwoven with its economic consequences (Hall, 1994). As well, it can be said that tourism is not a continuation of politics but it is an integral part of the world's political economy (Edgell, 1990). Decisions affecting tourism policy, the nature of government involvement in tourism, the structure of tourism organisations, and the nature of tourism development all emerge from a political process.

This process involves a variety of actors (individuals, interest groups, public and private organisations) in a struggle for power or authority.

The goals of policy making for tourism, both national or regional, is to integrate the economic, political, cultural, intellectual and economic benefits of tourism cohesively with people, destinations, and countries in order to improve the total quality of life and provide a foundation for peace and prosperity (Edgell, 1990).

The above premises thus set the importance of the understanding tourism and its related impacts within its inherently political nature. It is understood also that the interrelationship between tourism and politics function systematically at a number of levels and dimensions ranging from international to the individual.

It also seeks to emphasise the contribution that are some of the traditional concerns of political areas such as philosophy, institutional arrangements, interest groups, many different levels of government role, and political stability. Therefore, it is important to emphasise the conceptual understanding that in planning tourism policy, it involves more than planning per se but also involves actions, planning, monitoring, and modifications whether dealing with policy successes or failures.

Tourism policy may function as a mediating structure between scientific analysis and real or concrete measures concerning how tourism serves as a means of development policy in a country or regions. In more concrete terms, Sessa (1983, pg.150-152) states that the implementation of specific economic policies by the various national decision-making processes is to promote national or regional development.

In this regard, therefore, tourism policy should exist side by side with the analysis of tourism economics. The different emphasis is that economics deals with normative approaches to policy making, while politics deals with concrete realities. Nevertheless, it should be acknowledged that there is certain degree of interrelationship or overlap between the two disciplines.

Adopting an analytical approach, it can be said that economics evaluates policy options on the basis of merits, and politics would then outline the preferred objectives and goals to be followed up by options in the form of operational programs, priorities and stages.

The lack of research on the policy implications of tourism, especially tourism in relation to regional development, is even greater and even more surprising given the emphasis by politicians on tourism as a means of economic development (Mathieson and Wall, 1982; Williams and Shaw, 1988a; Pearce, 1989; Hall, 1991a).

Based on the above illustration, the areas of policy making for tourism are therefore areas involving values, choice, priorities, commitment of resources within the public jurisdiction. In short, it is about decisions and compromises for the benefit of the public good. With this conceptual framework in mind, and based on the main findings of this research, recommendations for policy makers cover the following areas:

13.3.1 Tourism within the National-Region Relationship

As in other development sectors in developing countries, tourism is usually centrally planned and developed. In tourism terms, there is a consequence of potential tension between a national authority and a regional one over scales and resources management for tourism. For public policy makers at the national policy level, perhaps equality is a more important priority than efficiency, which may not the best scenario for tourism development in the regions or even in the country as a whole.

It suggests that in the short run, strong national policy planning may lead to a clear image and facilitate international marketing but it may have some disadvantages in promoting regional uniqueness and images. In the long run, structural adjustment in terms of decentralisation in planning and management for tourism in the regions and promoting heterogeneous regional images featuring ethnic and cultural diversity may in fact be more beneficial not only to the regions but also to the country.

Within this structural adjustment approach, the role of government in as a mediating structure in developing tourism becomes even more crucial. Clear objectives and priorities that can be delineated in a national and regional context are essential.

Given the differentiation and uniqueness in order to be able to absorb the benefits of tourism that exist across regions in terms of features and location, tourism development may be a high priority in one region, lower in another, or not at all be a priority.

13.3.2 Tourism as Intersectoral and Interspatial Systems

Before offering the varying levels of policy formulation, determining the goals and objectives, planning and programming, it is necessary to understand the patterns of behaviour of tourism within both national and regional development contexts.

For the tourism sector, the importance of these behavioural issues arises since the tourism industry or system is composed of intersectoral components in which within these chains of the sectors represent a multitude of services, facilities and resources. However, multiplier analysis offers a powerful tool in order to 'deconstruct' tourism, in order to understand interdependence between different sectors, which make up the economy as a platform for tourism to grow.

It is clear that tourism has the potential to be included in not only the national but also the regional development agenda. However, it requires a good understanding regarding the principles of interdependence-dependence in order that tourism may function in a 'hub' and 'spoke' manner for distributing the benefits to the less developed regions. Any models of tourism developments using whatever terminology, such as TDCs (Tourism Development Corporation), 'Enclave Resort', 'Small Scale Tourism Development' and so forth, should not be interpreted as an automatic 'remedy' for any particular region.

Each region has its own regional differentiation, uniqueness, as well as similarities in characteristics regarding to tourism development. These differences involve location, accessibility, proximity to the centre regarding economic activities, as well as regional economic and socio-cultural structures.

The multiplier values associated with tourism in the regions depends on the interplay between this regional differentiation, and tourist spending patterns and activities as external forces.

The role of scales of accommodation within the context of multiplier generation across regions should be incorporated into overall tourism development policy planning. This is especially in order to address issues such as resource allocation and distribution across regions regarding what scales of accommodation should be encouraged to be developed. However, decisions regarding to what extent, where and when various scales of accommodation should occur have to respond to market forces and supply/demand considerations in what is in the end the responsibility of the private sector.

Public policy planning regarding scales of accommodation, also leads to implications regarding the need for planning and decisions regarding human resource development and investment, manpower planning within different scales of accommodation, education and training.

These measures should assist in revitalising weak entrepreneurs and the private sector in tourism businesses which need to be approached from concepts of competence and competitiveness instead of monopoly and protectionism.

13.3.3 Widening the Radius of Gradation of Tourism Benefits

Based on the findings, there is a indication of a gradation of tourism benefits that follow the contour lines of optimal income values within three hours radius from the centre. Therefore, it is important for the policy-makers to make every effort to widen these contour lines to encompass regions with the target of encouraging economic linkages beyond the three hour radius.

The central role of accessibility within the tourism context has to be understood and be treated as a matter of the highest importance.

This issue leads to the need to liberalise travel and tourism policies, and the national or central government is the only body that can take national level decisions regarding aviation liberalisation, industry privatisation and specifically the degree to which regional open sky policies are implemented.

Within an archipelago setting such as Indonesia, accessibility is vital. This highlights issues in transportation infrastructure, particularly airports, seaports and airline expansion as well as software infrastructure such as information technology and training.

This effort is necessary in order to close the gap between the centre and peripheral regions. The tendency for tourism benefits to decrease and import values to increase as you move further from the centres to the periphery according to deductive gravity and absorption principles, suggests that forcing tourism to be developed in regions without sufficient levels of supporting accessibility, development and density may create dependence instead of generating benefits to the regions.

Both central and regional governments need to encourage inter- and intra-regional integration efforts in order not to limit access or encourage protectionism.

13.3.4 Tourism and the Need for Structural Adjustment

It is import to recognise how tourism performs nationally and regionally in terms of its patterns of benefits distributions especially in terms of income, employment and import. With this as a conceptual framework, then strategies can be decentralised so that policies can be derived and integrated into structural adjustment programs of regional tourism development with the national level offering macro guidance only.

Tourism within the structural adjustment framework should take the forms of more market-oriented policies over politically inspired and administratively guided allocation. This will shrink the range of centrally planned economic activities by government, and reduce the political or administrative scope for decision making on resource allocation and the supply of goods and services for tourism.

With respect to the policy towards international target markets, tourists with a profile of a short length of stay but higher expenditure are likely to be the main market segment in order to be associated with higher multiplier values. This strategy is not without its difficulties for many reasons among which are the main product characteristics which are likely to pose problems for the rest of the regions outside of Bali and Java which are characterised by 'low volume' tourism development.

However, there may be other considerations regarding policy implications regarding the cost of tourism development in relation to supply and demand issues as well as the characteristics of distances and length of stay. The further the regions are from the centre or the more remote the potential destinations are, the more often they are characterised by more adventurous activities of tourism, which are types of tourism products that need smaller costs or investment.

Within this consideration, therefore, it is important to set the targets for the REPELITA and RIPNAS (National Development and Tourism Master plans) formats based on the objectives linked to structural adjustment. These targets need to be sensitive in aiming to achieve an optimal length of stay in relation to not only the direct effects but also the total generation of both income and import multiplier values.

13.4 Recommendations for Further Research

The relationship between tourism and regional development in developing countries is a complex interrelation among not only economic but also socio-culture and political structures or multifaceted structures within the spectrum of global-local as well as nation-region relations. These issues, combined with a growing dissatisfaction with current governing systems and process of tourism development in developing countries, may require a new framework or paradigm for tourism.

The widening gap between regions within a country, as well as between developed and developing nations, continues to cause frictions and to be a constant source of concern in the search for more balanced and harmonious tourism development.

Interdisciplinary tourism research should become an integral part of planning for development within a total implementation model in order to enable plans to adapt to changing conditions. Thus, critical studies and researches in addressing those complex issues need to be encouraged taking the widest possible perspective from not only multidisciplinary approaches but also interdisciplinary ones.

Multiplier effects should be viewed as one among other complex indicators regarding the contribution of tourism within the intersectoral dependence of economic structures. However, the combined approach based on an Input-Output framework of a region's economy together with a gravity based model of links between regions provides a powerful description of the sectoral and spatial structure of an economy that may be used to reveal tourism performance in the economic structure of the regions.

The issue of integrating intersectoral and interspatial approaches within a tourism context still lacks attention both in terms of research and study areas as well as policy planning interests. Many conventional approaches tend to separate the two as a single issue in tourism planning and development.

Therefore, an integrated systems model based on these two concepts (intersectoral and interspatial) may be one study area that should be encouraged to develop a more comprehensive approach in understanding tourism and regional development.

The rise of global/ transnational flows of virtually all aspects of human experience and life (values, information, fashion, technology, money, cultures and so forth) all affect the international tourism industry, with a resulting increase in the complexity of tourism as an industry. There is a need for a new interpretation and understanding of the concepts of scale and location so that tourism not only has to be studied within a nation-region interrelation but within the global-local nexus. The world-wide trend towards the establishment of hemispheric trade blocs, and the movement towards world regional economic, political and technological integration needs to be understood in the way that it affects how the international tourism industry will function in the future.

These changes may profoundly affect the way the world defines concepts such as 'public' 'private' 'region' and 'state', and how they change the way people travel 'cross-regionally' 'cross-nationally' as well as 'cross culturally'.

Another related issue that needs to be further studied within this context, is that there are very strong pressures for privatisation, entrepreneurship in all levels, and deregulation of tourism facilities and services within a shrinking government budget. For developing countries in particular, these pressures have forced both public and private sectors to adjust to these new realities.

A final crucial point that should be identified as an important research area within the study of tourism is the role of cultural diversity within a global society. World travel and tourism combined with the mass media and information age have created a tremendous pressure for global homogenisation of the concept of 'products'.

The implications in tourism and travel perspectives is that this homogenisation has led to concern regarding the fundamental motivation to travel which is based on cross-cultural differences. It may be that the role of 'regional diversity' may offer an endless source to rediscover the wonders that the world, and humankind, has to offer.

ANNEX

ADDITIONAL TABLES AND SUPPORTING FIGURES

Annex: Additional Tables and Supporting Figures

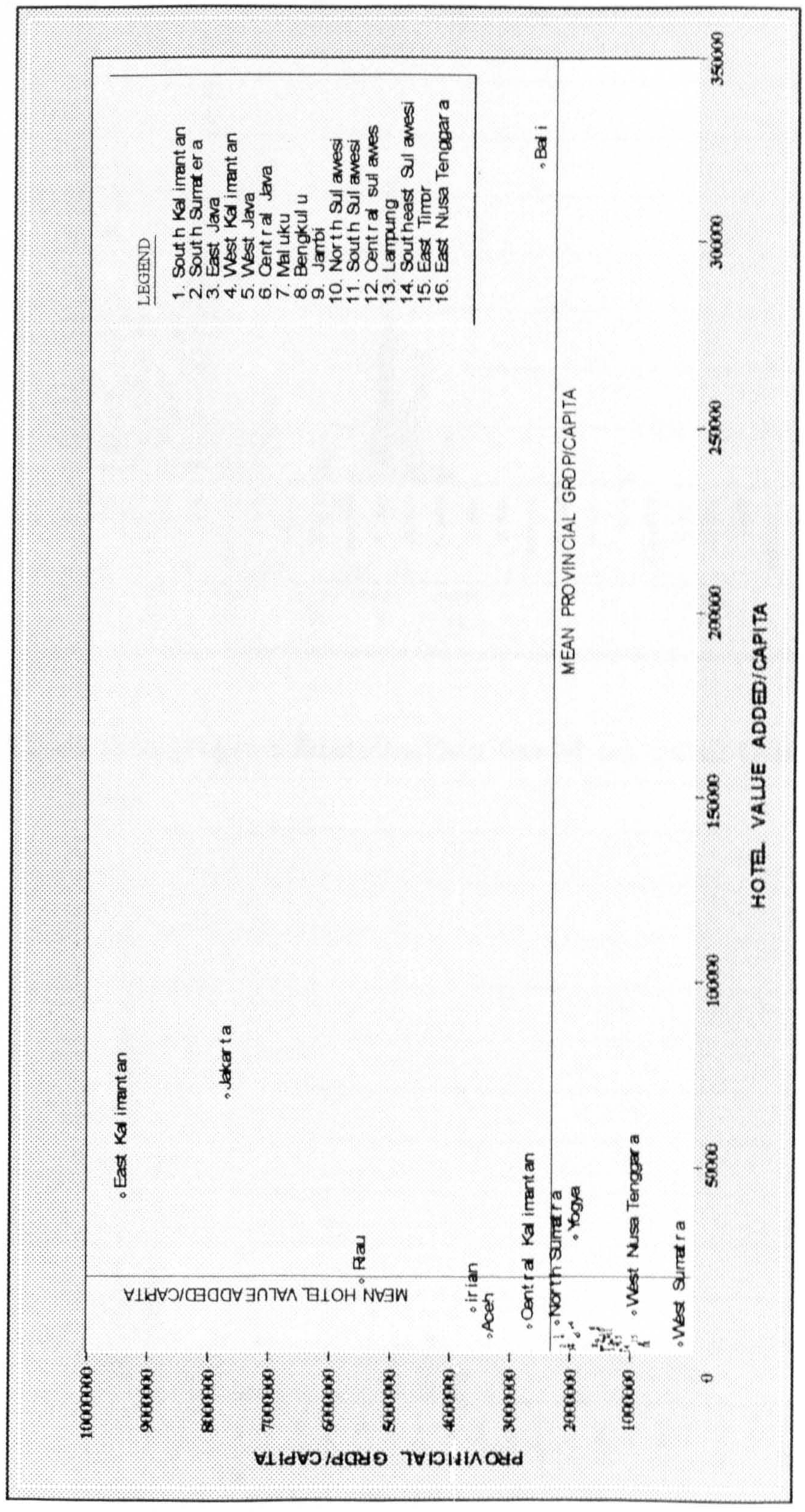


Figure 6.6 GDRP and Hotel Value Added/Capita

(Source: DGT, 1994)

Figure 8.7. Region Distribution based on Total Employment

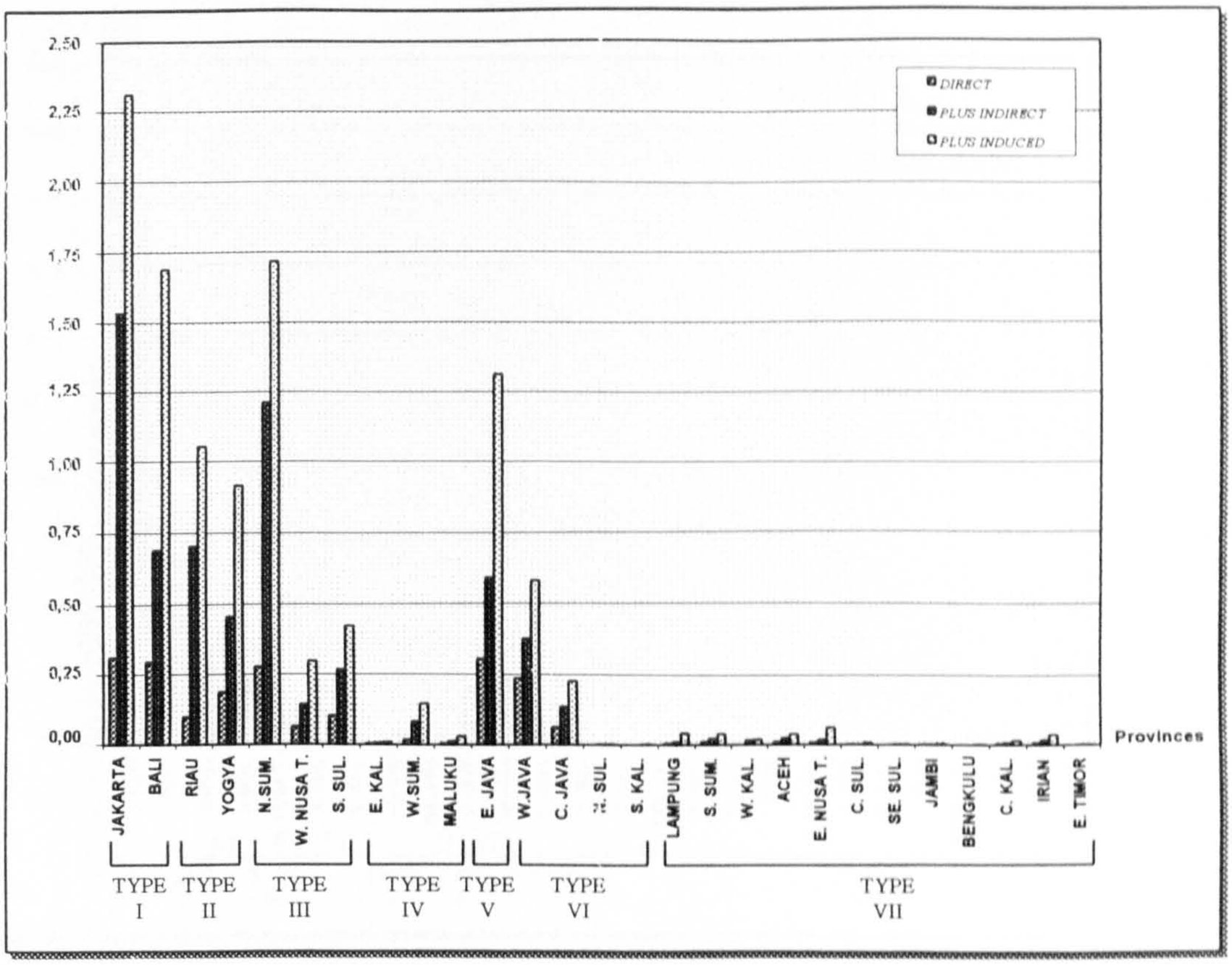


Figure 8.8. Region Distribution based on Total Gov. Revenue

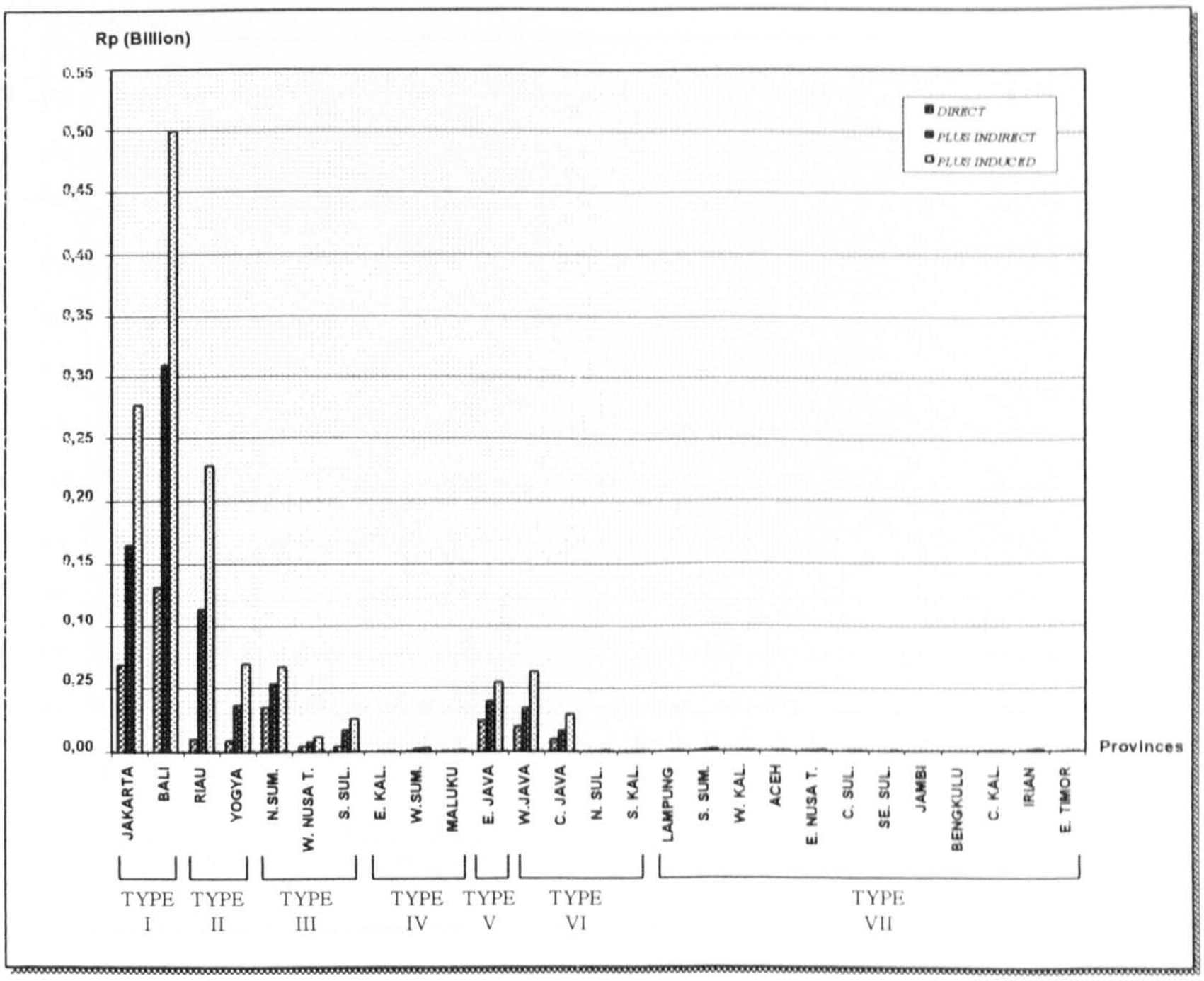


Figure 8.9. Region Distribution based on Total Output

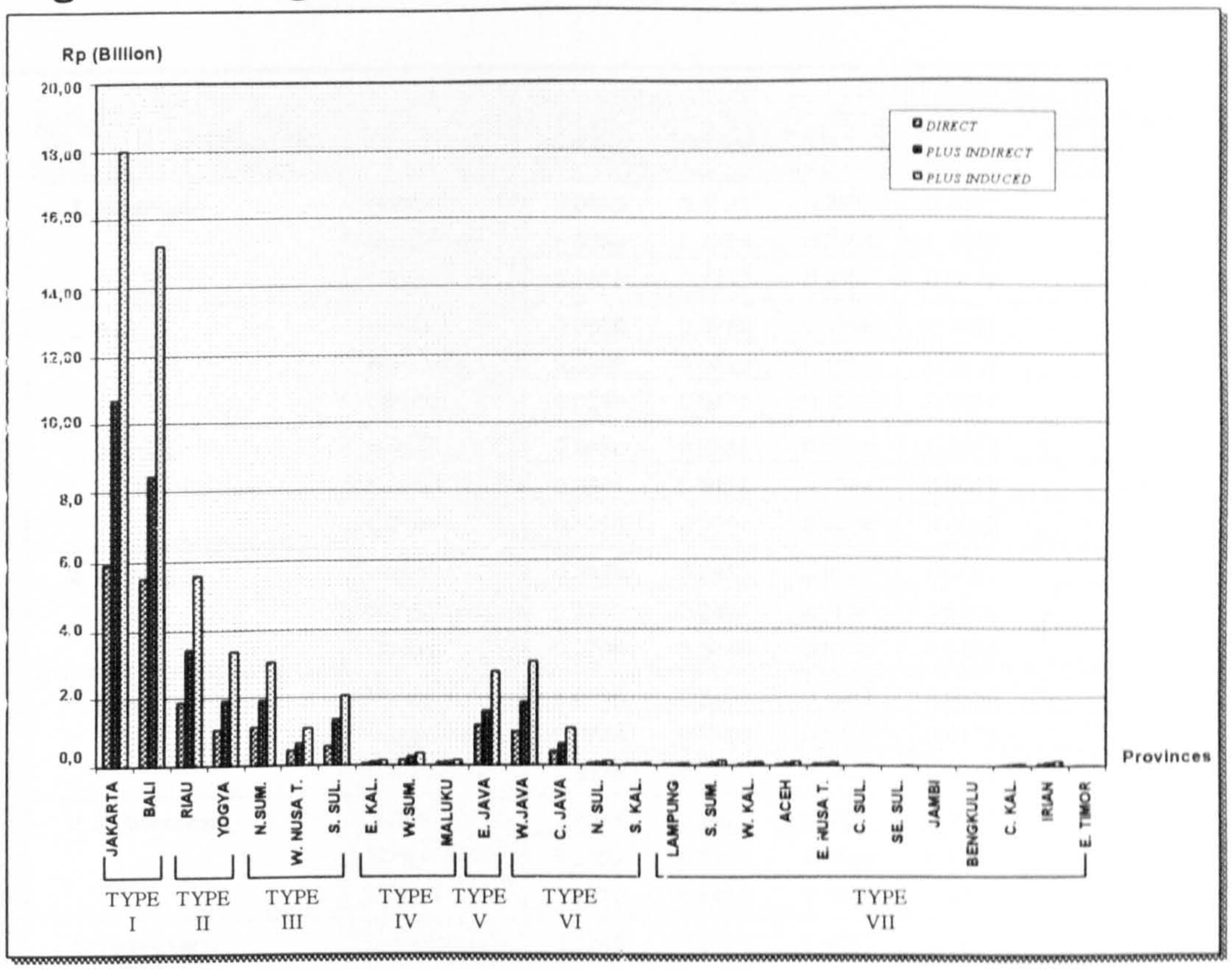


Figure 8.10. Region Distribution based on Total Import

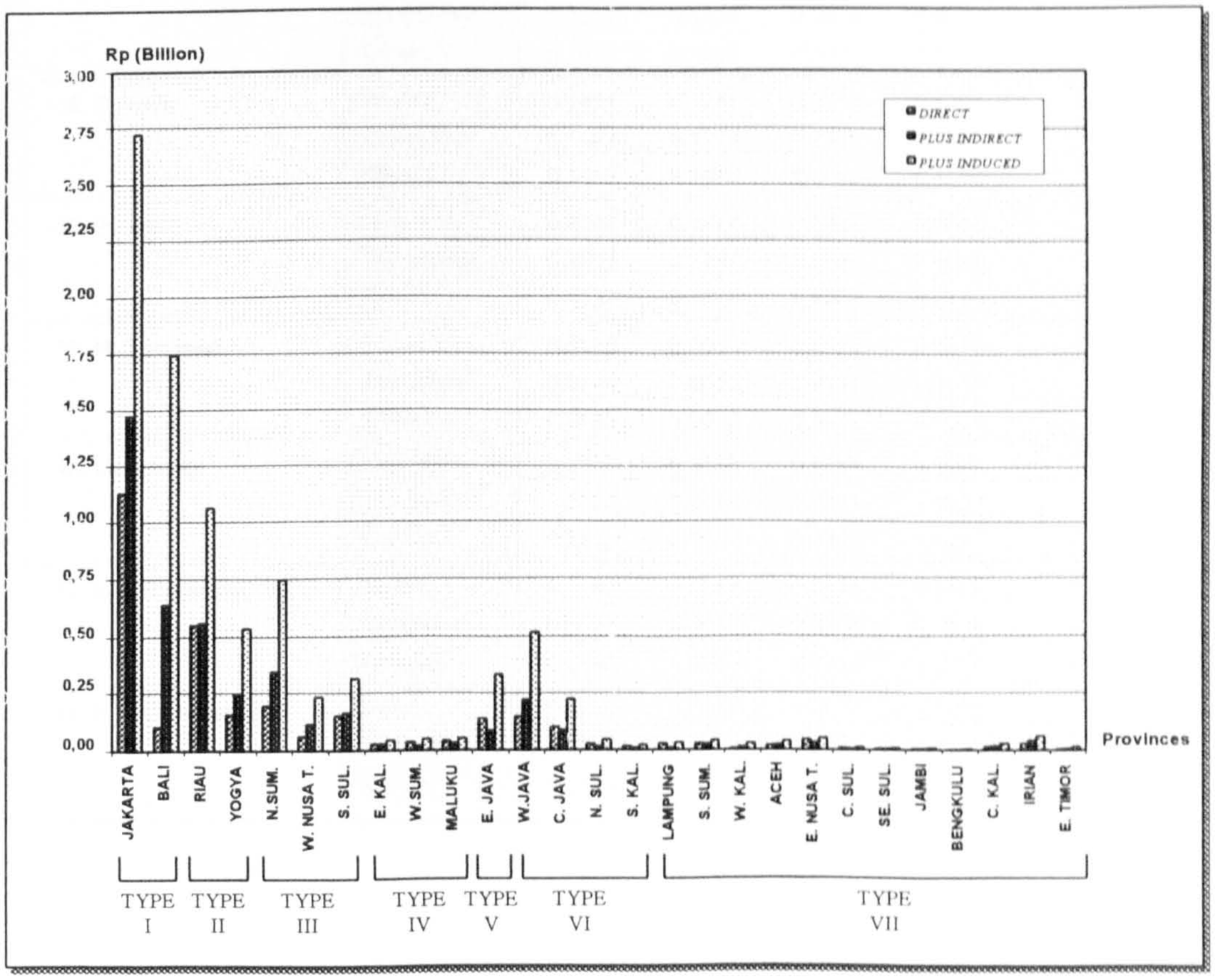


Table 9.2 Scale Effects on Employment Multipliers

Destination		Direct	Indirect	Induced	Total	Spend required to create 1 FTE (Rp)
1. Indonesia	Hotels	0.0593	0.1721	0.2367	0.4682	2,135,973
	Bungalows	0.0584	0.1714	0.2354	0.4652	2,149,454
	Others	0.0578	0.1713	0.2352	0.5012	1,993,987
2. Bali	Hotels	0.0560	0.0742	0.1799	0.3101	3,224,622
	Bungalows	0.0508	0.0699	0.1822	0.3029	3,301,352
	Others	0.0519	0.0706	0.1815	0.3462	2,888,612
3. Jakarta	Hotels	0.0536	0.2136	0.1303	0.3975	2,516,013
	Bungalows	0.0541	0.2128	0.1344	0.4014	2,491,373
	Others	0.0528	0.2094	0.1308	0.4093	2,443,928
4. E. Java	Hotels	0.2648	0.2411	0.6120	0.5279	1,894,554
	Bungalows	0.2733	0.2471	0.6206	0.5310	1,876,461
	Others	0.2706	0.2446	0.6145	0.5338	1,885,133
5. Riau	Hotels	0.0715	0.3403	0.1912	0.6030	1,658,352
	Bungalows	0.0724	0.3450	0.1939	0.6113	1,635,784
	Others	0.0539	0.3143	0.1863	0.5546	1,803,035
6. N. Sumatera	Hotels	0.2574	0.8970	0.4439	0.6155	1,625,656
	Bungalows	0.2399	0.8191	0.4488	0.6018	1,663,201
	Others	0.2510	0.8418	0.4505	0.6773	1,475,957
7. Yogyakarta	Hotels	0.1748	0.2498	0.4365	0.8611	1,161,255
	Bungalows	0.1882	0.2640	0.4319	0.8840	1,131,196
	Others	0.1793	0.2512	0.4352	0.8657	1,155,070
8. W. Nusa Tenggara	Hotels	0.1583	0.1861	0.3409	0.6852	1,459,386
	Bungalows	0.1568	0.1928	0.3438	0.6934	1,442,153
	Others	0.1517	0.1890	0.3491	0.6898	1,449,741
9. C. Java	Hotels	0.1431	0.1748	0.2218	0.5396	1,853,137
	Bungalows	0.1452	0.1774	0.2251	0.5477	18,257.51
	Others	0.1416	0.1675	0.2198	0.5290	1,890,407
10. W. Java	Hotels	0.2342	0.1427	0.2032	0.5801	1,723,921
	Bungalows	0.2507	0.1497	0.2044	0.6048	1,653,443
	Others	0.2333	0.1425	0.2032	0.5790	1,727,192
11. N. Sulawesi	Hotels	0.0146	0.0064	0.0116	0.6073	1,658,070
	Bungalows	0.0144	0.0065	0.0117	0.5883	1,700,494
	Others	0.0143	0.0065	0.0117	0.5324	1,858,588
12. Lampung	Hotels	0.2270	0.1848	0.7569	1.1687	1,855,636
	Bungalows	0.2324	0.1878	0.7737	1.1939	1,837,579
	Others	0.2413	0.1942	0.7885	1.2241	1,816,930
13. S. Kalimantan	Hotels	0.0182	0.0082	0.0271	0.1487	6,723,699
	Bungalows	0.0197	0.0087	0.0279	0.1598	6,254,286
	Others	0.0193	0.0085	0.0272	0.1928	5,185,382
14. E. Kalimantan	Hotels	0.0759	0.0357	0.0477	0.1593	6,277,774
	Bungalows	0.0778	0.0349	0.0482	0.1609	6,215,617
	Others	0.0731	0.0352	0.0480	0.1564	6,395,483

Destination		Direct	Indirect	Induced	Total	Spend required to create 1 FTE (Rp)
15. W. Sumatera	Hotels	0.1002	0.3705	0.3551	0.8259	1,210,845
	Bungalows	0.0991	0.3604	0.3482	0.8077	1,238,135
	Others	0.1038	0.3842	0.3618	0.8498	1,176,801
16. S. Sulawesi	Hotels	0.1790	0.2794	0.2723	0.7307	1,368,500
	Bungalows	0.1806	0.2799	0.2727	0.7332	1,363,860
	Others	0.1823	0.2811	0.2730	0.7364	1,358,033
17. S. Sumatera	Hotels	0.1843	0.1726	0.2498	0.6067	1,648,228
	Bungalows	0.1862	0.1727	0.2495	0.6084	1,643,724
	Others	0.1793	0.1713	0.2482	0.5988	1,669,984
18. Maluku	Hotels	0.0493	0.1135	0.1624	0.3251	3,075,573
	Bungalows	0.0525	0.1131	0.1652	0.3309	3,022,478
	Others	0.0514	0.1168	0.1627	0.3309	3,022,018
19. Aceh	Hotels	0.2741	0.2596	0.3268	0.8605	1,162,065
	Bungalows	0.2717	0.2606	0.3233	0.8556	1,168,730
	Others	0.2690	0.2607	0.3238	0.8535	1,171,671
20. W. Kalimantan	Hotels	0.0338	0.3907	0.0328	0.4573	2,186,739
	Bungalows	0.0344	0.3997	0.0346	0.4686	2,133,930
	Others	0.0328	0.3811	0.0330	0.4469	2,237,651
21. Jambi	Hotels	0.1893	0.0754	0.2902	0.5548	1,802,376
	Bungalows	0.1921	0.0765	0.2945	0.5631	1,775,740
	Others	0.1957	0.0679	0.2636	0.5272	1,896,693
22. Bengkulu	Hotels	0.1074	0.0500	0.1946	0.3521	2,840,335
	Bungalows	0.1101	0.0489	0.1966	0.3556	2,812,213
	Others	0.1029	0.0540	0.2071	0.3639	2,747,804
23. Irian Jaya	Hotels	0.1067	0.1189	0.2293	0.4549	2,198,072
	Bungalows	0.1080	0.1193	0.2314	0.4587	2,179,991
	Others	0.1069	0.1181	0.2291	0.4542	2,201,828
24. SE. Sulawesi	Hotels	0.0619	0.0556	0.1887	0.3061	3,266,738
	Bungalows	0.0627	0.0564	0.1915	0.3107	3,218,707
	Others	0.0578	0.0574	0.1893	0.3045	3,283,728
25. C. Sulawesi	Hotels	0.1201	0.1074	0.2579	0.4855	2,059,890
	Bungalows	0.1192	0.1071	0.2574	0.4836	2,067,680
	Others	0.1224	0.1078	0.2606	0.4908	2,037,405
26. E. Timor	Hotels	0.0431	0.0384	0.1183	0.1998	5,004,025
	Bungalows	0.0426	0.0392	0.1216	0.2034	4,915,254
	Others	0.0421	0.0389	0.1195	0.2005	4,987,328
27. C. Kalimantan	Hotels	0.1458	0.0911	0.1507	0.3877	2,579,249
	Bungalows	0.1477	0.0918	0.1557	0.3952	2,530,056
	Others	0.1462	0.0909	0.1523	0.3894	2,568,007
28. E. Nusa Tenggara	Hotels	0.1109	0.1760	0.6198	0.9067	1,102,843
	Bungalows	0.1037	0.1679	0.5800	0.8516	1,174,298
	Others	0.1095	0.1735	0.6198	0.9028	1,107,614

Note: Employment Multipliers expressed per Rp. 1.000.000 (1 Millions Rp) tourist expenditure

Table 9.3 Scale Effects on Government Revenue Multipliers

DESTINATION	TOURIST GOV. REVENUE MULTIPLIERS		
	Hotels	Bungalows	Others
1. Indonesia • National scale, large country • National level values	0.4582	0.4591	0.4597
2. Bali • Most visited tourist destination • Small-size island • High accessibility, High tourist density and medium development levels	0.0908	0.0900	0.0901
3. Jakarta • Large capital city region • Most developed region in Indonesia • Most developed region in Java, the most developed island • High accessibility, development and density	0.0467	0.0483	0.0467
4. E. Java • Second most developed region in Java, the most developed island • Large region with extensive trade and business • High accessibility, High development and Low tourist density	0.0461	0.0481	0.0465
5. Riau • Batam and Bintan factors (bonded zones, also weekend tourist destinations from Singapore) • New, rapidly developing group of island resorts • Special development policies esp. taxation system (tax-free zone) • Cross border zone (with Singapore) • High development, High density and medium access	0.1098	0.1225	0.1203
6. N. Sumatera • Large region with strong trade and business • High development, medium density and medium access	0.0626	0.0584	0.0597
7. Yogya • Second most visited tourist destination (after Bali) • Medium size region within most developed island of Java • High tourist density, medium development and access	0.0648	0.0657	0.0654
8. W. Nusa Tenggara • Group of smaller islands next to Bali • Add-on factor from Bali • Medium development, density and access	0.0271	0.0270	0.0267
9. C. Java • Large region in Java, the most developed island • High access, high development, Low density	0.0706	0.0717	0.0687

DESTINATION	TOURIST GOV. REVENUE MULTIPLIERS		
	Hotels	Bungalows	Others
10. W. Java • Large region in Java, the most developed island • Jakarta hinterland, strong industrial zones as well as trade and business expansion • High development and high access, Low density	0.0639	0.0661	0.0639
11. N. Sulawesi • Special interest tourism destination • Medium size region • Medium access, low development and low density	0.0163	0.0166	0.0165
12. Lampung • Smaller size region (industrial zone), next to Jakarta • Medium development, low access and low density	0.0112	0.0115	0.0118
13. S. Kalimantan • Larger size region within the largest but least developed island • Medium access and low development and low density	0.0102	0.0108	0.0105
14. E. Kalimantan • Oil/gas industrial zone factor (expatriate zone) • Large region within the largest but least developed island • Medium development and medium density, Low access	0.0046	0.0047	0.0045
15. W. Sumatera • Medium size region • Low development, medium access and low density	0.0164	0.0161	0.0169
16. S. Sulawesi • Medium-size region within mixed sized islands • Medium density and low development and low access	0.0449	0.0450	0.0451
17. S. Sumatera • Smaller size region • Medium development, low access and low density	0.0288	0.0288	0.0283
18. Maluku • Smaller size group of islands • Low development, access and density	0.0138	0.0139	0.0139
19. Aceh • Smaller size region • Low development, access and density	0.0150	0.0149	0.0149
20. W. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	0.0042	0.0043	0.0039

DESTINATION	TOURIST GOV. REVENUE MULTIPLIERS		
	Hotels	Bungalows	Others
21. Jambi • Smaller size region • Low development, access and density	0.0082	0.0083	0.0073
22. Bengkulu • Very small size region • Low development, access and density	0.0142	0.0160	0.0153
23. Irian • Larger size island • Main mining zone • Low development, access and density	0.0195	0.0204	0.0194
24. SE. Sulawesi • Smaller size region within group of mixed sized islands • Low development, access and density	0.0095	0.0100	0.0097
25. C. Sulawesi • Smaller region within group of mixed sized islands • Low development, access and density	0.0175	0.0175	0.0177
26. E. Timor • Smaller region • Low development, access and density	0.0196	0.0209	0.0199
27. C. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	0.0152	0.0154	0.0152
28. E. Nusa Tenggara • Medium size region • Low development, access and density	0.0192	0.0182	0.0192

Table 9.4 Scale Effects on Output Multipliers

DESTINATION	TOURIST OUTPUT MULTIPLIERS		
	Hotels	Bungalows	Others
1. Indonesia • National scale, large country • National level values	3.7802	3.7812	3.0790
2. Bali • Most visited tourist destination • Small-size island • High accessibility, High tourist density and medium development levels	2.7485	2.7423	2.2434
3. Jakarta • Large capital city region • Most developed region in Indonesia • Most developed region in Java, the most developed island • High accessibility, development and density	3.0290	2.9466	2.0314
4. E. Java • Second most developed region in Java, the most developed island • Large region with extensive trade and business • High accessibility, High development and Low tourist density	2.3583	2.3913	2.3676
5. Riau • Batam and Bintan factors (bonded zones, also weekend tourist destinations from Singapore) • New, rapidly developing group of island resorts • Special development policies esp. taxation system (tax-free zone) • Cross border zone (with Singapore) • High development, High density and medium access	2.9477	2.9812	2.9517
6. N. Sumatera • Large region with strong trade and business • High development, medium density and medium access	2.7712	2.7281	2.0528
7. Yogya • Second most visited tourist destination (after Bali) • Medium size region within most developed island of Java • High tourist density, medium development and access	3.1736	3.1885	3.1749
8. W. Nusa Tenggara • Group of smaller islands next to Bali • Add-on factor from Bali • Medium development, density and access	2.5312	2.5465	2.4544
9. C. Java • Large region in Java, the most developed island • High access, high development, Low density	2.5697	2.5755	2.0500

DESTINATION	TOURIST OUTPUT MULTIPLIERS		
	Hotels	Bungalows	Others
10. W. Java • Large region in Java, the most developed island • Jakarta hinterland, strong industrial zones as well as trade and business expansion • High development and high access, Low density	3.0827	3.1213	3.0809
11. N. Sulawesi • Special interest tourism destination • Medium size region • Medium access, low development and low density	1.7861	1.7898	1.7881
12. Lampung • Smaller size region (industrial zone), next to Jakarta • Medium development, low access and low density	2.0589	2.0813	2.1044
13. S. Kalimantan • Larger size region within the largest but least developed island • Medium access and low development and low density	1.8376	1.8657	1.8472
14. E. Kalimantan • Oil/gas industrial zone factor (expatriate zone) • Large region within the largest but least developed island • Medium development and medium density, Low access	2.4445	2.4692	2.4448
15. W. Sumatera • Medium size region • Low development, medium access and low density	2.0505	2.0310	2.0762
16. S. Sulawesi • Medium-size region within mixed sized islands • Medium density and low development and low access	3.5765	3.5779	3.5795
17. S. Sumatera • Smaller size region • Medium development, low access and low density	2.7617	2.7608	2.7438
18. Maluku • Smaller size group of islands • Low development, access and density	2.0269	2.0460	2.0361
19. Aceh • Smaller size region • Low development, access and density	3.0608	3.0534	3.0618
20. W. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	2.9118	2.9406	2.8803

DESTINATION	TOURIST OUTPUT MULTIPLIERS		
	Hotels	Bungalows	Others
21. Jambi • Smaller size region • Low development, access and density	1.7966	1.8138	1.7262
22. Bengkulu • Very small size region • Low development, access and density	1.7828	1.8576	1.8397
23. Irian • Larger size island • Main mining zone • Low development, access and density	1.9828	2.0011	1.9812
24. SE. Sulawesi • Smaller size region within group of mixed sized islands • Low development, access and density	1.7599	1.7853	1.7677
25. C. Sulawesi • Smaller region within group of mixed sized islands • Low development, access and density	1.7502	1.7484	1.7579
26. E. Timor • Smaller region • Low development, access and density	1.9196	1.9536	1.9344
27. C. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	1.8470	1.8742	1.8557
28. E. Nusa Tenggara • Medium size region • Low development, access and density	1.6490	1.6099	1.6484

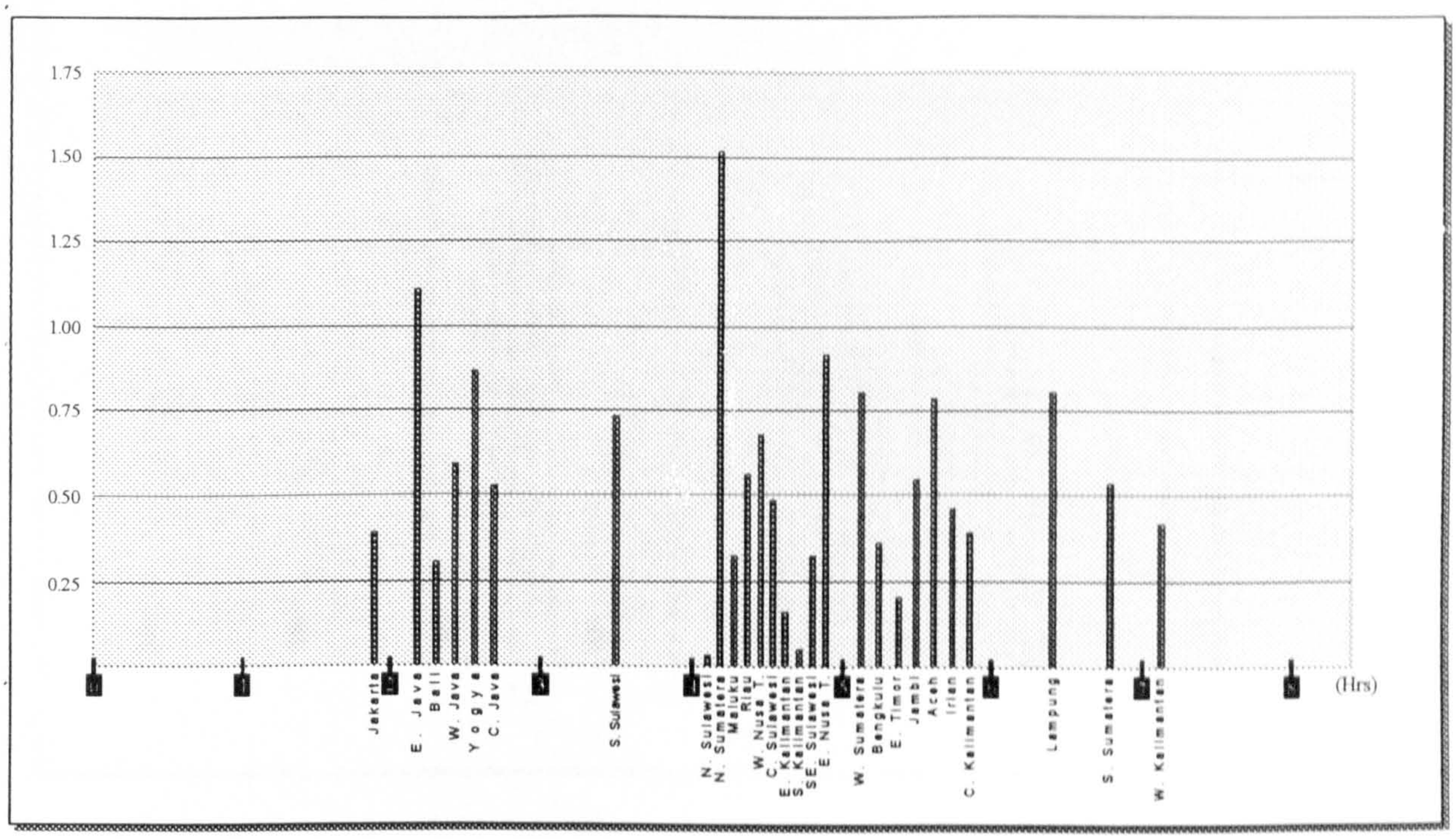
Table 9.5 Scale Effects on Import Multipliers

DESTINATION	TOURIST IMPORT MULTIPLIERS		
	Hotels	Bungalows	Others
1. Indonesia • National scale, large country • National level values	0.6146	0.6041	0.5139
2. Bali • Most visited tourist destination • Small-size island • High accessibility, High tourist density and medium development levels	0.3142	0.2950	0.2049
3. Jakarta • Large capital city region • Most developed region in Indonesia • Most developed region in Java, the most developed island • High accessibility, development and density	0.4588	0.4633	0.3585
4. E. Java • Second most developed region in Java, the most developed island • Large region with extensive trade and business • High accessibility, High development and Low tourist density	0.2780	0.2608	0.1974
5. Riau • Batam and Bintan factors (bonded zones, also weekend tourist destinations from Singapore) • New, rapidly developing group of island resorts • Special development policies esp. taxation system (tax-free zone) • Cross border zone (with Singapore) • High development, High density and medium access	0.5444	0.5738	0.5630
6. N. Sumatera • Large region with strong trade and business • High development, medium density and medium access	0.6667	0.6686	0.5664
7. Yogya • Second most visited tourist destination (after Bali) • Medium size region within most developed island of Java • High tourist density, medium development and access	0.5064	0.5082	0.5062
8. W. Nusa Tenggara • Group of smaller islands next to Bali • Add-on factor from Bali • Medium development, density and access	0.5305	0.5315	0.5286
9. C. Java • Large region in Java, the most developed island • High access, high development, Low density	0.5170	0.5026	0.4952

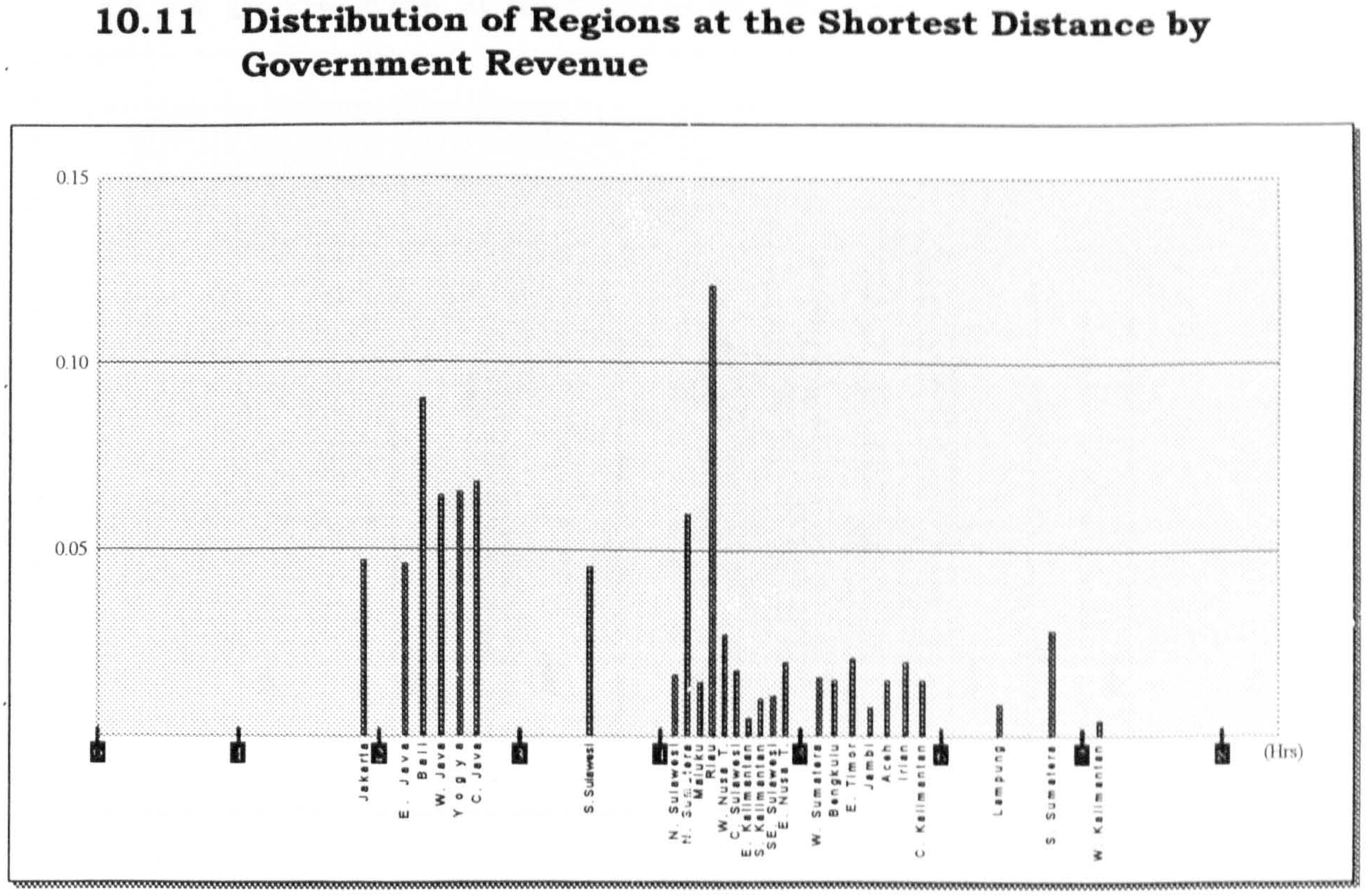
DESTINATION	TOURIST IMPORT MULTIPLIERS		
	Hotels	Bungalows	Others
10. W. Java • Large region in Java, the most developed island • Jakarta hinterland, strong industrial zones as well as trade and business expansion • High development and high access, Low density	0.5238	0.5158	0.4924
11. N. Sulawesi • Special interest tourism destination • Medium size region • Medium access, low development and low density	0.5598	0.5589	0.4601
12. Lampung • Smaller size region (industrial zone), next to Jakarta • Medium development, low access and low density	0.6062	0.5960	0.4864
13. S. Kalimantan • Larger size region within the largest but least developed island • Medium access and low development and low density	0.5579	0.5635	0.5097
14. E. Kalimantan • Oil/gas industrial zone factor (expatriate zone) • Large region within the largest but least developed island • Medium development and medium density, Low access	0.6092	0.6162	0.5940
15. W. Sumatera • Medium size region • Low development, medium access and low density	0.2624	0.2584	0.2567
16. S. Sulawesi • Medium-size region within mixed sized islands • Medium density and low development and low access	0.5398	0.5393	0.5387
17. S. Sumatera • Smaller size region • Medium development, low access and low density	0.6566	0.6566	0.6607
18. Maluku • Smaller size group of islands • Low development, access and density	0.5990	0.5915	0.3965
19. Aceh • Smaller size region • Low development, access and density	0.8033	0.8051	0.7849
20. W. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	0.7427	0.7485	0.7410

DESTINATION	TOURIST IMPORT MULTIPLIERS		
	Hotels	Bungalows	Others
21. Jambi • Smaller size region • Low development, access and density	0.8070	0.8298	0.8217
22. Bengkulu • Very small size region • Low development, access and density	0.7857	0.7973	0.7739
23. Irian • Larger size island • Main mining zone • Low development, access and density	0.7693	0.7770	0.7693
24. SE. Sulawesi • Smaller size region within group of mixed sized islands • Low development, access and density	0.6800	0.6928	0.6860
25. C. Sulawesi • Smaller region within group of mixed sized islands • Low development, access and density	0.7064	0.7075	0.7018
26. E. Timor • Smaller region • Low development, access and density	0.7676	0.7791	0.7678
27. C. Kalimantan • Large size region within the largest but least developed island • Low development, access and density	0.7524	0.7599	0.7510
28. E. Nusa Tenggara • Medium size region • Low development, access and density	0.7626	0.7788	0.7628

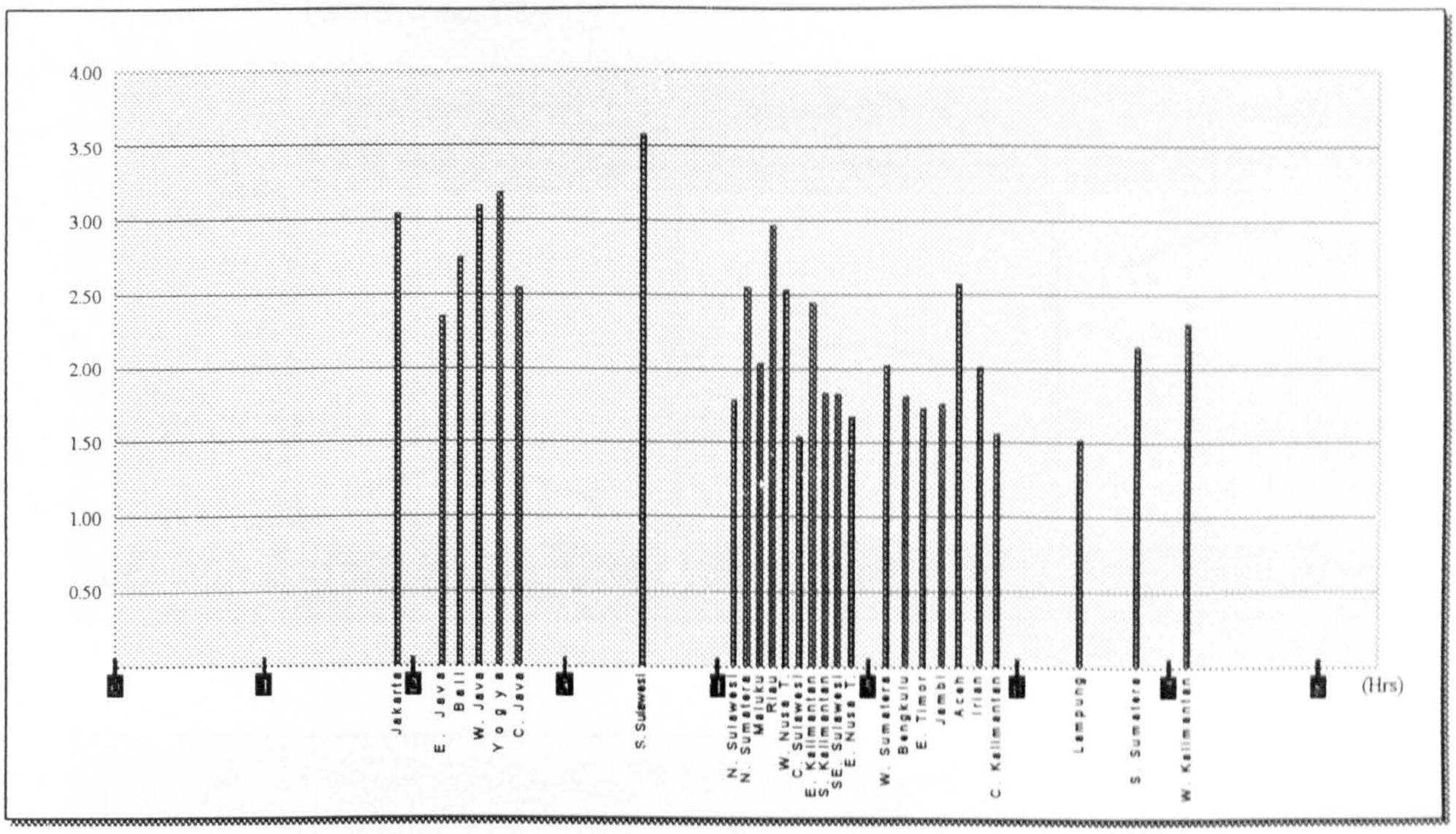
10.10 Distribution of Regions at the Shortest Distance by Employment



10.11 Distribution of Regions at the Shortest Distance by Government Revenue



10.12 Distribution of Regions at the Shortest Distance by Output



10.12 Distribution of Regions at the Shortest Distance by Import

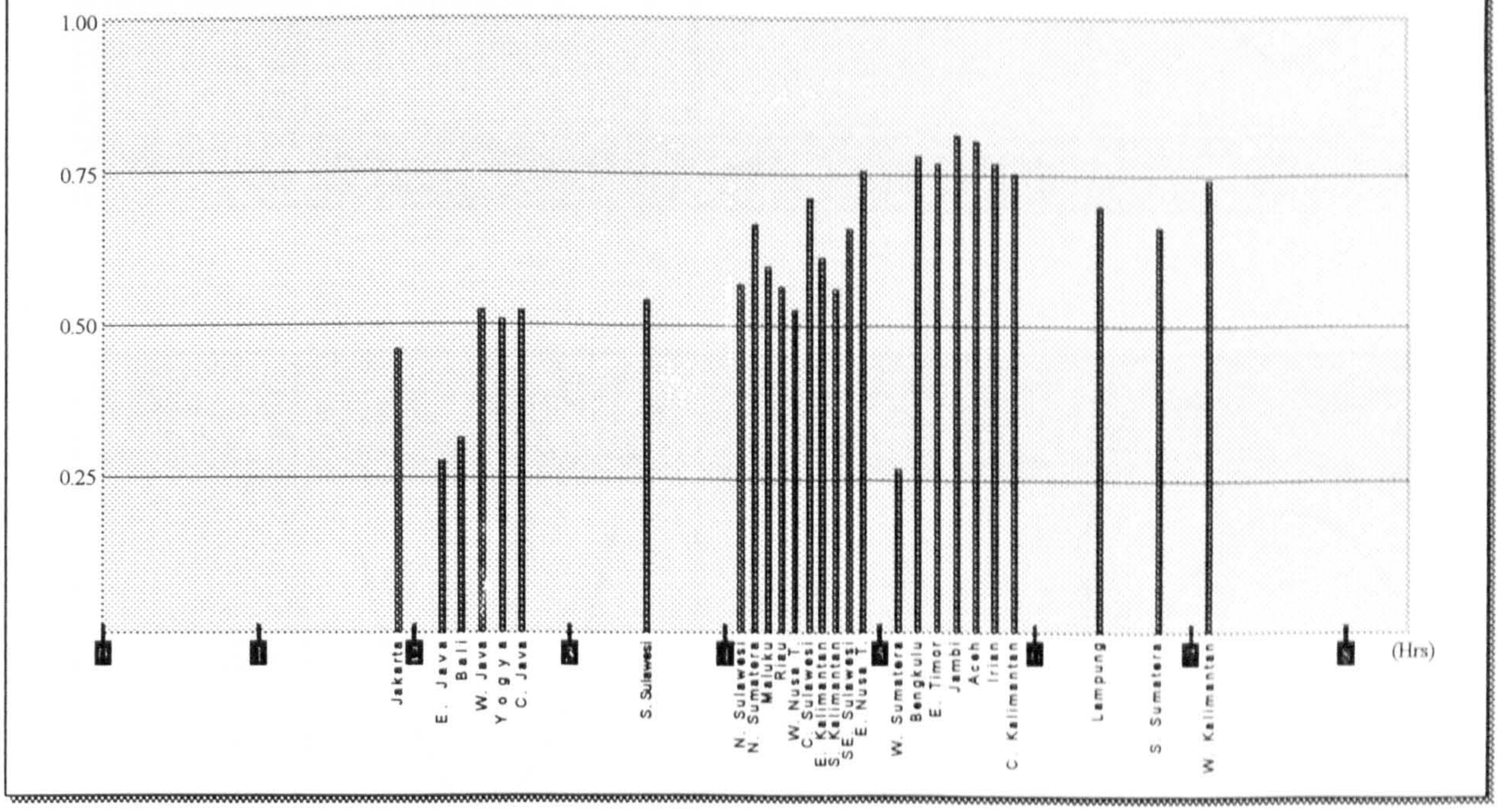
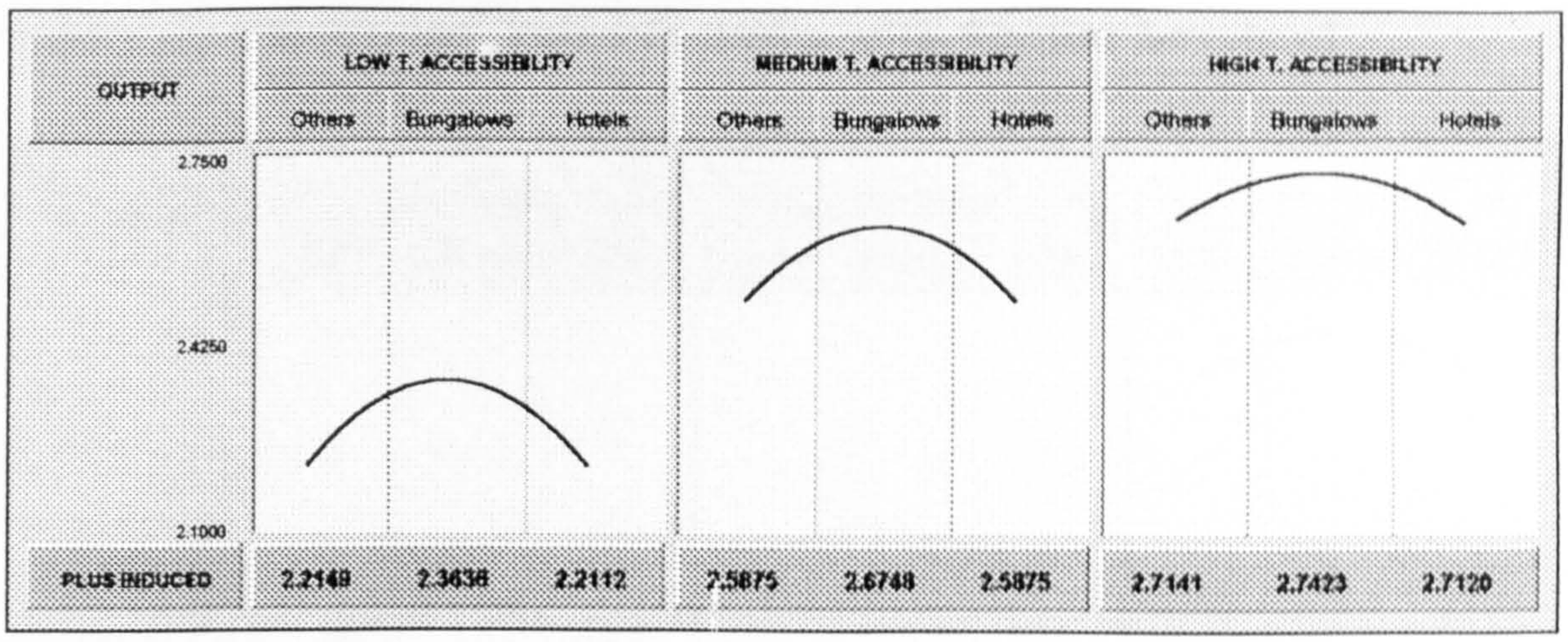


Table 11.3 Multiplier Value Patterns with Similar Levels of Accessibility

INCOME	LOW T. ACCESSIBILITY			MEDIUM T. ACCESSIBILITY			HIGH T. ACCESSIBILITY		
	Others	Bungalows	Hotels	Others	Bungalows	Hotels	Others	Bungalows	Hotels
1.0000									
0.7000									
0.4000									
PLUS INDUCED	0.4392	0.4644	0.4371	0.6984	0.7026	0.6977	0.8661	0.9382	0.8609

EMPLOY. (FTEs)	LOW T. ACCESSIBILITY			MEDIUM T. ACCESSIBILITY			HIGH T. ACCESSIBILITY		
	Others	Bungalows	Hotels	Others	Bungalows	Hotels	Others	Bungalows	Hotels
0.8000									
0.5000									
0.2000									
PLUS INDUCED	0.5518	0.7331	0.5489	0.6061	0.7445	0.6182	0.6090	0.3029	0.6085

GOVERNMENT REVENUE	LOW T. ACCESSIBILITY			MEDIUM T. ACCESSIBILITY			HIGH T. ACCESSIBILITY		
	Others	Bungalows	Hotels	Others	Bungalows	Hotels	Others	Bungalows	Hotels
0.0950									
0.0550									
0.0150									
PLUS INDUCED	0.0847	0.0207	0.0863	0.0540	0.0468	0.0532	0.0611	0.0900	0.0612


OUTPUT
LOW T. ACCESSIBILITY
MEDIUM T. ACCESSIBILITY
HIGH T. ACCESSIBILITY
Others
Bungalows
Hotels
2.7500
2.4250
2.1000
PLUS INDUCED
2.2149
2.3638
2.2112
2.5875
2.6748
2.5875
2.7141
2.7423
2.7120

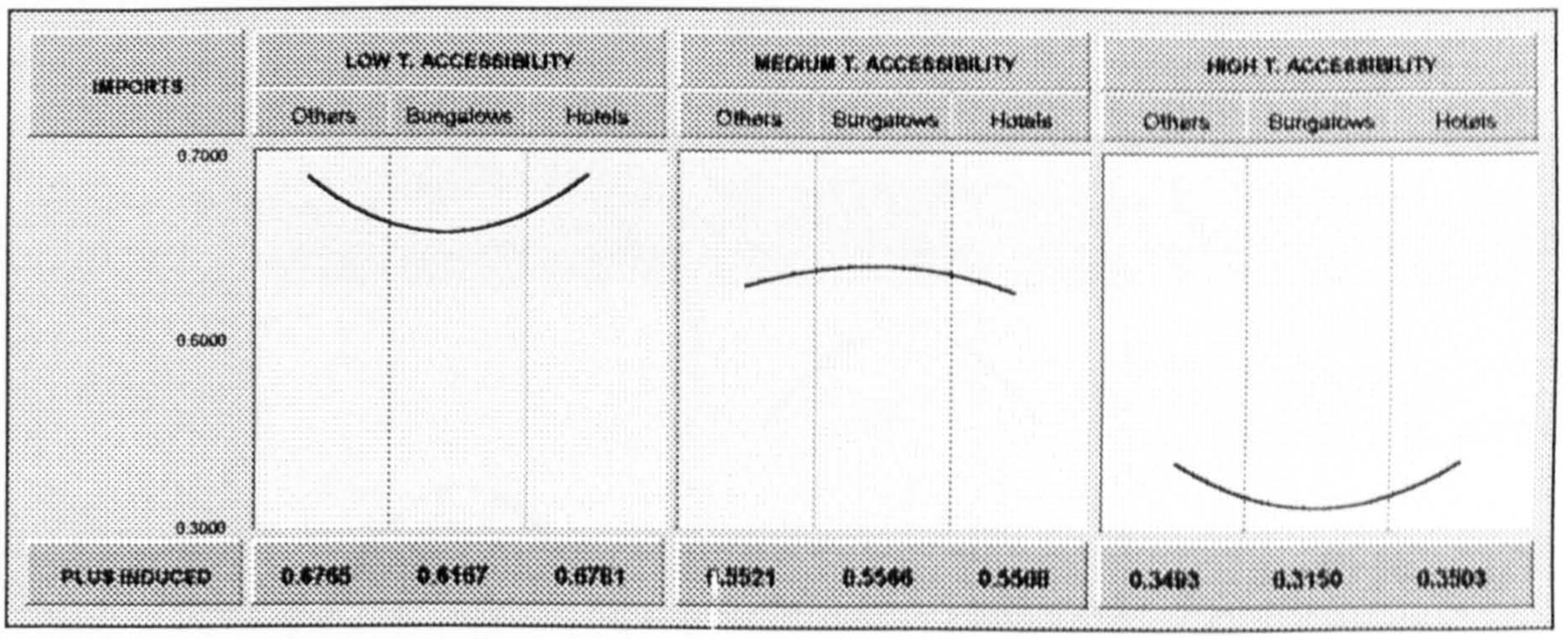
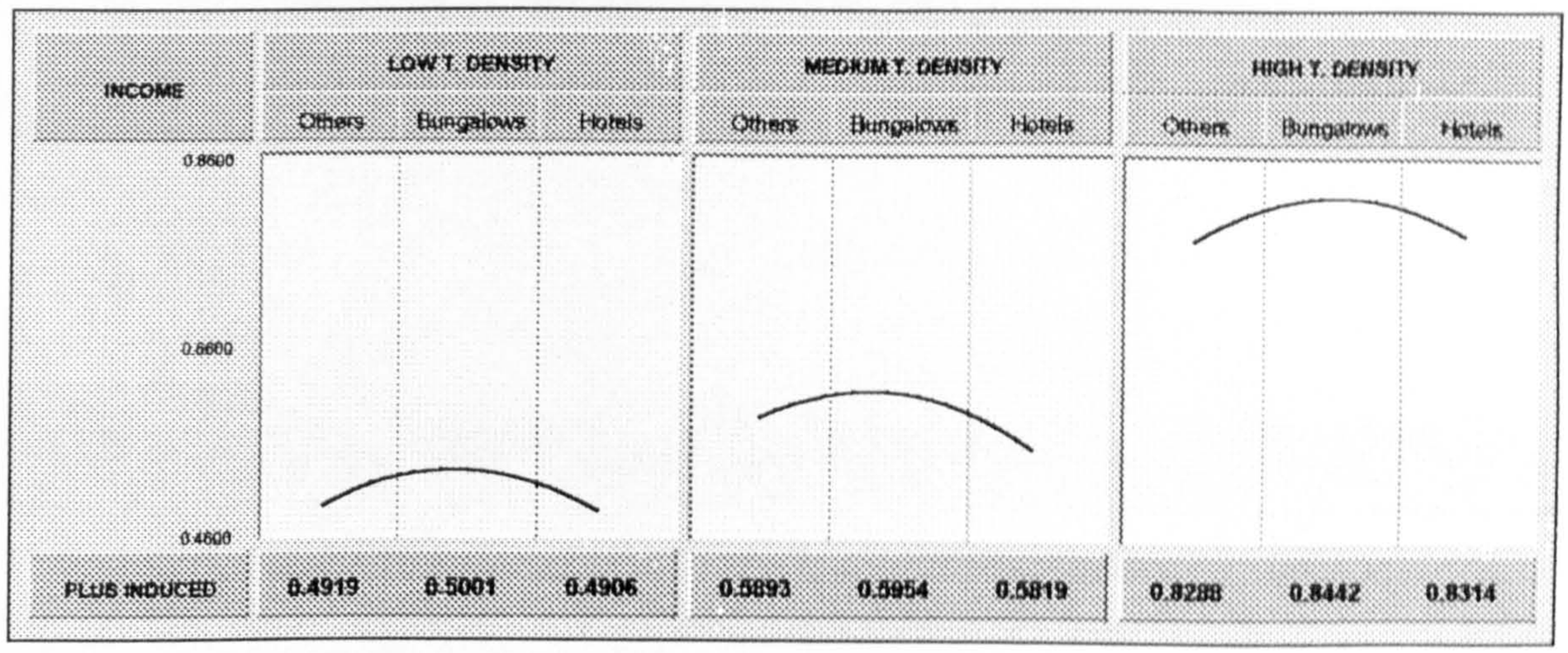
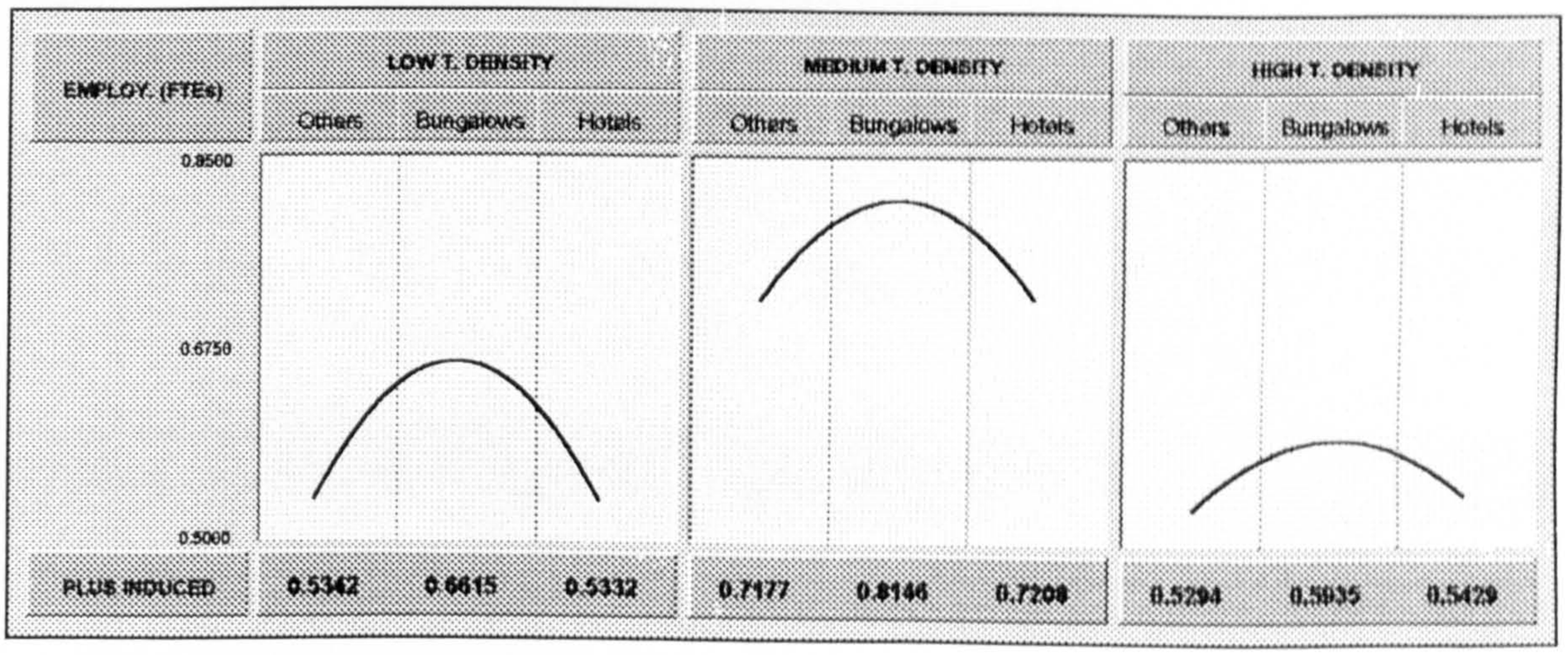
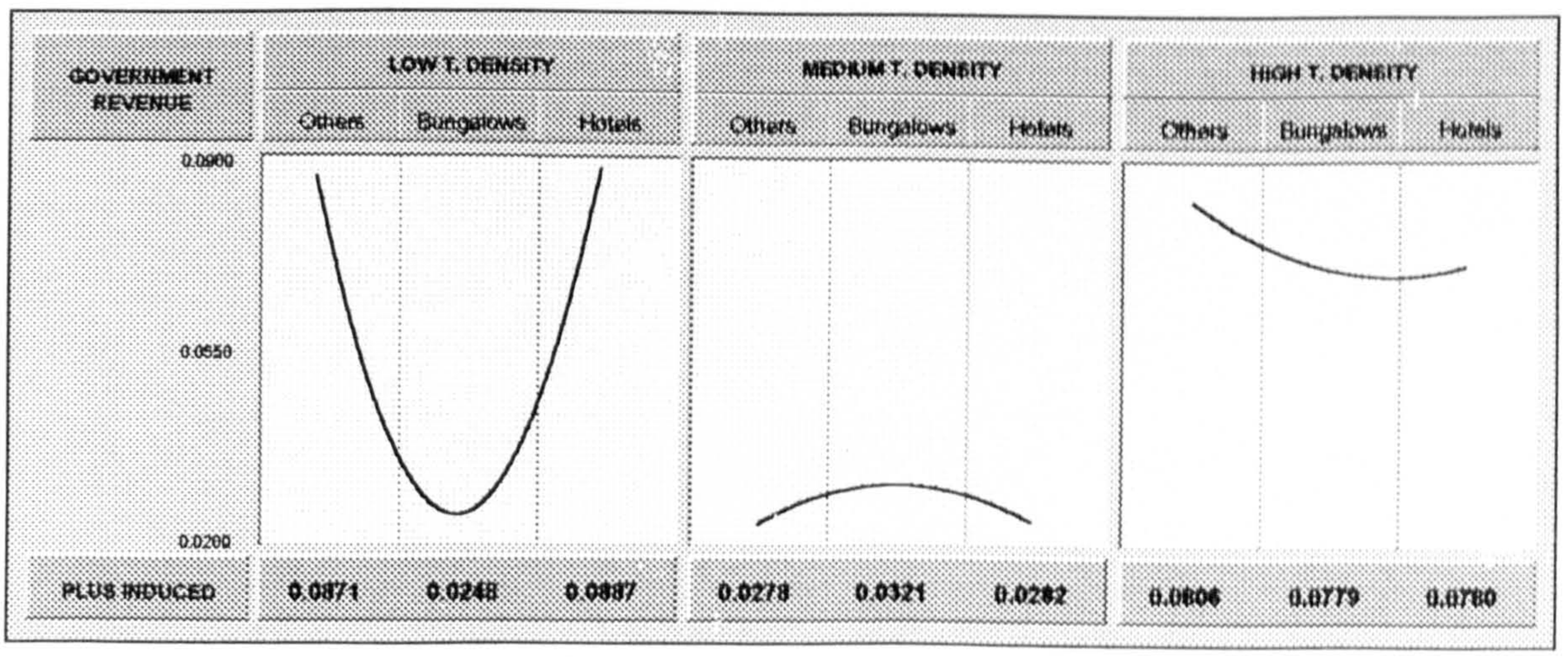
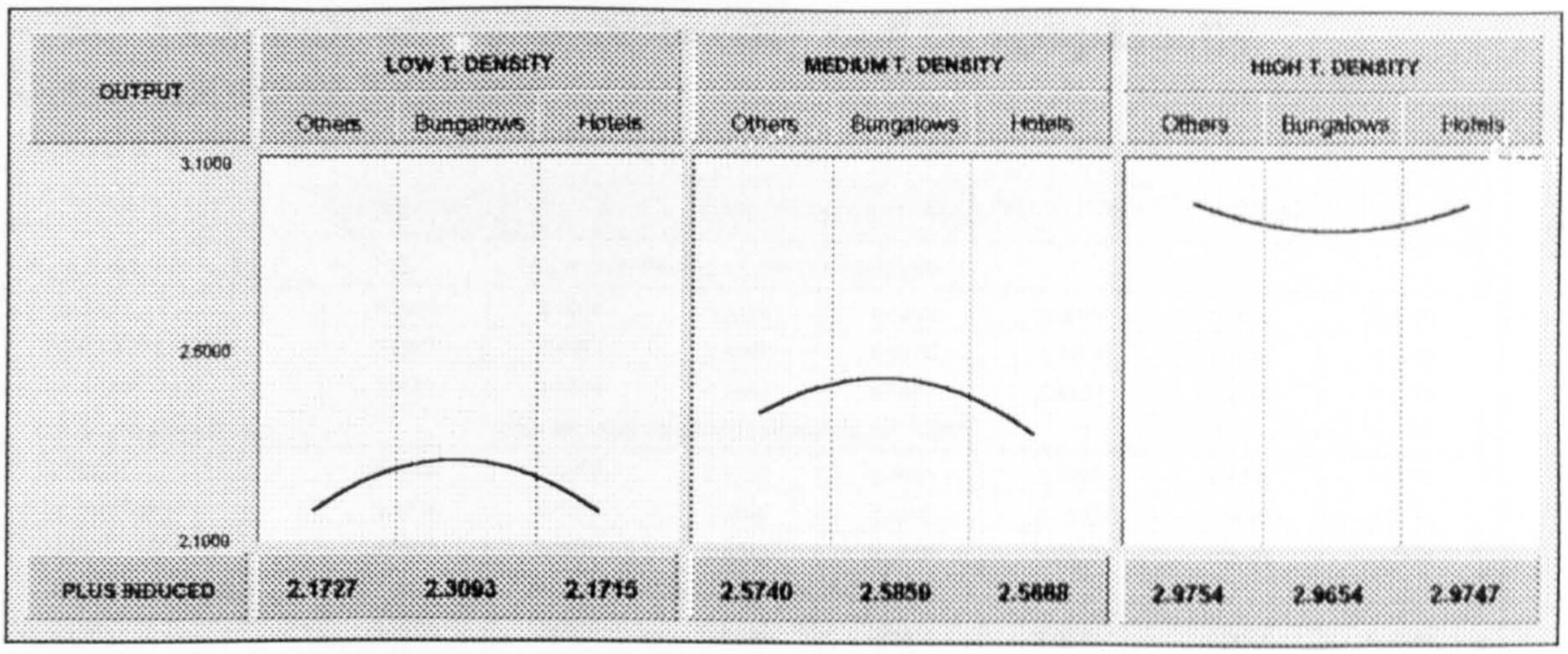

IMPORTS
LOW T. ACCESSIBILITY
MEDIUM T. ACCESSIBILITY
HIGH T. ACCESSIBILITY
Others
Bungalows
Hotels
0.7000
0.6000
0.3000
PLUS INDUCED
0.6765
0.6167
0.6781
0.3521
0.5566
0.5508
0.3493
0.3150
0.3503

Table 11.4 Multiplier Value Patterns with Similar Levels of Density








OUTPUT
LOW T. DENSITY
MEDIUM T. DENSITY
HIGH T. DENSITY
Others
Bungalows
Hotels
Others
Bungalows
Hotels
Others
Bungalows
Hotels
3.1000
2.6000
2.1000
PLUS INDUCED
2.1727
2.3093
2.1715
2.5740
2.5850
2.5688
2.9754
2.9654
2.9747

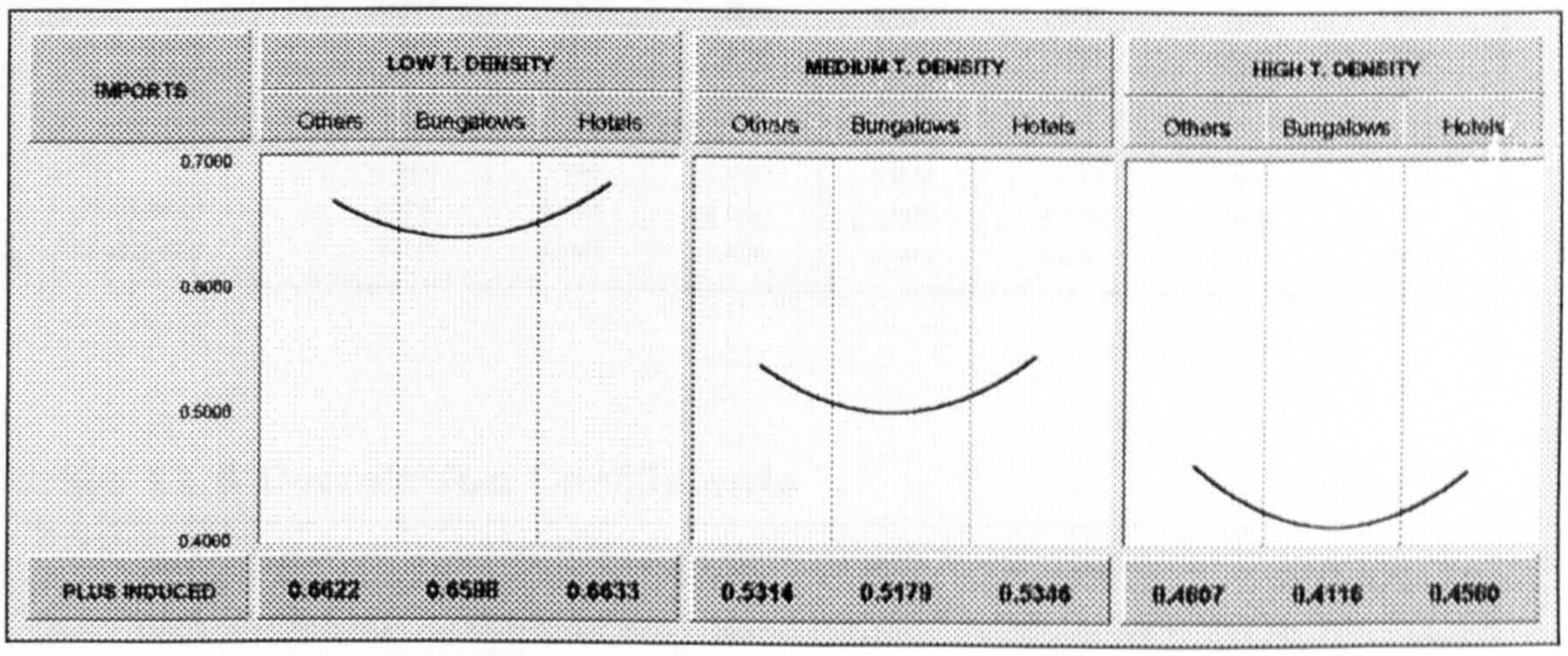

IMPORTS
LOW T. DENSITY
MEDIUM T. DENSITY
HIGH T. DENSITY
Others
Bungalows
Hotels
Others
Bungalows
Hotels
Others
Bungalows
Hotels
0.7000
0.6000
0.5000
0.4000
PLUS INDUCED
0.6622
0.6598
0.6633
0.5314
0.5179
0.5346
0.4607
0.4116
0.4560

Table 11.6 Multipliers in Culturally and Geographically Heterogeneous Regions

	NATIONAL	BALI	JAVA	SUMATERA	KALIMANTAN	SULAWESI	OTHERS
INCOME	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	0.3011	0.3678	0.2476	0.1350	0.2016	0.1909	0.1705
PLUS INDIRECT	0.5207	0.4991	0.4197	0.2772	0.3279	0.2910	0.2740
PLUS INDUCED	1.0481	0.9304	0.7460	0.5332	0.4799	0.4767	0.4728
EMPLOYMENT (FTEs)	PER MILLION Rs EXPENDITURE BY TOURISTS						
DIRECT	0.0565	0.0532	0.1733	0.1572	0.0685	0.0919	0.0902
PLUS INDIRECT	0.2279	0.1244	0.3745	0.4296	0.1956	0.2043	0.2117
PLUS INDUCED	0.4640	0.3051	0.6944	0.7618	0.2602	0.3909	0.5148
GOVERNMENT REV.	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	0.0933	0.0237	0.0168	0.0063	0.0023	0.0046	0.0046
PLUS INDIRECT	0.2229	0.0559	0.0337	0.0197	0.0050	0.0140	0.0129
PLUS INDUCED	0.4608	0.0901	0.0580	0.0337	0.0085	0.0221	0.0201
OUTPUT	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
PLUS INDIRECT	1.8905	1.5217	1.6786	1.5668	1.6308	1.5085	1.4221
PLUS INDUCED	3.7863	2.7444	2.8386	2.3742	2.2460	2.2337	2.0477
IMPORTS	Rs	PER UNIT EXPENDITURE BY TOURISTS					
DIRECT	0.1033	0.0189	0.1668	0.4089	0.3088	0.4048	0.3935
PLUS INDIRECT	0.2207	0.1151	0.1954	0.3816	0.3572	0.3483	0.4018
PLUS INDUCED	0.6136	0.3149	0.4580	0.6568	0.6653	0.6181	0.6819

Table 11.8 Correlation Coefficients

T. DEVELOPMENT CHARACTERISTICS		INCOME MULTIPLIERS			OUTPUT MULTIPLIERS			IMPORT MULTIPLIERS		
		Hotels	Bungalows	Others	Hotels	Bungalows	Others	Hotels	Bungalows	Others
Intensity of T. Development	Average Rooms/Hotels	0.5554 (P=0.003)	0.5728 P=(0.052)	0.5466 P=(0.003)	-	-	-	-0.4143 P=(0.032)	-0.5502 P=(0.042)	-0.4075 P=(0.035)
Quality of T. Development	% Star/Total	0.5398 (P=0.003)	-	0.5296 (P=0.003)	-	-	-	-0.4741 P=(0.012)	-	-0.4673 P=(0.014)
Dynamic Progress of T. Development	Growth Rate (Rooms)	-	-	-	-	-	-	-	-	-
	Growth Rate (Hotels)	-	-	-	-	-	-	-	-	-
Total Expenditure (Additional)		0.6992 (P=0.000)	0.6993 (P=0.006)	0.6953 (P=0.000)	0.4163 P=(0.031)	-	0.4166 P=(0.031)	-0.5071 P=(0.007)	-0.4937 P=(0.073)	-0.4973 P=(0.008)

Note:
- Number of observation = 27

Table 12.1 Regression Analysis on Population and Income Multipliers

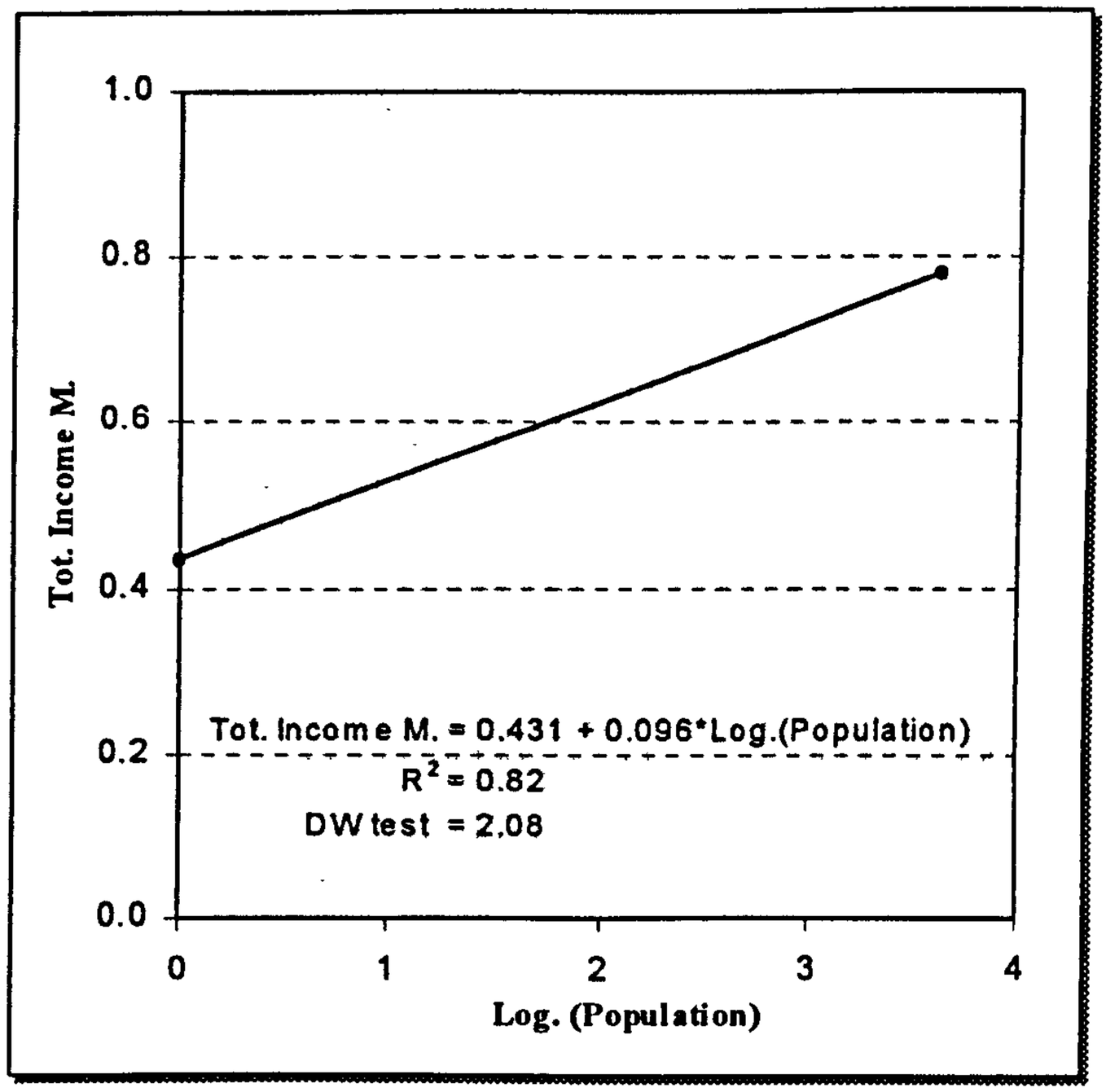


Table 12.2 Regression Analysis on Population and Employment Multipliers

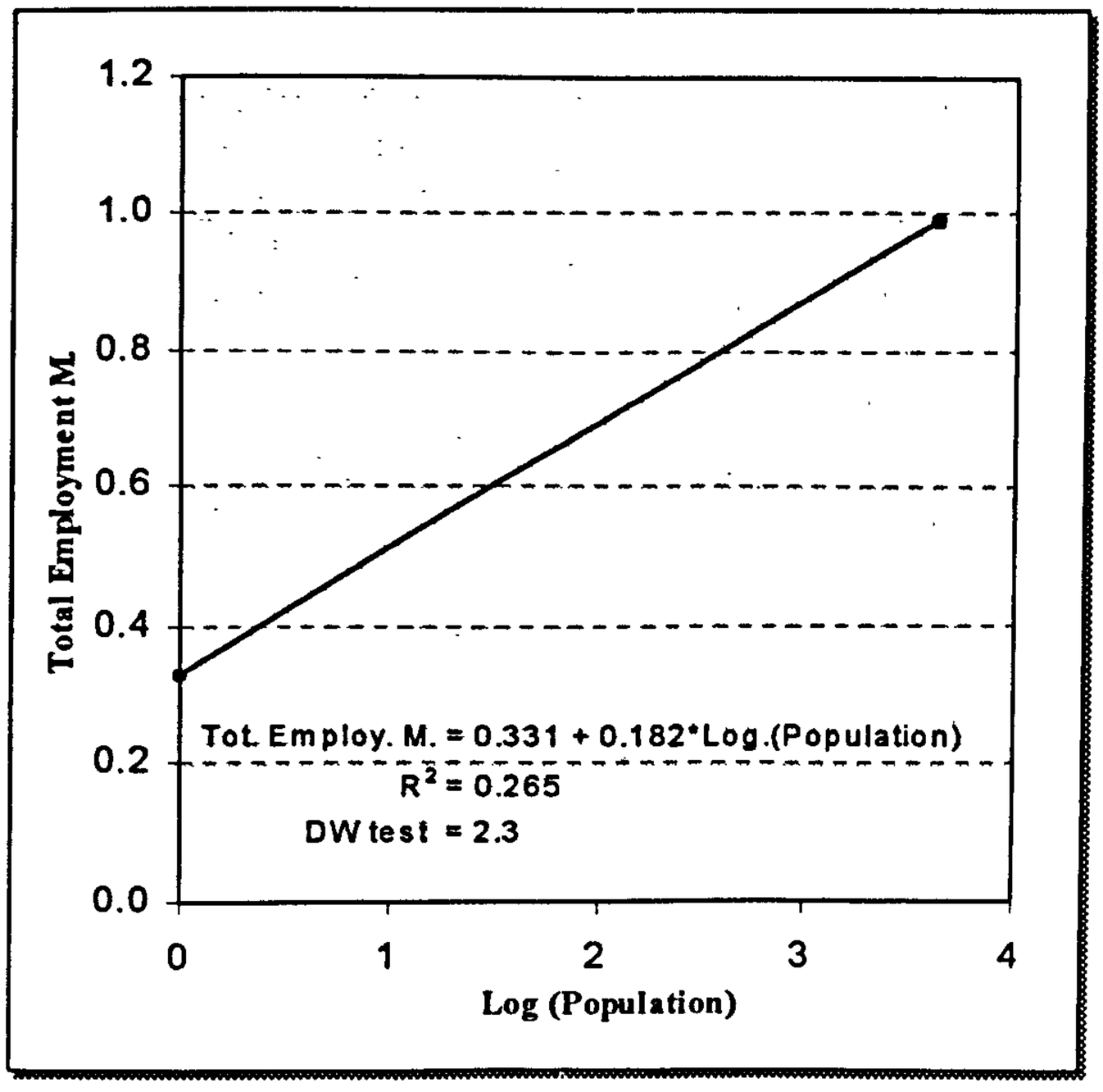


Table 12.3 Regression Analysis on Population and Output Multipliers

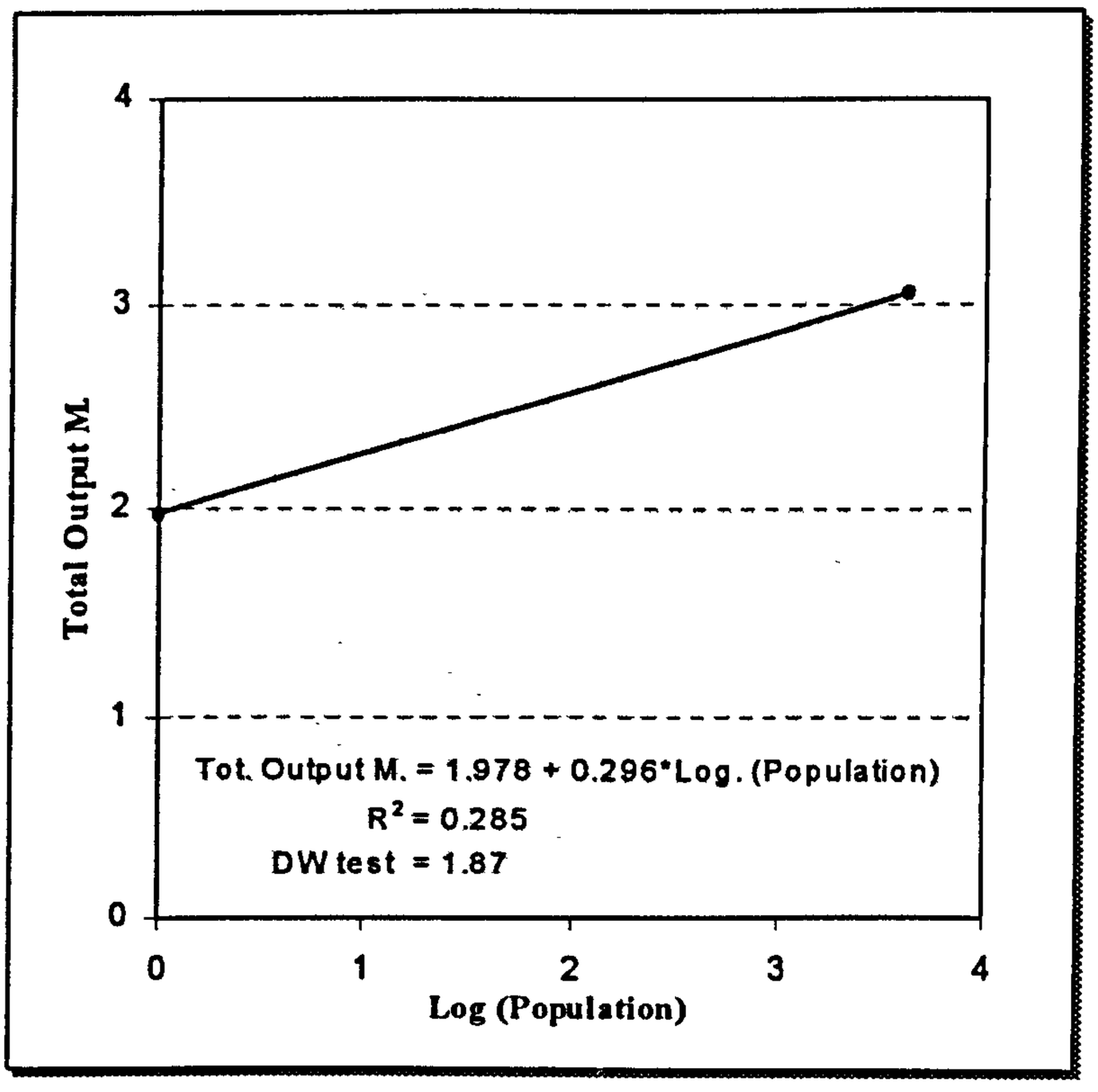


Table 12.4 Regression Analysis on Population and Import Multipliers

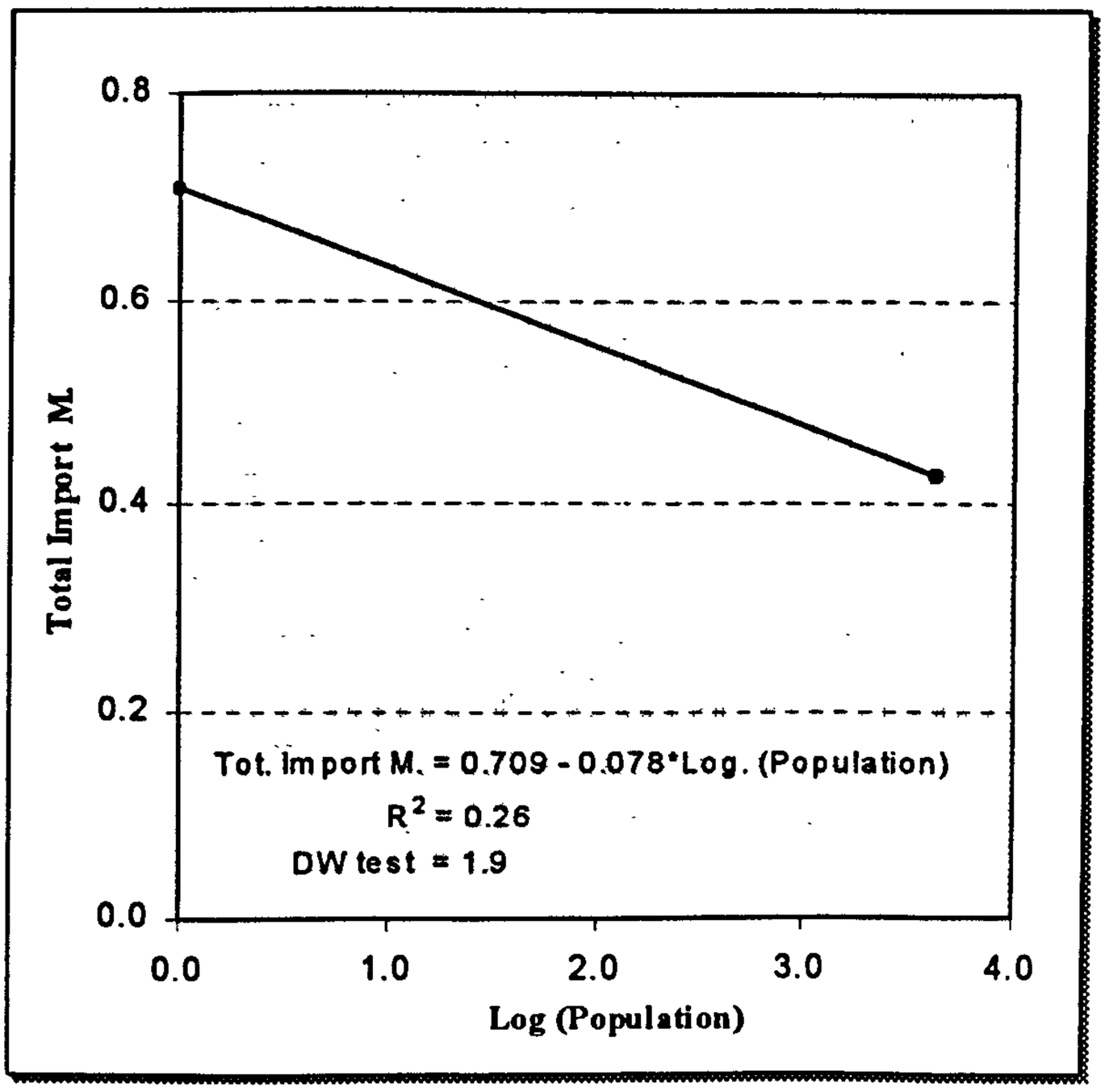


Table 12.5 Regression Analysis on Population and Total Tourist

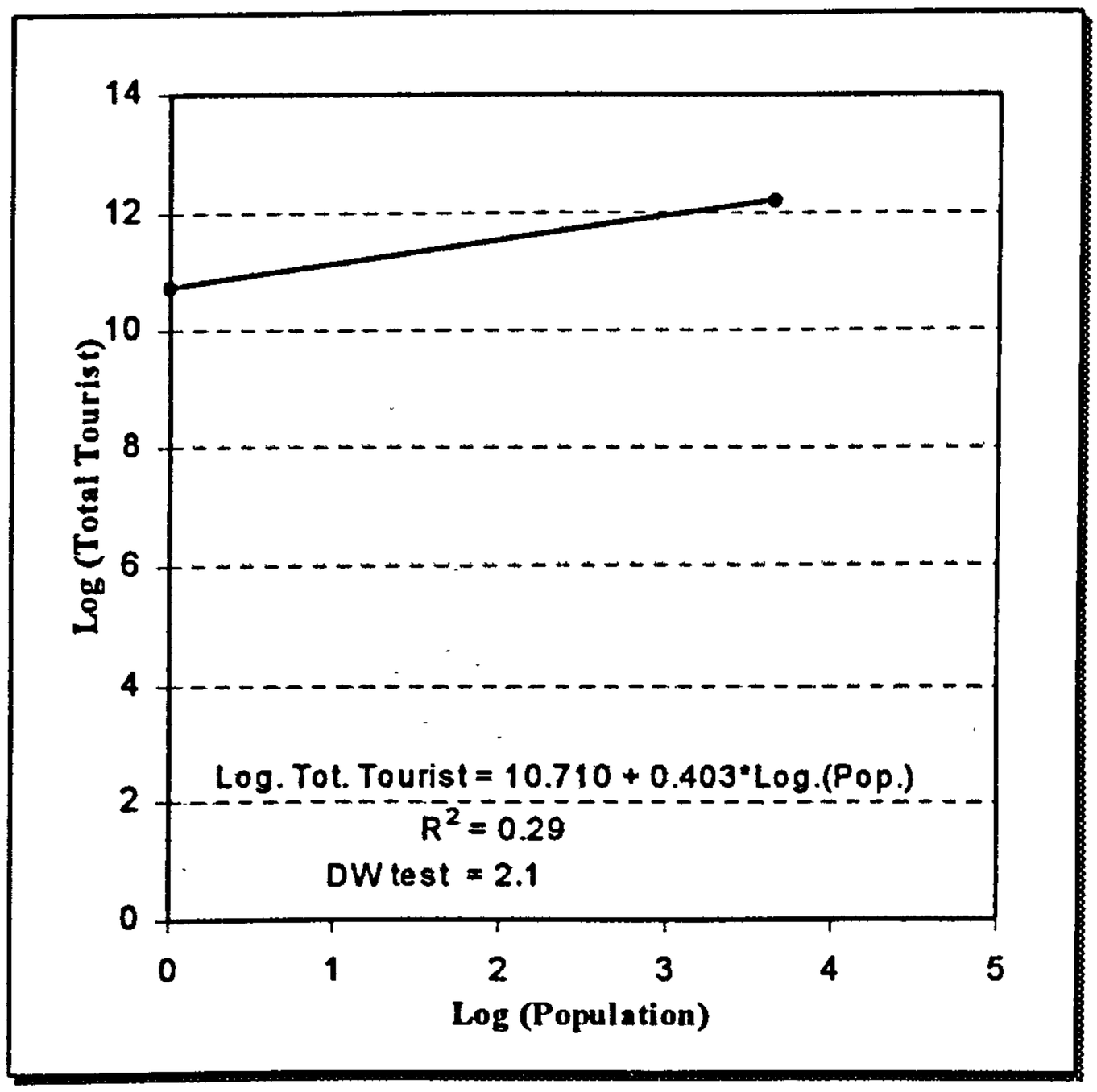


Table 12.6 Regression Analysis on Hotel Value Added per Capita and Income Multipliers

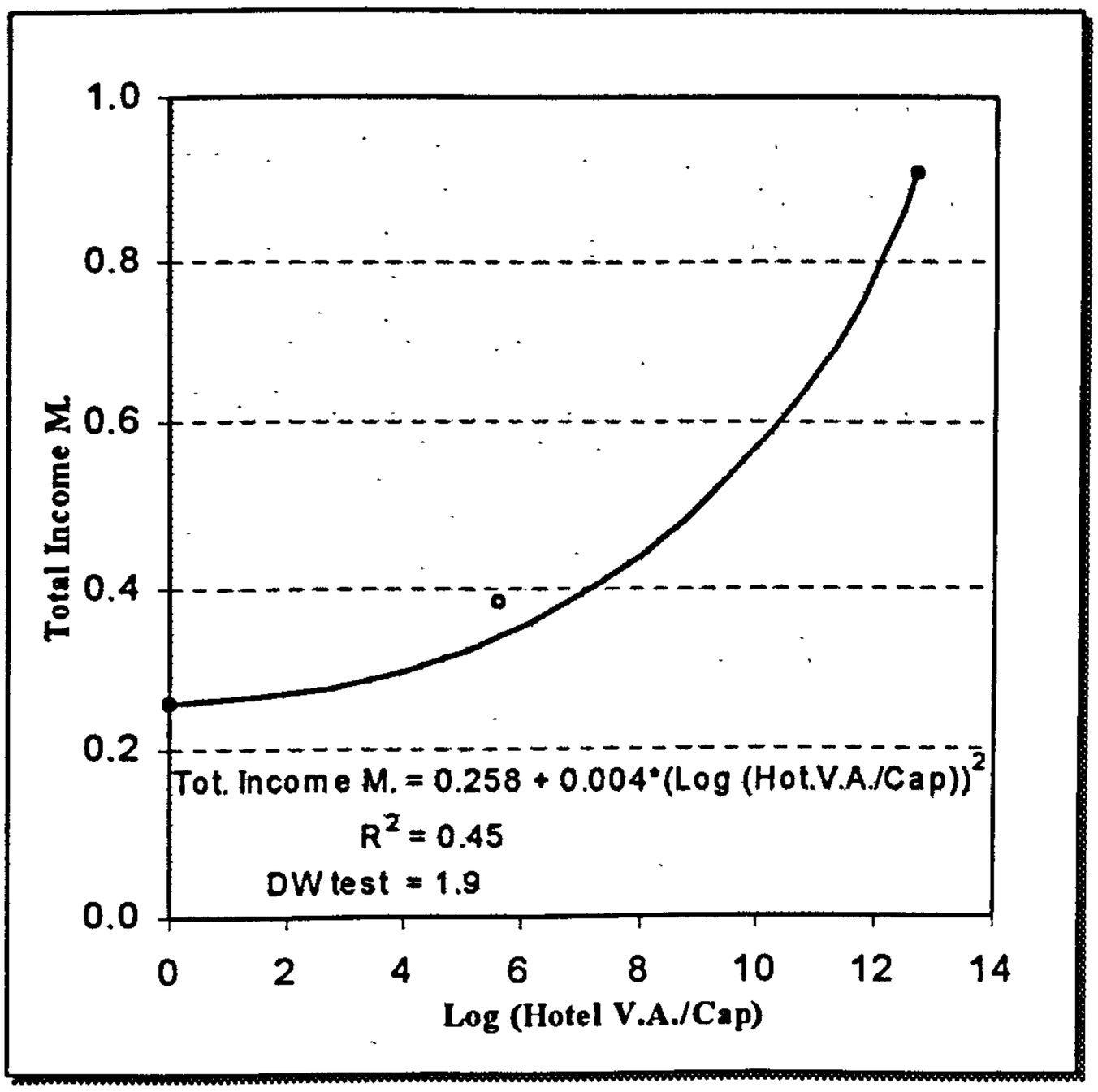


Table 12.7 Regression Analysis on Hotel Value Added per Capita and Output Multipliers

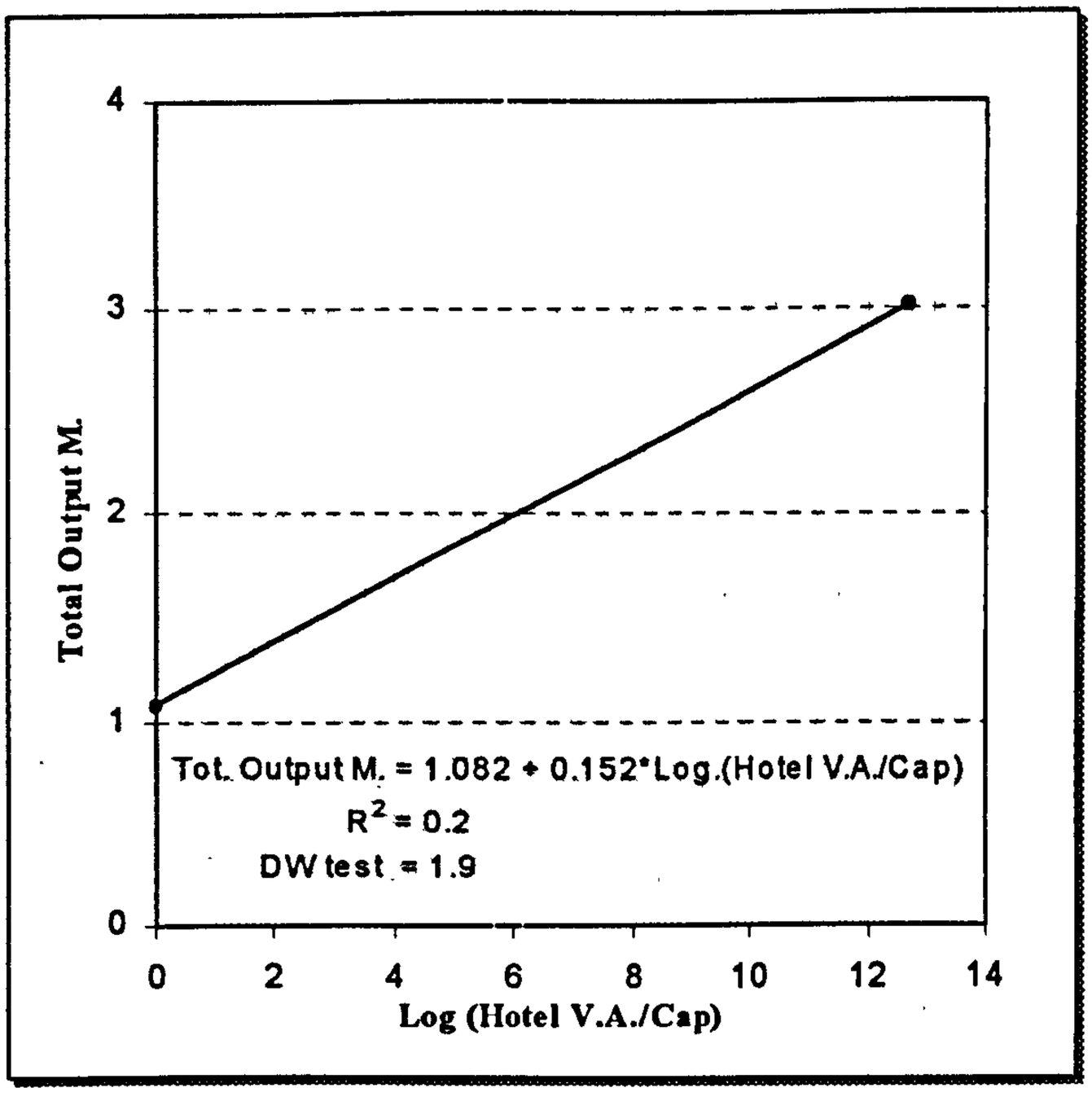


Table 12.8 Regression Analysis on Hotel Value Added per Capita and Total Tourist

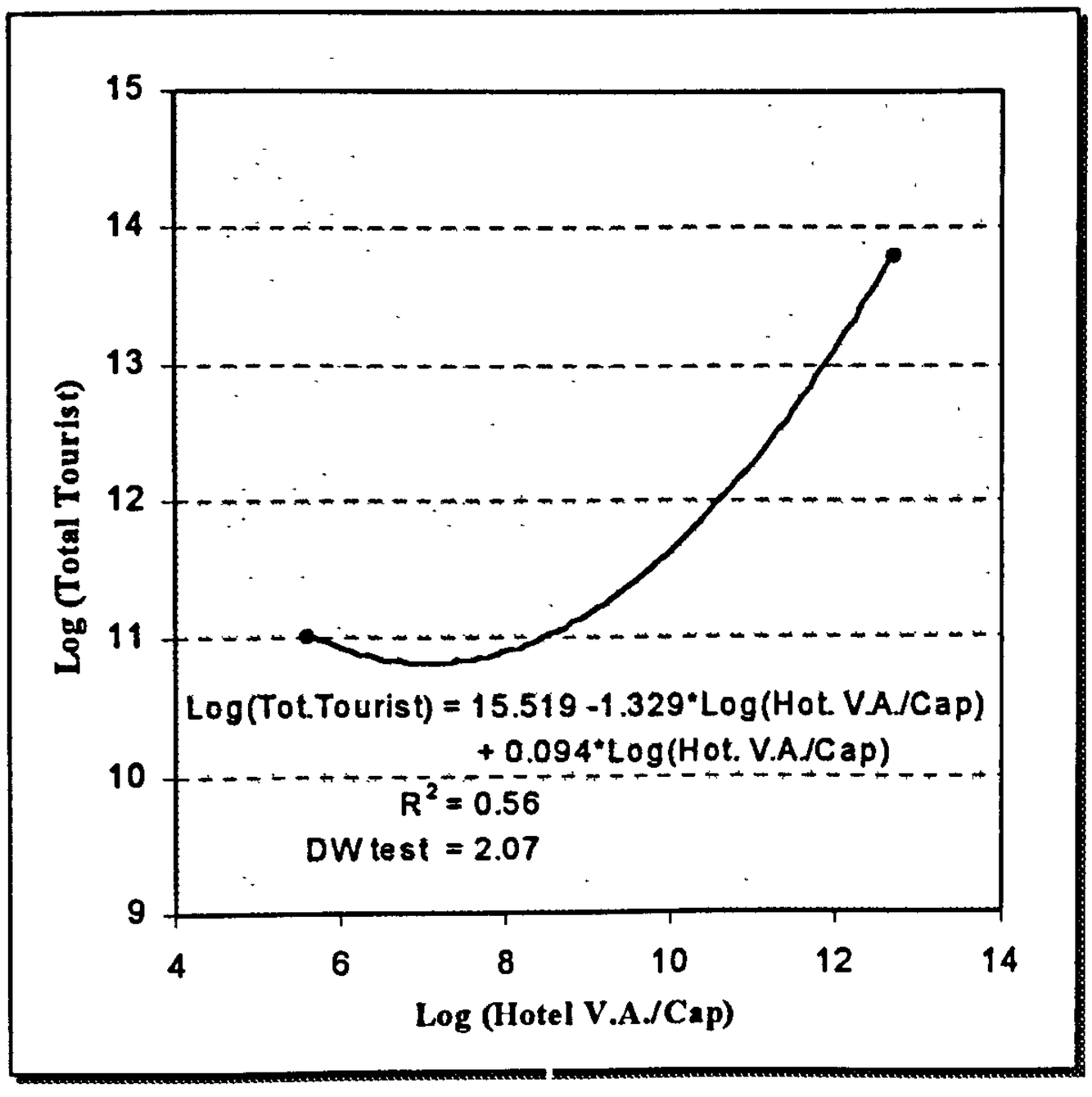


Table 12.9 Regression Analysis on Income and Length of Stay

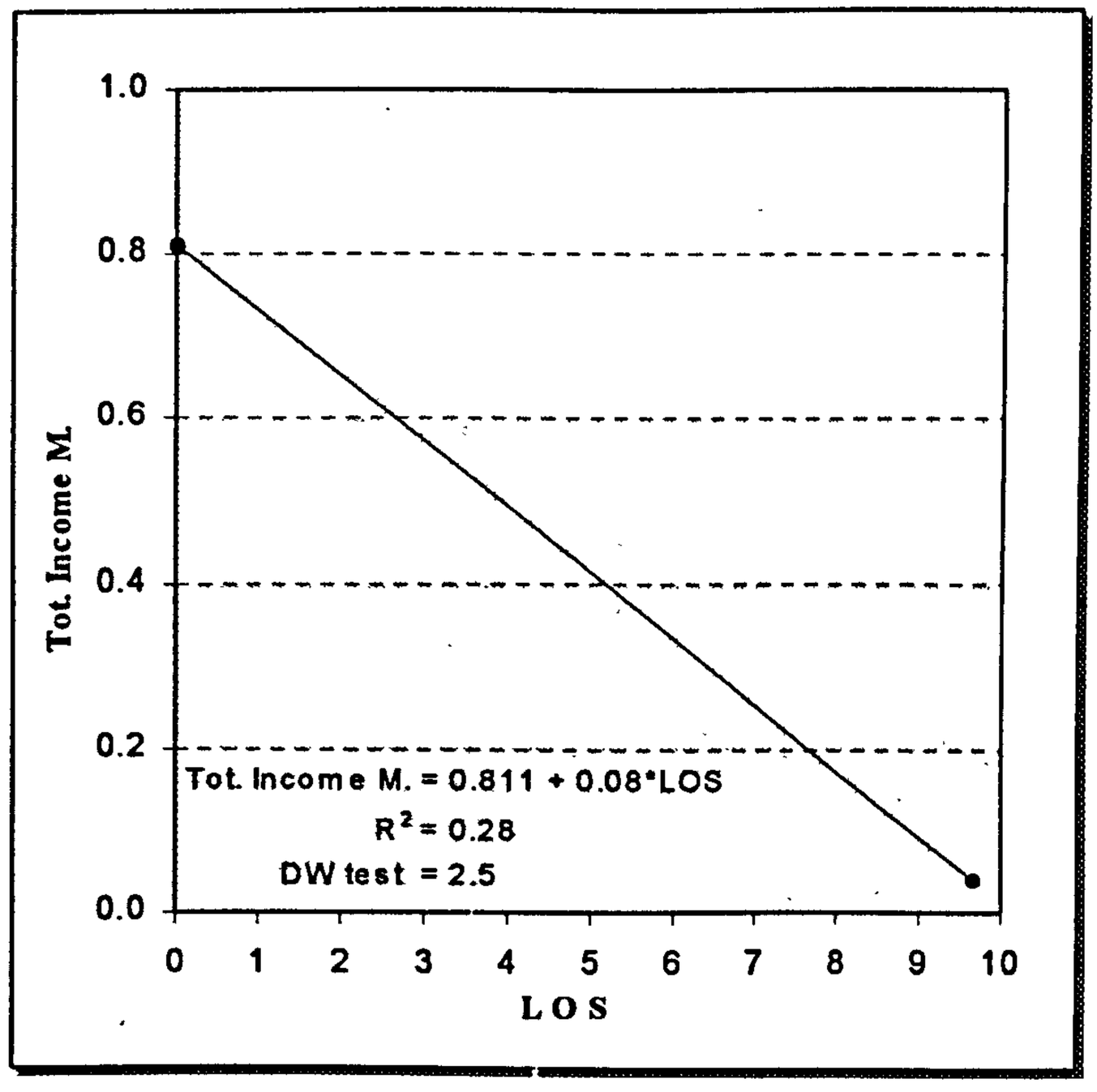
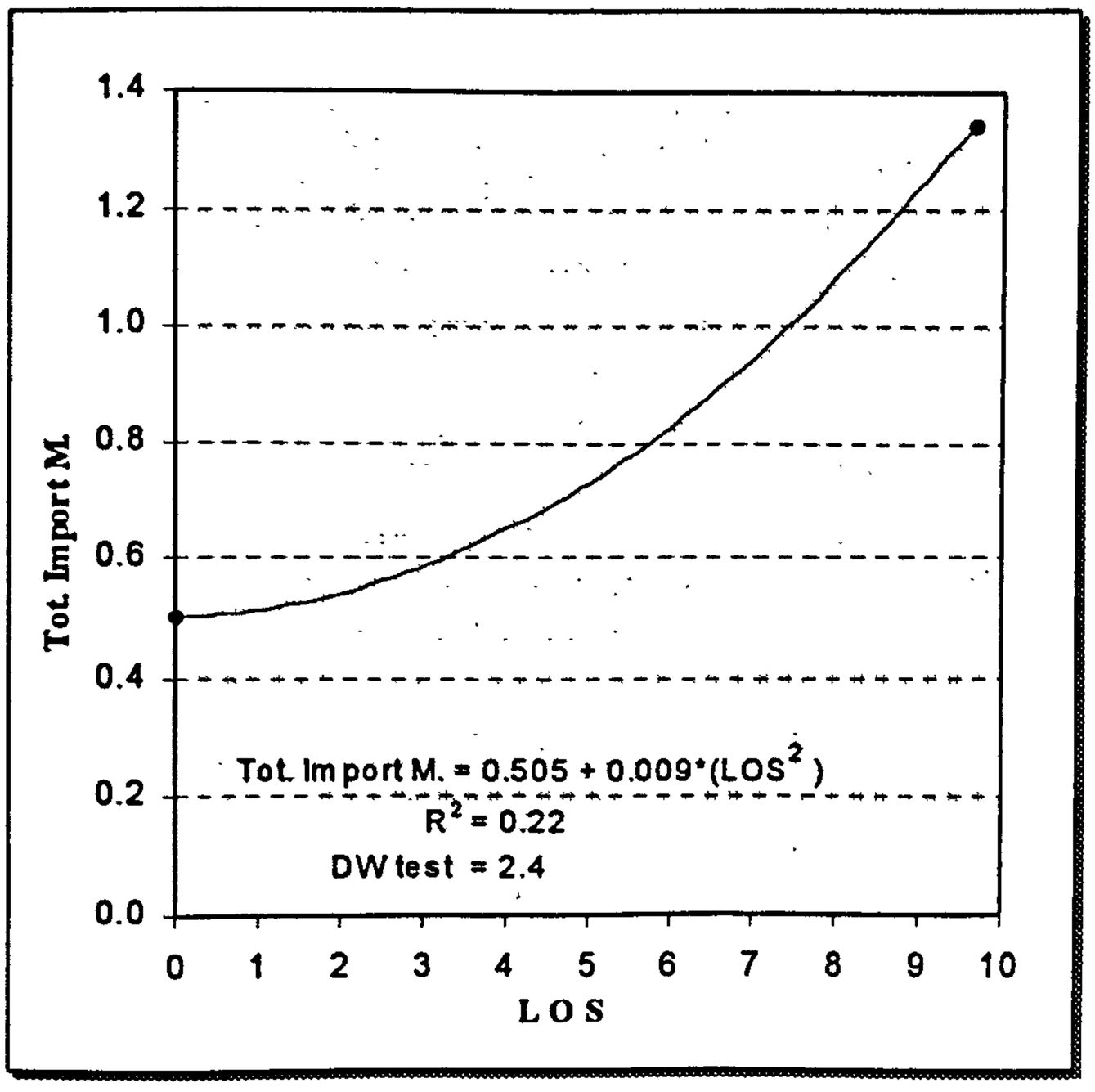


Table 12.10 Regression Analysis on Import and Length of Stay



GLOSSARY

APEC	Asia Pacific Economic Conference, grouping of industrialised and developing countries on Pacific Rim who co-operate on trade and tariff issues.
ASEAN	Association of South East Asian Nations, grouping of countries in South East Asia to co-operate on regional economic, trade and political issues..
BAPPARDA	*Badan Pekerja Parawisata Daerah*, Regional Board for Tourist Development.
BAPPEDA	*Badan Perencanaan Pembangunan Daerah*, Regional Development Planning Board.
Bhinneka Tunggal Ika	'Unity in Diversity', the Indonesian official motto found on national coat of arms.
BKPMD	*Badan Koordinasi Penanaman Modal Daerah*, Regional Capital Investment Board.
BPS	*Biro Pusat Statistik*, Central Bureau of Statistics, national government agency that collects all statistics for the government from national and regional offices.
BTDB	Bali Tourism Development Board, instituted in 1972 to coordinate implementation of the Bali master plan for tourism.
BTDC	Bali Tourism Development Corporation, incorporated as a private/public partnership to supervise the Nusa Dua project. Used as a model for other regions in Indonesia.

Deparpostel	*Department of Tourism, Post and Telecommunications* – department or Ministry responsible at national level for tourism from 1983-1998. Recently changed to Department of Tourism, Art and Culture.
Desa	Village (administrative unit)
DGT	Directorate General of Tourism, one of the three main sub-directorates of the Department of Tourism, Art and Culture and responsible for developing and implementing national tourism policy.
DIPARDA	*Dinas Pariwisata Daerah* Provincial Government Tourism Office
ECTWT	Ecumenical Coalition on Third World Tourism, grouping of NGOs and religious organizations lobbying against exploitative tourism practices esp. sex tourism and child prostitution.
FTE	Full-Time Employment, the equivalent of one job
Garuda Indonesia	Indonesian national airline
GBHN	*Garis Besar Haluan Negara*, National Guidelines for Development, a philosophical overview of the state of the nation in economic, moral and political terms and where the nation should be headed for the next five years.
GDP	Gross Domestic Product, a measure of the value of goods and services produced by an economy over a given period of time, in value-added terms.

GNP	Gross National Product, an economy's total output of goods and services (equal to GDP), plus the income of the country's residents from economic activity abroad minus the income earned in the domestic economy to non-residents.
GRDP	Gross Regional Development Products, domestic production of goods and services (same as GDP) but regionally rather than nationally based.
HRD	Human Resource Development
IMF	International Monetary Fund, an inter-governmental organization to maintain exchange rate stability, technical cooperation such as classification for international payments, and assist countries with balance of payments and other financial problems – also known as 'the lender of last resort' due to the often draconian conditions it imposes on governments in trouble.
JMC	Joint Ministerial Committee, joint consultative body set up between governments of Indonesia and Singapore to discuss development and investment issues in the free trade zones established in Riau province.
KANWIL Parpostel	*Kantor Wilayah Pariwisata,, Pos dan Telekomunikasi,* Regional Office of the Department of Tourism, Post and Telecommunications, located in each of the 27 provinces.
KAPET	*Kawasan Pembangunan Ekonomi Terpadu,* Integrated Economic Development Zone
KPM	Royal Packet Navigation Company, founded in 1888 and which had a monopoly on shipping during the Dutch colonial era.

LDC	Less-Developed Countries, one of the synonyms used for 'Third World', 'undeveloped' or 'developing' countries.
LOS	Length of Stay, average amount of time a tourist spends in a destination.
Losmen	Guesthouse, equivalent of homestay.
New Order	New Order (*Orde Baru*), the regime established by Suharto following the attempted PKI coup in 1965 and which lasted until May, 1998 with Suharto's resignation.
NTO	National Tourism Office/ Organization, an official body concerned with the development, promotion and co-ordination of tourism in a country, recognized and also to a varying extent financed by its government.
OECD	Organization for Economic Co-operation and Development, inter-governmental grouping of developed countries with majority of global tourism inflow/outflow.
Pancasila	The Five Principles of the official Indonesian state ideology.
PELITA	*Pembangunan Lima Tahuan*, Annual Development Plan, one year projection of development and spending priorities with budget allocations and targets.
Pembantu	Helper or servant.
PHRI	*Persatuan Hotel dan Restauran Indonesia*, Indonesian Hotel and Restaurant Association.
PKI	*Partai Komunis Indonesia*, Indonesian Communist Party.

REPELITA	*Rencana Pembangunan Lima Tahun*, Five Year Development Plan, series of national government development plans containing year-by-year planning over a five year projection period. It indicates development priorities, budget allocations, and targets. This planning tool began under the New Order government with Repelita I, from 1968-1973 and continues to the present day Repelita VI from 1994 to1999.
RIPPNAS	*Rencana Induk Pengembangan Pariwisata Nasional*, National Master Plan for Tourism
Rupiah	Indonesian currency unit.
Sadar Wisata	'Tourism Awareness', slogan used as part of a campaign by the government to appreciate the contribution of tourism to Indonesia's social and economic life.
Sapta Pesona	The 'Seven Charms of Tourism' such as peacefulness, cleanliness, hospitality and so forth used by the government in a campaign to encourage welcoming tourists in the 1980s.
SCETO	Societe Central pour L'Equipement Touristique Outre-Mer, the French firm which designed the first Bali Tourism. Development Master Plan in 1971.
SISOD	Small Island States or Dependencies, which are located mainly within developing countries and are defined as having less than 3 million residents and a land mass less than 28,000 sq. km.
Sukarno	First President of Indonesia (1945-68), and revolutionary leader in the fight for Independence against Dutch rule.
TDC	Tourism Development Corporation, based on Bali TDC model (*see BTDC*).

TOURPOSTEL	Department of Tourism, Post and Telecommunications
UNCTAD	United Nations Conference on Trade and Development, UN body with aim of promoting international trade in goods and services, especially in developing countries.
UNDP	United Nations Development Programme, coordinating UN agency for technical cooperation.
UNEP	United Nations Environment Programme, UN agency to coordinate inter-governmental efforts for the monitoring and protection of the environment.
UNESCO	United Nations Educational, Scientific and Cultural Organization, UN body to promote international collaboration in education, science and culture.
USD	United States Dollar, main foreign currency used by government of Indonesia in establishing international equivalent values for Indonesian rupiah. Also used extensively in tourism statistics by international tourism organizations (e.g. WTO) as well as many other countries.
VFR	Visiting Friends and Relatives, one of main motivations for tourism cited as a category in tourism statistics.
VOC	Dutch East India Company, a commercial company which had a monopoly on Dutch East Indies trade for many years.
WEFA	Wharton Economic Forecasting Associates, one of the world's leading economic consulting and forecasting firms

Wisata	Tourism.
World Bank	A group of multilateral development institutions whose purpose is to help raise the standard of living in developing countries by lending funds, providing advice and technical assistance.
WTO	World Tourism Organization, major inter-governmental organization to promote, analyse and monitor tourism.
WTTC	World Travel and Tourism Council, global coalition of chief executive officers of major international companies in various tourism sectors such as transportation, accommodation etc.

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APPENDIX 1

DATA AND CALCULATION FOR INDEPENDENT- DEPENDENT VARIABLES

Appendix 1. The Data for Independent and Dependent Variables

PROVINCE	PRICE1	PRICE2	PRICE3	PRICE4	PRICE5
ACEH	442,700	665,400	125,900	629,400	994,800
BALI	233,800	10,000	564,800	92,900	507,400
BENGKULU	165,500	288,200	348,600	351,900	717,600
CENTRAL_JAVA	118,200	340,900	455,300	70,900	484,300
CENTRAL_KALIMANTAN	235,900	277,100	573,000	183,600	597,000
CENTRAL_SULAWESI	467,300	399,700	804,400	305,700	784,500
EAST_JAVA	186,400	94,000	523,500	20,000	413,400
EAST_KALIMANTAN	314,000	313,400	651,100	274,900	688,300
EAST_NUSA_TENGGARA	449,800	227,100	786,900	301,300	714,700
EAST_TIMOR	501,500	270,800	838,600	366,200	845,000
IRIAN_JAYA	744,600	642,300	1,081,700	727,000	1,205,800
JAKARTA	10,000	222,700	337,100	186,400	525,100
JAMBI	176,500	399,200	513,600	362,900	728,600
LAMPUNG	72,000	294,700	513,600	256,200	624,100
MALUKU	475,100	320,800	657,900	405,800	819,200
NORTH_SULAWESI	552,100	507,400	889,200	413,400	50,000
NORTH_SUMATERA	339,300	562,000	50,000	525,700	891,400
RIAU	249,100	471,800	138,000	435,500	801,200
SOUTHEAST_SULAWESI	426,710	692,300	763,800	283,700	697,100
SOUTH_KALIMANTAN	245,800	313,400	582,900	147,900	561,300
SOUTH_SULAWESI	331,600	157,800	668,100	208,400	621,800
SOUTH_SUMATERA	138,000	360,700	256,800	324,400	690,100
WEST_JAVA	75,300	298,000	412,400	147,900	561,300
WEST_KALIMANTAN	200,700	241,900	537,800	183,600	597,100
WEST_NUSA_TENGGARA	259,500	55,500	596,600	109,400	522,800
WEST_SUMATERA	245,800	468,500	151,200	432,200	797,900
YOGYAKARTA	129,200	22,600	468,500	64,400	478,800

PROVINCE	TIMEFAC1	TIMEFAC2	TIMEFAC3	TIMEFAC4	TIMEFAC5
ACEH	3.25	5.05	1.10	4.45	8.15
BALI	1.40	0.15	3.55	0.50	3.05
BENGKULU	1.15	2.55	3.30	2.35	6.05
CENTRAL_JAVA	1.00	1.20	3.15	1.00	5.50
CENTRAL_KALIMANTAN	1.40	3.20	3.55	3.00	5.55
CENTRAL_SULAWESI	4.20	3.50	6.35	2.40	3.05
EAST_JAVA	1.20	0.55	3.35	0.20	6.10
EAST_KALIMANTAN	2.00	3.30	4.15	2.40	3.20
EAST_NUSA_TENGGARA	2.35	0.55	4.50	1.55	4.00
EAST_TIMOR	1.95	0.55	4.10	1.05	4.20
IRIAN_JAYA	6.50	6.15	9.05	6.00	6.15
JAKARTA	0.10	1.40	2.15	1.20	4.50
JAMBI	1.20	3.00	3.35	2.40	6.10
LAMPUNG	0.30	2.10	2.45	1.50	5.20
MALUKU	4.05	4.55	6.20	3.15	2.15
NORTH_SULAWESI	4.50	3.05	7.05	3.15	0.30
NORTH_SUMATERA	2.15	3.55	0.30	3.35	7.05
RIAU	1.40	3.20	1.05	3.00	6.30
SOUTHEAST_SULAWESI	3.55	2.55	6.10	2.25	2.00
SOUTH_KALIMANTAN	1.45	3.25	4.00	2.00	5.45
SOUTH_SULAWESI	2.20	1.20	4.35	1.30	1.45
SOUTH_SUMATERA	1.05	2.45	3.20	2.25	5.55
WEST_JAVA	0.40	1.35	2.55	1.10	5.30
WEST_KALIMANTAN	1.30	3.10	3.45	2.50	4.55
WEST_NUSA_TENGGARA	2.20	0.40	4.35	1.20	3.45
WEST_SUMATERA	1.45	3.25	1.10	3.05	6.35
YOGYAKARTA	1.05	1.15	3.20	0.50	5.55

PROVINCE	TOTTOUR1	TOTTOUR2	TOTTOUR3	TOTTOUR4	TOTTOUR5	TOURISTS
ACEH	11,992.11	7,636.67	17,729.37	327.12	124.86	37,810
BALI	22,707.04	508,144.17	3,952.07	2,216.24	244.80	537,264
BENGKULU	32,077.98	17,631.65	6,403.12	585.08	173.10	56,871
CENTRAL_JAVA	44,914.60	14,905.96	4,902.54	2,903.93	256.48	67,884
CENTRAL_KALIMANTAN	22,504.90	18,337.93	3,895.51	1,121.40	208.06	46,068
CENTRAL_SULAWESI	11,360.81	12,713.14	2,774.90	673.50	158.33	27,681
EAST_JAVA	28,481.26	54,057.89	4,263.85	10,294.42	300.47	97,398
EAST_KALIMANTAN	16,907.34	16,213.92	3,428.24	748.96	180.46	37,479
EAST_NUSA_TENGGARA	11,802.81	22,375.35	2,836.61	683.33	173.80	37,872
EAST_TIMOR	10,586.05	18,764.56	2,661.73	562.23	147.00	32,722
IRIAN_JAYA	7,129.88	7,911.32	2,063.54	283.20	103.01	17,491
JAKARTA	530,890.59	22,817.43	6,621.56	1,104.55	236.55	561,671
JAMBI	30,078.79	12,729.06	4,346.04	567.34	170.48	47,892
LAMPUNG	73,734.80	17,242.76	4,346.04	803.62	199.03	96,326
MALUKU	11,174.29	15,839.91	3,392.81	507.36	151.63	31,066
NORTH_SULAWESI	9,615.84	10,014.67	2,510.26	498.04	2,484.28	25,123
NORTH_SUMATERA	15,646.64	9,041.71	44,642.55	391.65	139.35	69,862
RIAU	21,312.35	10,770.33	16,174.84	472.76	155.03	48,885
SOUTHEAST_SULAWESI	12,441.48	7,339.94	2,922.40	725.73	178.19	23,608
SOUTH_KALIMANTAN	21,598.48	16,213.92	3,829.35	1,392.08	221.30	43,255
SOUTH_SULAWESI	16,009.97	32,201.78	3,341.01	987.95	199.76	52,740
SOUTH_SUMATERA	38,470.33	14,087.72	8,692.09	634.67	179.99	62,065
WEST_JAVA	70,503.40	17,051.82	5,412.53	1,392.08	221.30	94,581
WEST_KALIMANTAN	26,451.95	21,006.37	4,150.48	1,121.40	208.03	52,938
WEST_NUSA_TENGGARA	20,458.21	91,557.51	3,741.41	1,881.98	237.59	117,877
WEST_SUMATERA	21,598.48	10,846.19	14,762.75	476.37	155.68	47,839
YOGYAKARTA	41,090.60	41,447.32	4,764.41	3,197.02	259.43	90,759

PROVINCE	TOURISTS	CALCTT	CSB1994	PRICEPCT	PRICEIND	TIMEIND
ACEH	37,810	37,810	2,961	2.74	15.92	16.83
BALI	537,264	537,264	1,020,125	12.36	100.00	97.04
BENGKULU	56,871	56,871	-	2.34	12.42	14.71
CENTRAL_JAVA	67,884	67,884	75,743	3.84	25.52	27.24
CENTRAL_KALIMANTAN	46,068	46,068	-	2.31	12.18	11.60
CENTRAL_SULAWESI	27,681	27,681	1,075	1.52	5.25	9.66
EAST_JAVA	97,398	97,398	170,097	8.40	65.40	79.47
EAST_KALIMANTAN	37,479	37,479	13,694	1.85	8.14	13.18
EAST_NUSA_TENGGARA	37,872	37,872	4,086	1.77	7.39	28.31
EAST_TIMOR	32,722	32,722	-	1.52	5.24	32.56
IRIAN_JAYA	17,491	17,491	-	0.92	-	-
JAKARTA	561,671	561,671	763,240	11.36	91.27	100.00
JAMBI	47,892	47,892	994	1.98	9.25	13.62
LAMPUNG	96,326	96,326	5,420	3.01	18.26	40.64
MALUKU	31,066	31,066	8,017	1.53	5.36	11.42
NORTH_SULAWESI	25,123	25,123	9,177	7.55	57.91	82.42
NORTH_SUMATERA	69,862	69,862	318,158	5.76	42.30	67.52
RIAU	48,885	48,885	149,034	2.96	17.78	24.16
SOUTHEAST_SULAWESI	23,608	23,608	604	1.53	5.36	15.74
SOUTH_KALIMANTAN	43,255	43,255	8,128	2.44	13.23	12.68
SOUTH_SULAWESI	52,740	52,740	51,949	2.31	12.18	31.08
SOUTH_SUMATERA	62,065	62,065	10,613	2.67	15.30	16.30
WEST_JAVA	94,581	94,581	147,632	3.45	22.08	38.92
WEST_KALIMANTAN	52,938	52,938	9,594	2.46	13.44	14.02
WEST_NUSA_TENGGARA	117,877	117,877	84,841	4.15	28.27	38.55
WEST_SUMATERA	47,839	47,839	40,971	2.82	16.56	22.98
YOGYAKARTA	90,759	90,759	211,770	4.44	30.72	38.22

PROVINCE	AREAKM2	TOTALPOP	TOURISTS	TOURNSTR
ACEH	55,392	3,689,200	37,810	5,508
BALI	5,561	2,856,000	537,264	74,633
BENGKULU	21,168	1,320,400	56,871	33,846
CENTRAL_JAVA	34,206	29,272,500	67,884	23,544
CENTRAL_KALIMANTAN	152,600	1,542,300	46,068	904
CENTRAL_SULAWESI	69,726	1,850,800	27,681	1,082
EAST_JAVA	47,921	33,380,400	97,398	99
EAST_KALIMANTAN	202,440	2,144,200	37,479	658
EAST_NUSA_TENGGARA	47,876	3,464,000	37,872	44,818
EAST_TIMOR	14,874	808,300	32,722	72,938
IRIAN_JAYA	421,981	1,828,700	17,491	12,468
JAKARTA	661	8,796,800	561,671	53,876
JAMBI	44,800	2,237,300	47,892	22,534
LAMPUNG	33,307	6,427,700	96,326	528,325
MALUKU	74,505	2,001,200	31,066	67,126
NORTH_SULAWESI	19,023	2,584,300	25,123	33,676
NORTH_SUMATERA	70,787	10,813,400	69,862	21,640
RIAU	94,561	3,667,700	48,885	122
SOUTHEAST_SULAWESI	27,686	749,000	23,608	966
SOUTH_KALIMANTAN	37,660	2,781,500	43,255	6,619
SOUTH_SULAWESI	72,781	7,346.300	52,740	6,814
SOUTH_SUMATERA	103,688	6,875,100	62,065	4,562
WEST_JAVA	46,229	37,791,200	94,581	15,765
WEST_KALIMANTAN	146,760	3,490,800	52,938	47
WEST_NUSA_TENGGARA	20,177	3,547,600	117,877	24,687
WEST_SUMATERA	49,778	4,203,000	47,839	18,157
YOGYAKARTA	3,169	2,918,300	90,759	447

PROVINCE	LOSNSTR	LOSSTR	LOSSNSTR
ACEH	4.87	5.48	5.33
BALI	4.04	3.53	3.62
BENGKULU	6.99	4.35	5.23
CENTRAL_JAVA	1.50	2.04	1.93
CENTRAL_KALIMANTAN	10.43	3.61	7.02
CENTRAL_SULAWESI	3.54	3.44	3.49
EAST_JAVA	1.99	1.94	1.95
EAST_KALIMANTAN	3.38	3.38	3.38
EAST_NUSA_TENGGARA	5.97	5.36	5.56
EAST_TIMOR	14.56	4.72	9.64
IRIAN_JAYA	3.65	2.90	3.15
JAKARTA	2.07	2.64	2.54
JAMBI	0.93	2.00	1.73
LAMPUNG	3.73	3.06	3.28
MALUKU	1.91	5.41	4.24
NORTH_SULAWESI	2.72	3.26	3.15
NORTH_SUMATERA	1.40	1.44	1.43
RIAU	2.08	2.11	2.10
SOUTHEAST_SULAWESI	4.53	4.28	4.41
SOUTH_KALIMANTAN	1.75	3.44	3.10
SOUTH_SULAWESI	2.30	2.16	2.19
SOUTH_SUMATERA	1.96	2.54	2.42
WEST_JAVA	3.03	2.45	2.55
WEST_KALIMANTAN	1.84	5.23	4.38
WEST_NUSA_TENGGARA	1.70	3.00	2.74
WEST_SUMATERA	2.69	2.54	2.57
YOGYAKARTA	2.59	2.26	2.33

PROVINCE	LOS5STR	LOS4STR	LOS5TO4	LOS3STR	LOS2STR	LOS3TO2	LOS1STR
ACEH	-	-	-	6.06	5.31	5.69	5.07
BALI	3.30	3.07	3.19	3.85	4.04	3.95	3.41
BENGKULU	-	-	-	-	3.07	3.07	5.63
CENTRAL_JAVA	-	1.68	1.68	1.28	2.39	1.84	2.82
CENTRAL_KALIMANTAN	-	-	-	-	3.61	3.61	-
CENTRAL_SULAWESI	-	-	-	-	3.44	3.44	-
EAST_JAVA	1.40	2.71	2.06	2.48	1.13	1.81	1.98
EAST_KALIMANTAN	-	3.65	3.65	-	3.39	3.39	3.11
EAST_NUSA_TENGGARA	-	-	-	-	3.38	3.38	7.33
EAST_TIMOR	-	-	-	-	-	-	4.72
IRIAN_JAYA	-	-	-	3.68	2.12	2.90	-
JAKARTA	2.02	1.96	1.99	2.60	3.28	2.94	3.33
JAMBI	-	-	-	1.22	1.17	1.20	3.60
LAMPUNG	-	-	-	2.72	3.39	3.06	-
MALUKU	-	-	-	-	2.34	2.34	8.48
NORTH_SULAWESI	-	4.99	4.99	2.42	2.99	2.71	2.62
NORTH_SUMATERA	-	1.71	1.71	1.46	1.09	1.28	1.51
RIAU	-	1.75	1.75	2.95	1.89	2.42	1.84
SOUTHEAST_SULAWESI	-	-	-	-	-	-	4.28
SOUTH_KALIMANTAN	-	3.64	3.64	3.51	3.42	3.47	3.20
SOUTH_SULAWESI	-	1.82	1.82	2.26	2.29	2.28	2.28
SOUTH_SUMATERA	-	2.82	2.82	3.31	2.58	2.95	1.45
WEST_JAVA	1.50	2.94	2.22	2.38	3.69	3.04	1.73
WEST_KALIMANTAN	-	-	-	4.40	7.99	6.20	3.30
WEST_NUSA_TENGGARA	-	2.57	2.57	3.42	3.44	3.43	2.55
WEST_SUMATERA	-	2.17	2.17	2.46	2.90	2.68	2.63
YOGYAKARTA	-	1.55	1.55	1.71	3.81	2.76	1.98

PROVINCE	FLWEEKA1	FLWEEKA2	FLWEEKA3	FLWEEKA4	FLWEEKA5	TOTFLWK	FLFREIND
ACEH	21	16	14	7	2	60	2.96
BALI	99	-	37	60	9	205	89.63
BENGKULU	14	23	7	14	7	65	2.79
CENTRAL_JAVA	68	21	21	28	7	145	11.00
CENTRAL_KALIMANTAN	7	7	7	7	7	35	-
CENTRAL_SULAWESI	7	7	7	7	7	35	-
EAST_JAVA	114	54	35	-	7	210	89.16
EAST_KALIMANTAN	14	21	14	21	7	77	4.71
EAST_NUSA_TENGGARA	30	23	23	10	7	93	5.37
EAST_TIMOR	11	7	7	3	7	35	0.55
IRIAN_JAYA	17	7	10	14	2	50	1.33
JAKARTA	-	107	43	117	9	276	100.00
JAMBI	18	14	14	14	7	67	3.74
LAMPUNG	47	47	12	47	7	160	13.50
MALUKU	17	7	1	16	1	42	1.33
NORTH_SULAWESI	7	7	7	7	-	28	70.73
NORTH_SUMATERA	44	44	-	28	2	118	80.26
RIAU	14	19	4	19	7	63	3.58
SOUTHEAST_SULAWESI	7	7	7	7	7	35	-
SOUTH_KALIMANTAN	21	7	21	7	7	63	3.36
SOUTH_SULAWESI	54	14	21	14	7	110	7.61
SOUTH_SUMATERA	49	44	3	44	2	142	10.85
WEST_JAVA	61	14	29	21	7	132	10.07
WEST_KALIMANTAN	56	28	14	21	7	126	8.72
WEST_NUSA_TENGGARA	30	69	7	42	7	155	12.14
WEST_SUMATERA	42	42	42	42	7	175	15.98
YOGYAKARTA	55	35	29	21	7	147	11.72

PROVINCE	DIRECT1	DIRECT2	DIRECT3	DIRECT4	DIRECT5	DIRFLWK
ACEH	-	-	1	-	-	14
BALI	1	1	-	1	-	159
BENGKULU	1	-	-	-	-	14
CENTRAL_JAVA	1	1	-	1	-	117
CENTRAL_KALIMANTAN	1	-	-	-	-	7
CENTRAL_SULAWESI	1	1	-	-	-	14
EAST_JAVA	1	1	-	1	-	168
EAST_KALIMANTAN	1	-	-	1	-	35
EAST_NUSA_TENGGARA	-	1	-	1	-	33
EAST_TIMOR	-	1	-	-	-	7
IRIAN_JAYA	-	1	-	-	-	7
JAKARTA	1	1	1	1	1	276
JAMBI	1	-	-	-	-	18
LAMPUNG	1	-	-	-	-	47
MALUKU	-	1	-	-	-	7
NORTH_SULAWESI	1	-	-	-	1	7
NORTH_SUMATERA	1	-	1	-	-	44
RIAU	1	-	1	-	-	18
SOUTHEAST_SULAWESI	1	1	-	-	-	14
SOUTH_KALIMANTAN	1	-	-	1	-	28
SOUTH_SULAWESI	1	1	-	1	1	89
SOUTH_SUMATERA	1	-	-	-	-	49
WEST_JAVA	1	1	-	1	-	96
WEST_KALIMANTAN	1	-	-	-	-	56
WEST_NUSA_TENGGARA	-	1	-	1	-	111
WEST_SUMATERA	1	-	1	-	-	84
YOGYAKARTA	1	1	-	1	-	111

PROVINCE	AVETIME1	AVETIME2	AVETIME3	AVETIME4	AVETIME5	AVETIME
ACEH	4.88	6.73	1.10	6.73	2.02	5.79
BALI	1.40	0.15	9.34	0.50	1.51	2.58
BENGKULU	1.15	9.35	4.74	9.57	1.46	5.25
CENTRAL_JAVA	1.00	1.20	7.32	1.00	2.84	2.67
CENTRAL_KALIMANT	1.40	8.19	4.15	8.31	1.03	5.97
CENTRAL_SULAWESI	4.20	3.50	2.76	1.60	1.18	4.65
EAST_JAVA	1.20	0.55	9.82	0.20	4.47	3.25
EAST_KALIMANTAN	2.00	3.93	4.18	2.40	1.19	4.74
EAST_NUSA_TENGGA	11.15	0.55	5.05	1.55	1.03	4.87
EAST_TIMOR	10.51	0.55	4.75	4.74	1.04	6.32
IRIAN_JAYA	3.29	6.15	3.37	1.48	1.02	6.96
JAKARTA	0.10	1.40	2.15	1.20	4.50	1.87
JAMBI	1.20	9.47	4.91	9.70	1.58	5.37
LAMPUNG	0.30	13.86	6.27	14.81	1.65	4.38
MALUKU	5.09	4.55	3.74	1.52	3.46	4.17
NORTH_SULAWESI	4.50	1.05	2.68	1.54	0.30	4.02
NORTH_SUMATERA	2.15	9.88	0.30	10.06	2.92	4.06
RIAU	1.40	8.69	1.05	8.85	1.48	4.29
SOUTHEAST_SULAWE	3.55	2.55	2.96	1.78	1.07	4.83
SOUTH_KALIMANTAN	1.45	9.09	4.92	2.00	1.45	4.78
SOUTH_SULAWESI	2.20	1.20	6.97	1.30	1.45	3.76
SOUTH_SUMATERA	1.05	11.79	6.47	12.24	2.39	6.79
WEST_JAVA	0.40	1.35	6.60	1.10	1.92	2.27
WEST_KALIMANTAN	1.30	11.83	6.88	12.24	2.82	7.01
WEST_NUSA_TENGGA	13.27	0.40	5.78	1.20	1.03	4.34
WEST_SUMATERA	1.45	10.61	1.10	10.91	2.04	5.22
YOGYAKARTA	1.05	1.15	6.75	0.50	2.55	2.40

PROVINCE	DENSITY	ACCESS	DEVELOP
ACEH	3	3	3
BALI	1	1	2
BENGKULU	3	3	3
CENTRAL_JAVA	3	2	1
CENTRAL_KALIMANTAN	3	3	3
CENTRAL_SULAWESI	3	3	3
EAST_JAVA	3	1	1
EAST_KALIMANTAN	2	3	2
EAST_NUSA_TENGGARA	2	2	2
EAST_TIMOR	3	3	3
IRIAN_JAYA	3	3	3
JAKARTA	1	1	1
JAMBI	3	3	3
LAMPUNG	3	3	2
MALUKU	2	3	3
NORTH_SULAWESI	3	2	3
NORTH_SUMATERA	2	2	1
RIAU	1	2	1
SOUTHEAST_SULAWESI	3	3	3
SOUTH_KALIMANTAN	3	2	3
SOUTH_SULAWESI	2	3	3
SOUTH_SUMATERA	3	3	2
WEST_JAVA	3	2	1
WEST_KALIMANTAN	3	3	3
WEST_NUSA_TENGGARA	3	3	3
WEST_SUMATERA	2	3	3
YOGYAKARTA	1	2	2

PROVINCE	AVROOMS	STARPCT	GROWROOM	GROWHOTE	AVSTAY	EXPENDIT
ACEH	18.48	20.64	4.20	4.23	5.60	45,472,958,459
BALI	38.67	61.00	14.27	11.27	3.47	5,539,659,195,216
BENGKULU	13.76	13.35	5.27	10.36	3.68	5,067,095,682
CENTRAL_JAVA	20.50	27.72	5.05	5.59	1.76	433,797,224,797
CENTRAL_KALIMANTAN	19.34	2.97	-2.45	-2.78	3.61	37,127,502,610
CENTRAL_SULAWESI	12.31	6.11	8.82	11.46	3.44	14,929,849,054
EAST_JAVA	29.05	28.59	5.25	4.06	1.78	1,187,958,436,078
EAST_KALIMANTAN	23.44	18.64	9.96	9.96	3.39	68,237,347,538
EAST_NUSA_TENGGARA	22.37	48.48	11.19	8.38	3.04	440,786,596,221
EAST_TIMOR	14.82	38.65	21.79	36.77	4.72	18,534,655,787
IRIAN_JAYA	16.59	8.91	33.25	30.07	2.26	81,632,180,550
JAKARTA	84.55	78.02	16.15	4.79	2.17	5,935,727,486,655
JAMBI	22.72	29.23	-0.69	-2.20	1.19	9,028,683,262
LAMPUNG	21.37	21.39	7.92	7.59	2.75	45,071,626,776
MALUKU	16.96	32.93	10.91	13.14	4.82	86,737,637,357
NORTH_SULAWESI	20.06	38.53	5.77	4.06	3.99	78,694,868,195
NORTH_SUMATERA	21.01	45.21	3.71	6.51	1.36	1,121,193,595,655
RIAU	30.39	34.19	16.37	15.17	2.20	1,892,433,261,872
SOUTHEAST_SULAWESI	16.47	21.86	2.08	0.79	4.28	11,457,399,840
SOUTH_KALIMANTAN	26.48	48.94	18.18	12.45	3.53	41,061,980,649
SOUTH_SULAWESI	17.99	54.03	7.21	3.52	2.09	582,305,009,417
SOUTH_SUMATERA	19.41	20.68	7.21	8.03	1.36	60,785,245,754
WEST_JAVA	26.10	35.12	8.63	9.66	2.72	990,470,954,566
WEST_KALIMANTAN	22.43	17.00	15.10	14.91	4.63	39194783570
WEST_NUSA_TENGGARA	14.29	9.11	11.99	15.70	5.22	67084030573
WEST_SUMATERA	23.47	38.29	7.47	6.32	2.55	180340820277
YOGYAKARTA	20.02	45.94	6.49	8.71	1.64	1062256619808

PROVINCE	UNEDUC	SD-SMTP	SMAGRAD	LABORSRV	TOTLABOR	PPI
ACEH	39.69	45.79	14.52	79,813	1,412,505	5.65
BALI	42.80	40.27	16.93	255,492	1,576,361	16.21
BENGKULU	45.97	41.75	12.28	13,090	612,814	2.14
CENTRAL_JAVA	48.52	42.69	8.79	1,991,557	13,632,439	14.61
CENTRAL_KALIMANTAN	40.21	47.40	12.39	43,769	663,549	6.60
CENTRAL_SULAWESI	42.67	44.35	12.98	45,951	749,588	6.13
EAST_JAVA	49.93	39.82	10.25	1,919,603	15,589,769	12.31
EAST_KALIMANTAN	40.22	42.31	17.47	71,884	842,205	8.54
EAST_NUSA_TENGGARA	56.56	36.06	7.38	148,257	1,667,268	8.89
EAST_TIMOR	74.06	19.40	6.54	9,620	336,490	2.86
IRIAN_JAYA	58.69	30.05	11.26	14,709	767,096	1.92
JAKARTA	20.87	46.82	32.31	511,666	2,947,175	17.36
JAMBI	45.15	43.41	11.44	40,275	888,733	4.53
LAMPUNG	49.64	42.08	8.28	131,471	2,784,496	4.72
MALUKU	40.47	46.81	12.72	54,652	729,780	7.49
NORTH_SULAWESI	37.04	47.02	15.94	72,905	1,024,667	7.11
NORTH_SUMATERA	36.09	48.08	15.83	298,969	4,255,474	7.03
RIAU	41.48	45.00	13.52	67,282	1,342,381	5.01
SOUTHEAST_SULAWESI	46.12	40.54	13.34	20,824	584,996	3.56
SOUTH_KALIMANTAN	46.03	41.49	12.48	144,574	1,265,666	11.42
SOUTH_SULAWESI	48.51	38.67	12.82	176,674	2,659,981	6.64
SOUTH_SUMATERA	45.44	43.25	11.31	114,698	2,692,120	4.26
WEST_JAVA	44.65	43.98	11.37	2,065,480	13,876,469	14.88
WEST_KALIMANTAN	62.09	29.37	8.54	65,618	1,521,038	4.31
WEST_NUSA_TENGGARA	58.69	31.91	9.40	135,739	1,536,195	8.84
WEST_SUMATERA	44.49	41.00	14.51	104,524	1,728,964	6.05
YOGYAKARTA	40.30	39.73	19.97	185,199	1,512,323	12.25

PROVINCE	LABS1988	LABS1989	LABS1990	LABS1991	LABS1992
ACEH	5.11	6.85	7.96	6.77	6.72
BALI	10.43	14.70	17.57	18.46	18.56
BENGKULU	1.70	2.90	3.24	2.54	4.36
CENTRAL_JAVA	10.64	17.04	15.56	17.22	16.75
CENTRAL_KALIMANTAN	5.08	8.01	8.46	7.02	8.06
CENTRAL_SULAWESI	1.66	4.76	4.56	7.03	8.73
EAST_JAVA	8.47	13.24	12.87	14.41	15.18
EAST_KALIMANTAN	5.80	10.07	14.37	14.62	15.60
EAST_NUSA_TENGGARA	4.11	8.82	6.82	7.76	9.93
EAST_TIMOR	1.23	3.63	3.66	5.00	5.72
IRIAN_JAYA	1.22	1.75	2.70	4.13	3.78
JAKARTA	19.20	23.81	25.50	26.32	24.88
JAMBI	3.82	5.14	5.94	5.62	6.99
LAMPUNG	3.66	4.65	5.74	5.12	4.63
MALUKU	3.39	4.94	7.67	7.01	8.17
NORTH_SULAWESI	4.08	9.58	9.64	8.03	10.89
NORTH_SUMATERA	4.38	6.68	7.70	7.37	8.91
RIAU	3.97	7.97	8.03	9.01	8.79
SOUTHEAST_SULAWESI	2.18	2.98	4.17	4.69	5.26
SOUTH_KALIMANTAN	9.97	12.91	12.21	11.46	9.81
SOUTH_SULAWESI	7.88	10.74	9.24	6.31	7.37
SOUTH_SUMATERA	4.55	6.99	6.36	6.87	7.22
WEST_JAVA	10.22	14.61	17.87	18.61	18.26
WEST_KALIMANTAN	4.32	9.03	7.97	5.29	6.34
WEST_NUSA_TENGGARA	7.19	9.53	10.71	12.46	10.33
WEST_SUMATERA	5.22	9.09	6.80	7.45	8.20
YOGYAKARTA	10.57	15.78	16.05	17.05	16.64

PROVINCE	RADIOM	RADIOF	RADIOTOT	TVMALE	TVFEMALE	TVALL	PAPERM	PAPERF	PAPERALL
ACEH	56.66	50.80	53.73	61.34	48.95	55.15	29.45	16.20	22.83
BALI	76.40	72.31	74.35	77.20	74.85	76.02	26.28	17.98	22.11
BENGKULU	60.66	52.83	56.77	61.83	57.55	59.70	20.23	17.59	18.92
CENTRAL_JAVA	73.09	66.54	69.75	68.36	62.78	65.51	21.87	16.48	19.13
CENTRAL_KALIMANTAN	66.64	60.17	63.50	52.66	50.56	51.64	20.66	17.26	19.01
CENTRAL_SULAWESI	53.45	48.63	51.05	61.25	56.05	58.66	18.09	14.14	16.13
EAST_JAVA	65.30	58.60	61.82	65.74	58.60	62.06	20.89	15.38	18.03
EAST_KALIMANTAN	61.52	61.30	61.41	73.81	73.44	73.63	34.59	28.09	31.46
EAST_NUSA_TENGGARA	19.77	15.27	17.46	18.38	14.70	16.49	12.11	8.85	10.43
EAST_TIMOR	21.48	14.83	18.19	22.02	15.60	18.85	11.87	7.12	9.52
IRIAN_JAYA	29.36	24.47	27.02	34.06	30.89	32.54	13.93	10.39	12.23
JAKARTA	80.58	78.11	79.33	91.61	92.10	91.86	69.76	56.92	63.27
JAMBI	55.09	47.00	51.11	64.78	59.45	62.15	16.57	12.05	14.34
LAMPUNG	74.16	70.14	72.19	62.77	58.08	60.47	15.31	12.55	13.95
MALUKU	41.29	33.35	37.31	57.35	51.19	54.26	21.84	17.03	19.43
NORTH_SULAWESI	41.76	40.31	41.05	68.85	63.12	66.02	32.97	29.46	31.24
NORTH_SUMATERA	55.10	52.74	53.90	77.08	71.32	74.15	39.09	23.79	29.84
RIAU	58.03	54.06	56.07	68.08	62.85	65.50	22.30	16.13	19.26
SOUTHEAST_SULAWESI	43.13	36.65	39.78	46.20	41.10	43.57	17.75	14.56	16.11
SOUTH_KALIMANTAN	75.43	69.89	72.62	75.13	68.82	71.93	25.82	18.24	21.98
SOUTH_SULAWESI	65.86	59.59	62.58	54.83	50.58	52.61	19.65	16.53	18.02
SOUTH_SUMATERA	61.01	54.47	57.74	68.22	62.71	65.47	27.70	22.30	25.00
WEST_JAVA	76.59	72.59	74.59	70.90	66.36	68.63	29.23	21.73	25.48
WEST_KALIMANTAN	45.50	40.73	43.12	58.69	55.56	57.13	16.75	11.49	14.13
WEST_NUSA_TENGGARA	48.56	42.33	45.34	57.68	53.56	55.55	12.57	9.35	10.91
WEST_SUMATERA	53.08	46.97	49.90	69.12	59.81	64.26	33.15	26.84	29.86
YOGYAKARTA	83.10	76.78	79.84	79.62	74.90	77.18	40.49	30.55	35.36

PROVINCE	GDPR8889	GDPR8990	GDPR9091	GDPR9192	GDPSS88	GDPSS89	GDPSS90	GDPSS91	GDPSS92
ACEH	3.86	4.32	4.52	5.98	882	1,020	1,149	1,325	1,492
BALI	7.54	7.64	7.03	8.12	1,099	1,350	1,654	1,960	2,270
BENGKULU	3.23	3.25	3.82	3.19	287	328	392	454	551
CENTRAL_JAVA	5.12	6.04	5.62	6.04	6,510	7,420	8,687	10,399	11,692
CENTRAL_KALIMANTAN	0.79	3.46	4.57	6.08	466	529	606	695	808
CENTRAL_SULAWESI	6.87	4.62	5.66	5.47	317	353	400	460	542
EAST_JAVA	6.35	6.92	6.20	5.61	9,686	11,617	13,858	16,178	18,209
EAST_KALIMANTAN	1.88	1.62	2.66	(1.78)	1,408	1,903	2,109	2,384	2,548
EAST_NUSA_TENGGARA	3.37	5.18	5.13	6.26	386	432	525	630	769
EAST_TIMOR	4.14	8.38	7.45	8.37	85	102	120	141	168
IRIAN_JAYA	8.71	14.87	13.50	7.05	399	452	548	602	656
JAKARTA	7.18	6.04	5.48	6.14	10,862	12,830	14,860	17,313	20,651
JAMBI	6.72	4.27	1.86	3.17	465	535	638	711	805
LAMPUNG	5.46	5.06	2.97	8.17	1,022	1,203	1,411	1,589	1,852
MALUKU	3.99	7.34	5.10	1.69	483	554	643	703	766
NORTH_SULAWESI	4.22	7.96	7.76	7.61	619	705	803	905	1,007
NORTH_SUMATERA	7.61	6.14	5.43	5.76	3,274	3,861	4,416	4,951	5,620
RIAU	6.14	4.16	5.22	5.49	1,274	1,476	1,658	2,063	2,351
SOUTHEAST_SULAWESI	6.89	7.12	7.60	1.50	277	319	373	428	508
SOUTH_KALIMANTAN	4.64	4.83	5.58	8.81	925	1,048	1,192	1,362	1,482
SOUTH_SULAWESI	5.02	5.29	8.01	6.69	1,507	1,691	1,886	2,185	2,436
SOUTH_SUMATERA	5.87	(2.12)	2.81	5.99	2,157	2,520	2,970	3,373	3,764
WEST_JAVA	6.04	6.25	5.09	5.38	9,503	10,988	12,846	15,047	17,213
WEST_KALIMANTAN	1.75	4.43	3.86	4.30	1,016	1,126	1,360	1,659	1,875
WEST_NUSA_TENGGARA	6.64	6.67	5.37	6.68	384	441	559	658	810
WEST_SUMATERA	5.54	5.37	4.67	4.33	1,293	1,460	1,671	1,914	2,220
YOGYAKARTA	5.72	4.03	4.84	6.77	808	914	1,059	1,237	1,377

PROVINCE	GDPCP88	GDPCP89	GDPCP90	GDPCP91	GDPCP92
ACEH	483,249	501,913	523,593	547,238	579,973
BALI	500,634	538,377	579,526	620,262	670,643
BENGKULU	371,116	383,102	395,563	410,676	423,772
CENTRAL_JAVA	348,609	366,445	388,593	410,419	435,199
CENTRAL_KALIMANTAN	537,259	541,513	560,257	585,842	621,449
CENTRAL_SULAWESI	304,431	325,351	340,395	359,672	379,353
EAST_JAVA	454,022	482,867	516,305	548,302	579,057
EAST_KALIMANTAN	1,220,934	1,243,847	1,263,986	1,297,615	1,274,475
EAST_NUSA_TENGGARA	201,465	208,985	219,811	231,083	245,545
EAST_TIMOR	167,502	174,442	189,065	203,142	220,137
IRIAN_JAYA	447,979	487,018	559,441	634,948	679,715
JAKARTA	1,468,039	1,573,376	1,668,447	1,759,898	1,868,000
JAMBI	366,105	390,702	407,384	414,959	428,112
LAMPUNG	290,945	306,822	322,353	331,938	359,067
MALUKU	420,245	437,026	469,104	493,039	501,370
NORTH_SULAWESI	345,050	359,610	388,240	418,353	450,195
NORTH_SUMATERA	493,015	530,516	563,095	593,649	627,852
RIAU	458,677	486,849	507,100	533,589	562,892
SOUTHEAST_SULAWESI	344,186	367,901	394,100	424,065	430,440
SOUTH_KALIMANTAN	476,244	498,350	522,429	551,592	600,186
SOUTH_SULAWESI	362,304	380,502	400,647	432,722	461,668
SOUTH_SUMATERA	580,901	614,990	601,951	618,843	655,886
WEST_JAVA	395,542	419,427	445,647	468,327	493,520
WEST_KALIMANTAN	464,907	473,026	493,977	513,030	535,106
WEST_NUSA_TENGGARA	215,004	229,288	244,574	257,700	274,907
WEST_SUMATERA	414,154	437,112	460,573	482,095	502,961
YOGYAKARTA	339,249	358,646	373,111	391,180	417,677

PROVINCE	TINVPMA	TINVPMON	TINVNONP
ACEH	-	5,471	1,400
BALI	1,569,384	3,058,882	94,535
BENGKULU	-	-	450
CENTRAL_JAVA	20,000	371,934	28,377
CENTRAL_KALIMANTAN	-	-	-
CENTRAL_SULAWESI	-	-	-
EAST_JAVA	184,000	1,268,501	289,209
EAST_KALIMANTAN	-	115,161	26,000
EAST_NUSA_TENGGARA	6,335	18,403	-
EAST_TIMOR	-	600	-
IRIAN_JAYA	-	106,095	35,045
JAKARTA	1,420,958	2,009,136	1,013,204
JAMBI	-	25,700	5,500
LAMPUNG	-	35,319	9,000
MALUKU	-	112,199	1,900
NORTH_SULAWESI	24,410	326,413	105,342
NORTH_SUMATERA	10,905	319,667	81,231
RIAU	162,933	228,414	278,984
SOUTHEAST_SULAWESI	-	-	-
SOUTH_KALIMANTAN	-	27,897	3,200
SOUTH_SULAWESI	-	99,323	19,182
SOUTH_SUMATERA	-	40,265	62,955
WEST_JAVA	53,820	1,921,274	126,783
WEST_KALIMANTAN	-	26,590	-
WEST_NUSA_TENGGARA	41,040	596,931	49,865
WEST_SUMATERA	-	61,500	44,520
YOGYAKARTA	145,265	579,465	-

PROVINCE	MOB88	MOB89	MOB90	MOB91	MOB92	MOB93	ARTCULT
ACEH	22,868	23,118	25,805	27,270	25,008	29,115	1,499
BALI	911,982	1,209,873	1,218,827	1,323,696	1,588,926	1,928,640	4,288
BENGKULU	34,969	40,286	38,144	33,571	31,571	29,488	380
CENTRAL_JAVA	293,826	339,018	350,781	333,797	352,707	379,863	12,165
CENTRAL_KALIMANTAN	135,666	139,231	149,316	137,809	120,399	120,754	362
CENTRAL_SULAWESI	73,165	73,387	63,728	50,609	65,114	65,876	471
EAST_JAVA	957,547	1,012,845	975,964	1,020,996	1,100,127	1,235,232	33,162
EAST_KALIMANTAN	442,656	439,328	432,963	473,859	88,934	473,786	289
EAST_NUSA_TENGGARA	129,911	134,493	128,665	133,456	482,852	141,678	1,635
EAST_TIMOR	22,338	25,860	23,308	23,853	26,532	30,153	-
IRIAN_JAYA	234,460	225,058	250,311	277,408	273,124	242,060	268
JAKARTA	3,831,104	4,236,504	4,456,049	4,726,209	5,046,986	5,598,727	2,029
JAMBI	49,931	51,374	47,947	39,018	42,980	46,747	811
LAMPUNG	51,323	53,566	54,324	68,474	63,277	55,645	247
MALUKU	87,641	92,542	97,742	98,635	99,588	107,297	-
NORTH_SULAWESI	113,462	119,115	119,686	117,658	128,069	132,146	-
NORTH_SUMATERA	510,925	529,415	549,898	569,710	612,057	669,223	1,243
RIAU	202,433	210,589	214,173	226,613	220,020	211,616	553
SOUTHEAST_SULAWESI	24,520	25,995	26,702	27,872	30,941	33,801	-
SOUTH_KALIMANTAN	274,565	263,267	243,711	220,949	206,490	211,653	1,002
SOUTH_SULAWESI	487,696	519,604	295,541	279,455	300,264	332,808	198
SOUTH_SUMATERA	366,321	388,120	364,451	374,610	329,120	363,900	837
WEST_JAVA	93,810	127,003	145,611	154,872	170,434	160,780	18,241
WEST_KALIMANTAN	186,984	190,452	192,522	184,967	182,986	196,346	821
WEST_NUSA_TENGGARA	100,623	104,567	127,065	138,852	149,814	153,054	545
WEST_SUMATERA	125,137	137,823	139,073	137,624	152,151	159,075	2,408
YOGYAKARTA	194,665	251,212	291,681	322,973	380,505	434,937	2,128

PROVINCE	THALLSTR	LOSALLST	THNONSTR	LOSNONSTR	INCMULTH	INCMULTB	INCMULTO
ACEH	3,700	5.60	5,508	4.87	0.443	0.438	0.439
BALI	1,168,600	3.47	528,325	4.04	0.926	0.938	0.935
BENGKULU	600	3.68	99	6.99	0.390	-	0.415
CENTRAL_JAVA	69,400	1.76	12,468	1.50	0.688	-	0.682
CENTRAL_KALIMANTAN	100	3.61	122	10.43	0.361	-	0.365
CENTRAL_SULAWESI	1,400	3.44	4,562	3.54	0.366	0.365	0.370
EAST_JAVA	182,100	1.78	22,534	1.99	0.816	-	0.819
EAST_KALIMANTAN	25,300	3.39	6,619	3.38	0.528	-	0.532
EAST_NUSA_TENGGARA	3,000	5.22	33,676	5.97	0.360	0.337	0.361
EAST_TIMOR	2,447	4.72	447	14.56	0.364	-	0.368
IRIAN_JAYA	7,000	2.26	18,157	3.65	0.381	-	0.381
JAKARTA	692,500	2.17	44,818	2.07	0.841	-	0.844
JAMBI	600	1.19	904	0.93	0.424	-	0.386
LAMPUNG	6,200	2.75	658	3.73	0.600	0.613	0.625
MALUKU	9,100	4.82	24,687	1.91	0.473	0.481	0.474
NORTH_SULAWESI	21,500	3.99	6,814	2.72	0.630	0.633	0.632
NORTH_SUMATERA	351,800	1.36	74,633	1.40	0.756	0.765	0.768
RIAU	174,300	2.20	23,544	2.08	0.800	-	0.780
SOUTHEAST_SULAWESI	400	4.28	47	4.53	0.377	-	0.379
SOUTH_KALIMANTAN	4,600	3.53	966	1.75	0.594	-	0.597
SOUTH_SULAWESI	80,500	2.09	15,765	2.30	0.503	0.503	0.504
SOUTH_SUMATERA	10,900	2.70	1,082	1.96	0.480	0.479	0.477
WEST_JAVA	143,100	2.72	72,938	3.03	0.632	0.636	0.632
WEST_KALIMANTAN	6,900	4.63	21,640	1.84	0.435	-	0.437
WEST_NUSA_TENGGARA	59,200	3.04	67,126	1.70	0.723	0.729	0.741
WEST_SUMATERA	33,900	2.55	33,846	2.69	0.509	0.499	0.518
YOGYAKARTA	238,000	1.64	53,876	2.59	0.758	0.750	0.756

PROVINCE	DIRECTH	INDIRECH	INDUCEDH	TOTALH	SPENFTEH
ACEH	0.274	0.260	0.327	0.861	1,162,065
BALI	0.056	0.074	0.180	0.310	3,224,622
BENGKULU	0.107	0.050	0.195	0.352	2,840,335
CENTRAL_JAVA	0.143	0.175	0.222	0.540	1,853,137
CENTRAL_KALIMANTAN	0.146	0.091	0.151	0.388	2,579,249
CENTRAL_SULAWESI	0.120	0.107	0.258	0.485	2,059,890
EAST_JAVA	0.265	0.241	0.612	1.118	894,554
EAST_KALIMANTAN	0.076	0.036	0.048	0.159	6,277,774
EAST_NUSA_TENGGARA	0.111	0.176	0.620	0.907	1,102,843
EAST_TIMOR	0.043	0.038	0.118	0.200	5,004,025
IRIAN_JAYA	0.107	0.119	0.229	0.455	2,198,072
JAKARTA	0.054	0.214	0.130	0.397	2,516,013
JAMBI	0.189	0.075	0.290	0.555	1,802,376
LAMPUNG	0.227	0.185	0.757	1.169	855,636
MALUKU	0.049	0.113	0.162	0.325	3,075,573
NORTH_SULAWESI	0.015	0.006	0.012	0.033	30,658,070
NORTH_SUMATERA	0.257	0.897	0.444	1.598	625,656
RIAU	0.072	0.340	0.191	0.603	1,658,352
SOUTHEAST_SULAWESI	0.062	0.056	0.189	0.306	3,266,738
SOUTH_KALIMANTAN	0.018	0.008	0.027	0.053	18,723,699
SOUTH_SULAWESI	0.179	0.279	0.272	0.731	1,368,500
SOUTH_SUMATERA	0.184	0.173	0.250	0.607	1,648,228
WEST_JAVA	0.234	0.143	0.203	0.580	1,723,921
WEST_KALIMANTAN	0.034	0.391	0.033	0.457	2,186,739
WEST_NUSA_TENGGARA	0.158	0.186	0.341	0.685	1,459,386
WEST_SUMATERA	0.100	0.371	0.355	0.826	1,210,845
YOGYAKARTA	0.175	0.250	0.436	0.861	1,161,255

PROVINCE	DIRECTB	INDIRECB	INDUCEDB	TOTALB	SPENFTEB
ACEH	0.272	0.261	0.323	0.856	1,168,730
BALI	0.051	0.070	0.182	0.303	3,301,352
BENGKULU	.	.	.	.	.
CENTRAL_JAVA	.	.	.	.	.
CENTRAL_KALIMANTAN	.	.	.	.	.
CENTRAL_SULAWESI	0.119	0.107	0.257	0.484	2,067,680
EAST_JAVA	.	.	.	.	.
EAST_KALIMANTAN	.	.	.	.	.
EAST_NUSA_TENGGARA	0.104	0.168	0.580	0.852	1,174,298
EAST_TIMOR	.	.	.	.	.
IRIAN_JAYA	.	.	.	.	.
JAKARTA	.	.	.	.	.
JAMBI	.	.	.	.	.
LAMPUNG	0.232	0.188	0.774	1.194	837,579
MALUKU	0.053	0.113	0.165	0.331	3,022,478
NORTH_SULAWESI	0.014	0.007	0.012	0.033	30,700,494
NORTH_SUMATERA	0.240	0.819	0.449	1.508	663,201
RIAU	.	.	.	.	.
SOUTHEAST_SULAWESI	.	.	.	.	.
SOUTH_KALIMANTAN	.	.	.	.	.
SOUTH_SULAWESI	0.181	0.280	0.273	0.733	1,363,860
SOUTH_SUMATERA	0.186	0.173	0.250	0.608	1,643,724
WEST_JAVA	0.251	0.150	0.204	0.605	1,653,443
WEST_KALIMANTAN	.	.	.	.	.
WEST_NUSA_TENGGARA	0.157	0.193	0.344	0.693	1,442,153
WEST_SUMATERA	0.099	0.360	0.348	0.808	1,238,135
YOGYAKARTA	0.188	0.264	0.432	0.884	1,131,196

PROVINCE	DIRECTO	INDIRECO	NDUCEDO	TOTALO	SPENFTEO	GRMULTH	GRMULTB	GRMULTO
ACEH	0.269	0.261	0.324	0.853	1,171,671	0.015	0.015	0.015
BALI	0.052	0.071	0.182	0.304	3,288,612	0.091	0.090	0.090
BENGKULU	0.103	0.054	0.207	0.364	2,747,804	0.014	-	0.015
CENTRAL_JAVA	0.142	0.168	0.220	0.529	1,890,407	0.071	-	0.069
CENTRAL_KALIMANTAN	0.146	0.091	0.152	0.389	2,568,007	0.015	-	0.015
CENTRAL_SULAWESI	0.122	0.108	0.261	0.491	2,037,405	0.018	0.018	0.018
EAST_JAVA	0.271	0.245	0.615	1.130	885,133	0.046	-	0.047
EAST_KALIMANTAN	0.073	0.035	0.048	0.156	6,395,483	0.005	-	0.005
EAST_NUSA_TENGGARA	0.110	0.173	0.620	0.903	1,107,614	0.019	0.018	0.019
EAST_TIMOR	0.042	0.039	0.120	0.201	4,987,328	0.020	-	0.020
IRIAN_JAYA	0.107	0.118	0.229	0.454	2,201,828	0.020	-	0.019
JAKARTA	0.053	0.209	0.131	0.393	2,543,928	0.047	-	0.047
JAMBI	0.196	0.068	0.264	0.527	1,896,693	0.008	-	0.007
LAMPUNG	0.241	0.194	0.789	1.224	816,930	0.011	0.012	0.012
MALUKU	0.051	0.117	0.163	0.331	3,022,018	0.014	0.014	0.014
NORTH_SULAWESI	0.014	0.007	0.012	0.032	30,858,588	0.016	0.017	0.017
NORTH_SUMATERA	0.251	0.842	0.450	1.543	647,957	0.063	0.058	0.060
RIAU	0.054	0.314	0.186	0.555	1,803,035	0.110	-	0.120
SOUTHEAST_SULAWESI	0.058	0.057	0.189	0.305	3,283,728	0.010	-	0.010
SOUTH_KALIMANTAN	0.019	0.009	0.027	0.055	18,185,382	0.010	-	0.011
SOUTH_SULAWESI	0.182	0.281	0.273	0.736	1,358,033	0.045	0.045	0.045
SOUTH_SUMATERA	0.179	0.171	0.248	0.599	1,669,984	0.029	0.029	0.028
WEST_JAVA	0.233	0.143	0.203	0.579	1,727,192	0.064	0.066	0.064
WEST_KALIMANTAN	0.033	0.381	0.033	0.447	2,237,651	1.124	-	1.096
WEST_NUSA_TENGGARA	0.152	0.189	0.249	0.690	1,449,741	0.027	0.027	0.027
WEST_SUMATERA	0.104	0.384	0.362	0.850	1,176,801	0.016	0.016	0.017
YOGYAKARTA	0.179	0.251	0.435	0.866	1,155,070	0.065	0.066	0.065

PROVINCE	OUTMULTH	OUTMULTB	OUTMULTO	IMPMULTH	IMPMULTB	IMPMULTO
ACEH	3.061	3.053	3.062	0.803	0.805	0.805
BALI	2.749	2.742	2.743	0.314	0.315	0.315
BENGKULU	1.783	-	1.840	0.786	-	0.774
CENTRAL_JAVA	2.570	-	2.550	0.517	-	0.521
CENTRAL_KALIMANTAN	1.847	-	1.856	0.752	-	0.751
CENTRAL_SULAWESI	1.750	1.748	1.758	0.706	0.708	0.702
EAST_JAVA	2.358	-	2.368	0.278	-	0.274
EAST_KALIMANTAN	2.445	-	2.445	0.609	-	0.604
EAST_NUSA_TENGGARA	1.649	1.610	1.648	0.763	0.779	0.763
EAST_TIMOR	1.920	-	1.934	0.768	-	0.768
IRIAN_JAYA	1.983	-	1.981	0.769	-	0.769
JAKARTA	3.029	-	3.031	0.459	-	0.459
JAMBI	1.797	-	1.726	0.807	-	0.822
LAMPUNG	2.059	2.081	2.104	0.606	0.596	0.586
MALUKU	2.027	2.046	2.036	0.599	0.592	0.597
NORTH_SULAWESI	1.786	1.790	1.788	0.560	0.559	0.560
NORTH_SUMATERA	2.771	2.728	2.753	0.667	0.669	0.664
RIAU	2.948	-	2.952	0.544	-	0.563
SOUTHEAST_SULAWESI	1.760	-	1.768	0.680	-	0.686
SOUTH_KALIMANTAN	1.838	-	1.847	0.558	-	0.550
SOUTH_SULAWESI	3.577	3.578	3.580	0.540	0.539	0.539
SOUTH_SUMATERA	2.762	2.761	2.744	0.657	0.657	0.661
WEST_JAVA	3.083	3.121	3.081	0.524	0.516	0.524
WEST_KALIMANTAN	2.912	-	2.880	0.743	-	0.741
WEST_NUSA_TENGGARA	2.531	2.547	2.554	0.531	0.532	0.529
WEST_SUMATERA	2.051	2.031	2.076	0.262	0.258	0.257
YOGYAKARTA	3.174	3.189	3.175	0.506	0.508	0.506

Table 7.2 GDP RATE (without oil and gas) constant Price

Province	1988	1989	1990	1991	1992
1. Aceh	483,249	501,913	523,593	547,238	579,973
2. N. Sumatera	493,015	530,516	563,095	593,649	627,852
3. W. Sumatera	414,154	437,112	460,573	482,095	502,961
4. Riau	458,677	486,849	507,100	533,589	562,892
5. Jambi	366,105	390,702	407,384	414,959	428,112
6. S. Sumatera	580,901	614,990	601,951	618,843	655,886
7. Bengkulu	371,116	383,102	395,563	410,676	423,772
8. Lampung	290,945	306,822	322,353	331,938	359,067
9. Jakarta	1,468,039	1,573,376	1,668,447	1,759,898	1,868,000
10. W. Java	395,542	419,427	445,647	468,327	493,520
11. C. Java	348,609	366,445	388,593	410,419	435,199
12. Yogyakarta	339,249	358,646	373,111	391,180	417,677
13. E. Java	454,022	482,867	516,305	548,302	579,057
14. Bali	500,634	538,377	579,526	620,262	670,643
15. W. Nusa T.	215,004	229,288	244,574	257,700	274,907
16. E. Nusa T.	201,465	208,985	219,811	231,083	245,545
17. W. Kalimantan	464,907	473,026	493,977	513,030	535,106
18. C. Kalimantan	537,259	541,513	560,257	585,842	621,449
19. S. Kalimantan	476,244	498,350	522,429	551,592	600,186
20. E. Kalimantan	1,220,934	1,243,847	1,263,986	1,297,615	1,274,475
21. N. Sulawesi	345,050	359,610	388,240	418,353	450,195
22. C. Sulawesi	304,431	325,351	340,395	359,672	379,353
23. S. Sulawesi	362,304	380,502	400,647	432,722	461,668
24. SE. Sulawesi	344,186	367,901	394,100	424,065	430,440
25. Maluku	420,245	437,026	469,104	493,039	501,370
26. Irian Jaya	447,979	487,018	559,441	634,948	679,715
27. E. Timor	167,502	174,442	189,065	203,142	220,137
Total 27 Province	**460,760**	**488,357**	**516,491**	**544,973**	**576,120**
Indonesia	**709,487**	**815,425**	**934,447**	**1,062,862**	**1,234,663**

(Source: BPS, 1994)

Table 7.3 GDP Rate of Change (without/with oil)

Province	1988-1989	1989-1990	1990-1991	1991-1992
1. Aceh	3.86	4.32	4.52	5.98
2. N. Sumatera	7.61	6.14	5.43	5.76
3. W. Sumatera	5.54	5.37	4.67	4.33
4. Riau	6.14	4.16	5.22	5.49
5. Jambi	6.72	4.27	1.86	3.17
6. S. Sumatera	5.87	(2.12)	2.81	5.99
7. Bengkulu	3.23	3.25	3.82	3.19
8. Lampung	5.46	5.06	2.97	8.17
9. Jakarta	7.18	6.04	5.48	6.14
10. W. Java	6.04	6.25	5.09	5.38
11. C. Java	5.12	6.04	5.62	6.04
12. Yogyakarta	5.72	4.03	4.84	6.77
13. E. Java	6.35	6.92	6.20	5.61
14. Bali	7.54	7.64	7.03	8.12
15. W. Nusa T.	6.64	6.67	5.37	6.68
16. E. Nusa T.	3.37	5.18	5.13	6.26
17. W. Kalimantan	1.75	4.43	3.86	4.30
18. C. Kalimantan	0.79	3.46	4.57	6.08
19. S. Kalimantan	4.64	4.83	5.58	8.81
20. E. Kalimantan	1.88	1.62	2.66	(1.78)
21. N. Sulawesi	4.22	7.96	7.76	7.61
22. C. Sulawesi	6.87	4.62	5.66	5.47
23. S. Sulawesi	5.02	5.29	8.01	6.69
24. SE. Sulawesi	6.89	7.12	7.60	1.50
25. Maluku	3.99	7.34	5.10	1.69
26. Irian Jaya	8.71	14.87	13.50	7.05
27. E. Timor	4.14	8.38	7.45	8.37
Total 27 Province	**5.99**	**5.76**	**5.51**	**5.72**
Indonesia	**14.93**	**14.60**	**13.74**	**16.16**

(Source: BPS, 1994)

Table 7.4 GDP in Service Sectors

Province	1988	1989	1990	1991	1992
1. Aceh	882	1,020	1,149	1,325	1,492
2. N. Sumatera	3,274	3,861	4,416	4,951	5,620
3. W. Sumatera	1,293	1,460	1,671	1,914	2,220
4. Riau	1,274	1,476	1,658	2,063	2,351
5. Jambi	465	535	638	711	805
6. S. Sumatera	2,157	2,520	2,970	3,373	3,764
7. Bengkulu	287	328	392	454	551
8. Lampung	1,022	1,203	1,411	1,589	1,852
9. Jakarta	10,862	12,830	14,860	17,313	20,651
10. W. Java	9,503	10,988	12,846	15,047	17,213
11. C. Java	6,510	7,420	8,687	10,399	11,692
12. Yogyakarta	808	914	1,059	1,237	1,377
13. E. Java	9,686	11,617	13,858	16,178	18,209
14. Bali	1,099	1,350	1,654	1,960	2,270
15. W. Nusa T.	384	441	559	658	810
16. E. Nusa T.	386	432	525	630	769
17. W. Kalimantan	1,016	1,126	1,360	1,659	1,875
18. C. Kalimantan	466	529	606	695	808
19. S. Kalimantan	925	1,048	1,192	1,362	1,482
20. E. Kalimantan	1,408	1,903	2,109	2,384	2,548
21. N. Sulawesi	619	705	803	905	1,007
22. C. Sulawesi	317	353	400	460	542
23. S. Sulawesi	1,507	1,691	1,886	2,185	2,436
24. SE. Sulawesi	277	319	373	428	508
25. Maluku	483	554	643	703	766
26. Irian Jaya	399	452	548	602	656
27. E. Timor	85	102	120	141	168
Total	**57,394**	**67,177**	**78,393**	**91,326**	**104,442**

Table 7.5 Tourism Related Investment

Province	Jumlah Nilai Investasi		
	PMA (thousand US $)	PMDN (million US $)	Non PMA / PMDN (million US $)
1. Aceh	-	5,471	1,400
2. N. Sumatera	10,905	319,667	81,230.89
3. W. Sumatera	-	61,500	44,520
4. Riau	162,933	228,414	278,984
5. Jambi		25,700	5,500
6. S. Sumatera	-	40,265	62,955
7. Bengkulu	-	-	450
8. Lampung	-	35,319	9,000
9. Jakarta	1,420,957.50	2,009,136	1,013,204
10. W. Java	53,820	1,921,274	126,783
11. C. Java	20,000	371,934	28,377
12. Yogyakarta	145,265	579,465	-
13. E. Java	184,000	1,268,501	289,209
14. Bali	1,569,384	3,058,882	94,535
15. W. Nusa T.	41,040	596,931	49,865
16. E. Nusa T.	6,335.00	18,403	-
17. W. Kalimantan	-	26,590	-
18. C. Kalimantan	-	-	-
19. S. Kalimantan		27,897	3,200
20. E. Kalimantan	-	115,161	26,000
21. N. Sulawesi	24,410	326,413	105,342
22. C. Sulawesi	-	-	-
23. S. Sulawesi	-	99,323	19,182
24. SE. Sulawesi	-	-	-
25. Maluku	-	112,199	1,900
26. Irian Jaya	-	106,095	35.044,63
27. E. Timor	-	600	-
Total	**3.639.050,24**	**11,355,148**	**2,276,681**

Table 7.6 Regional Mobility

Province	1988	1989	1990	1991	1992	1993
1. Aceh	22,868	23,118	25,805	27,270	25,008	29,115
2. N. Sumatera	510,925	529,415	549,898	569,710	612,057	669,223
3. W. Sumatera	125,137	137,823	139,073	137,624	152,151	159,075
4. Riau	202,433	210,589	214,173	226,613	220,020	211,616
5. Jambi	49,931	51,374	47,947	39,018	42,980	46,747
6. S. Sumatera	366,321	388,120	364,451	374,610	329,120	363,900
7. Bengkulu	34,969	40,286	38,144	33,571	31,571	29,488
8. Lampung	51,323	53,566	54,324	68,474	63,277	55,645
9. Jakarta	3,831,104	4,236,504	4,456,049	4,726,209	5,046,986	5,598,727
10. W. Java	93,810	127,003	145,611	154,872	170,434	160,780
11. C. Java	293,826	339,018	350,781	333,797	352,707	379,863
12. Yogyakarta	194,665	251,212	291,681	322,973	380,505	434,937
13. E. Java	957,547	1,012,845	975,964	1,020,996	1,100,127	1,235,232
14. Bali	911,982	1,209,873	1,218,827	1,323,696	1,588,926	1,928,640
15. W. Nusa T.	100,623	104,567	127,065	138,852	149,814	153,054
16. E. Nusa T.	129,911	134,493	128,665	133,456	482,852	141,678
17. W. Kalimantan	186,984	190,452	192,522	184,967	182,986	196,346
18. C. Kalimantan	135,666	139,231	149,316	137,809	120,399	120,754
19. S. Kalimantan	274,565	263,267	243,711	220,949	206,490	211,653
20. E. Kalimantan	442,656	439,328	432,963	473,859	88,934	473,786
21. N. Sulawesi	113,462	119,115	119,686	117,658	128,069	132,146
22. C. Sulawesi	73,165	73,387	63,728	50,609	65,114	65,876
23. S. Sulawesi	487,696	519,604	295,541	279,455	300,264	332,808
24. SE. Sulawesi	24,520	25,995	26,702	27,872	30,941	33,801
25. Maluku	87,641	92,542	97,742	98,635	99,588	107,297
26. Irian Jaya	234,460	225,058	250,311	277,408	273,124	242,060
27. E. Timor	22,338	25,860	23,308	23,853	26,532	30,153
Total	**9,960,528**	**10,963,645**	**11,023,988**	**11,524,815**	**12,270,976**	**13,544,400**

Table 7.7 Size of Region (Km^2)

No.	Province	Size of Region (Km^2)
1.	Aceh	55,392
2.	N. Sumatera	70,787
3.	W. Sumatera	49,778
4.	Riau	94,561
5.	Jambi	44,800
6.	S. Sumatera	103,688
7.	Bengkulu	21,168
8.	Lampung	33,307
9.	Jakarta	661
10.	W. Java	46,229
11.	C. Java	34,206
12.	Yogyakarta	3,169
13.	E. Java	47,921
14.	Bali	5,561
15.	W. Nusa T.	20,177
16.	E. Nusa T.	47,876
17.	W. Kalimantan	146,760
18.	C. Kalimantan	152,600
19.	S. Kalimantan	37,660
20.	E. Kalimantan	202,440
21.	N. Sulawesi	19,023
22.	C. Sulawesi	69,726
23.	S. Sulawesi	72,781
24.	SE. Sulawesi	27,686
25.	Maluku	74,505
26.	Irian Jaya	421,981
27.	E. Timor	14,874
Indonesia		**1,919,317**

Table 7.8 Regional Education Level

Province	Tidak/belum pernah sekolah + tidak/ belum tamat SD	SD + SMTP	SMA ke atas	Total
1. Aceh	39.69	45.79	14.52	100.00
2. N. Sumatera	36.09	48.08	15.83	100.00
3. W. Sumatera	44.49	41.00	14.51	100.00
4. Riau	41.48	45.00	13.52	100.00
5. Jambi	45.15	43.41	11.44	100.00
6. S. Sumatera	45.44	43.25	11.31	100.00
7. Bengkulu	45.97	41.75	12.28	100.00
8. Lampung	49.64	42.08	8.28	100.00
9. Jakarta	20.87	46.82	32.31	100.00
10. W. Java	44.65	43.98	11.37	100.00
11. C. Java	48.52	42.69	8.79	100.00
12. Yogyakarta	40.30	39.73	19.97	100.00
13. E. Java	49.93	39.82	10.25	100.00
14. Bali	42.80	40.27	16.93	100.00
15. W. Nusa T.	58.69	31.91	9.40	100.00
16. E. Nusa T.	56.56	36.06	7.38	100.00
17. W. Kalimantan	62.09	29.37	8.54	100.00
18. C. Kalimantan	40.21	47.40	12.39	100.00
19. S. Kalimantan	46.03	41.49	12.48	100.00
20. E. Kalimantan	40.22	42.31	17.47	100.00
21. N. Sulawesi	37.04	47.02	15.94	100.00
22. C. Sulawesi	42.67	44.35	12.98	100.00
23. S. Sulawesi	48.51	38.67	12.82	100.00
24. SE. Sulawesi	46.12	40.54	13.34	100.00
25. Maluku	40.47	46.81	12.72	100.00
26. Irian Jaya	58.69	30.05	11.26	100.00
27. E. Timor	74.06	19.40	6.54	100.00
Indonesia	**45.48**	**42.11**	**12.41**	**100.00**

Table 7.9 Labour Force

Province (1)	Jumlah Penduduk 10 th keatas yang kerja di sektor industri (2)	Jumlah Penduduk 10 th ke atas yang bekerja (3)	PPI (2) / (3) X 100 (4)
1. Aceh	79,813	1,412,505	5.65
2. N. Sumatera	298,969	4,255,474	7.03
3. W. Sumatera	104,524	1,728,964	6.05
4. Riau	67,282	1,342,381	5.01
5. Jambi	40,275	888,733	4.53
6. S. Sumatera	114,698	2,692,120	4.26
7. Bengkulu	13,090	612,814	2.14
8. Lampung	131,471	2,784,496	4.72
9. Jakarta	511,666	2,947,175	17.36
10. W. Java	2,065,480	13,876,469	14.88
11. C. Java	1,991,557	13,632,439	14.61
12. Yogyakarta	185,199	1,512,323	12.25
13. E. Java	1,919,603	15,589,769	12.31
14. Bali	255,492	1,576,361	16.21
15. W. Nusa T.	135,739	1,536,195	8.84
16. E. Nusa T.	148,257	1,667,268	8.89
17. W. Kalimantan	65,618	1,521,038	4.31
18. C. Kalimantan	43,769	663,549	6.60
19. S. Kalimantan	144,574	1,265,666	11.42
20. E. Kalimantan	71,884	842,205	8.54
21. N. Sulawesi	72,905	1,024,667	7.11
22. C. Sulawesi	45,951	749,588	6.13
23. S. Sulawesi	176,674	2,659,981	6.64
24. SE. Sulawesi	20,824	584,996	3.56
25. Maluku	54,652	729,780	7.49
26. Irian Jaya	14,709	767,096	1.92
27. E. Timor	9,620	336,490	2.86
Indonesia	**8,784,295.00**	**79,200,542.00**	**11.09**

Table 7.10 Labour Force for Service Industries

Province	1988	1989	1990	1991	1992
1. Aceh	5.11	6.85	7.96	6.77	6.72
2. N. Sumatera	4.38	6.68	7.70	7.37	8.91
3. W. Sumatera	5.22	9.09	6.80	7.45	8.20
4. Riau	3.97	7.97	8.03	9.01	8.79
5. Jambi	3.82	5.14	5.94	5.62	6.99
6. S. Sumatera	4.55	6.99	6.36	6.87	7.22
7. Bengkulu	1.70	2.90	3.24	2.54	4.36
8. Lampung	3.66	4.65	5.74	5.12	4.63
9. Jakarta	19.20	23.81	25.50	26.32	24.88
10. W. Java	10.22	14.61	17.87	18.61	18.26
11. C. Java	10.64	17.04	15.56	17.22	16.75
12. Yogyakarta	10.57	15.78	16.05	17.05	16.64
13. E. Java	8.47	13.24	12.87	14.41	15.18
14. Bali	10.43	14.70	17.57	18.46	18.56
15. W. Nusa T.	7.19	9.53	10.71	12.46	10.33
16. E. Nusa T.	4.11	8.82	6.82	7.76	9.93
17. W. Kalimantan	4.32	9.03	7.97	5.29	6.34
18. C. Kalimantan	5.08	8.01	8.46	7.02	8.06
19. S. Kalimantan	9.97	12.91	12.21	11.46	9.81
20. E. Kalimantan	5.80	10.07	14.37	14.62	15.60
21. N. Sulawesi	4.08	9.58	9.64	8.03	10.89
22. C. Sulawesi	1.66	4.76	4.56	7.03	8.73
23. S. Sulawesi	7.88	10.74	9.24	6.31	7.37
24. SE. Sulawesi	2.18	2.98	4.17	4.69	5.26
25. Maluku	3.39	4.94	7.67	7.01	8.17
26. Irian Jaya	1.22	1.75	2.70	4.13	3.78
27. E. Timor	1.23	3.63	3.66	5.00	5.72
Total	**8.27**	**12.48**	**12.86**	**13.59**	**13.72**

Table 7.11 Access to Information (Radio)

Province	Listen Radio (Male)	Listen Radio (Female)	Listen Radio (Male+Female)
1. Aceh	56.66	50.80	53.73
2. N. Sumatera	55.10	52.74	53.90
3. W. Sumatera	53.08	46.97	49.90
4. Riau	58.03	54.06	56.07
5. Jambi	55.09	47.00	51.11
6. S. Sumatera	61.01	54.47	57.74
7. Bengkulu	60.66	52.83	56.77
8. Lampung	74.16	70.14	72.19
9. Jakarta	80.58	78.11	79.33
10. W. Java	76.59	72.59	74.59
11. C. Java	73.09	66.54	69.75
12. Yogyakarta	83.10	76.78	79.84
13. E. Java	65.30	58.60	61.82
14. Bali	76.40	72.31	74.35
15. W. Nusa T.	48.56	42.33	45.34
16. E. Nusa T.	19.77	15.27	17.46
17. W. Kalimantan	45.50	40.73	43.12
18. C. Kalimantan	66.64	60.17	63.50
19. S. Kalimantan	75.43	69.89	72.62
20. E. Kalimantan	61.52	61.30	61.41
21. N. Sulawesi	41.76	40.31	41.05
22. C. Sulawesi	53.45	48.63	51.05
23. S. Sulawesi	65.86	59.59	62.58
24. SE. Sulawesi	43.13	36.65	39.78
25. Maluku	41.29	33.35	37.31
26. Irian Jaya	29.36	24.47	27.02
27. E. Timor	21.48	14.83	18.19
Indonesia	**66.25**	**61.00**	**63.59**

Table 7.12 Access to TV (public and private)

Province	Watch Television (Male)	Watch Television (Female)	Watch Television (Male+ Female)
1. Aceh	61.34	48.95	55.15
2. N. Sumatera	77.08	71.32	74.15
3. W. Sumatera	69.12	59.81	64.26
4. Riau	68.08	62.85	65.50
5. Jambi	64.78	59.45	62.15
6. S. Sumatera	68.22	62.71	65.47
7. Bengkulu	61.83	57.55	59.70
8. Lampung	62.77	58.08	60.47
9. Jakarta	91.61	92.10	91.86
10. W. Java	70.90	66.36	68.63
11. C. Java	68.36	62.78	65.51
12. Yogyakarta	79.62	74.90	77.18
13. E. Java	65.74	58.60	62.06
14. Bali	77.20	74.85	76.02
15. W. Nusa T.	57.68	53.56	55.55
16. E. Nusa T.	18.38	14.70	16.49
17. W. Kalimantan	58.69	55.56	57.13
18. C. Kalimantan	52.66	50.56	51.64
19. S. Kalimantan	75.13	68.82	71.93
20. E. Kalimantan	73.81	73.44	73.63
21. N. Sulawesi	68.85	63.12	66.02
22. C. Sulawesi	61.25	56.05	58.66
23. S. Sulawesi	54.83	50.58	52.61
24. SE. Sulawesi	46.20	41.10	43.57
25. Maluku	57.35	51.19	54.26
26. Irian Jaya	34.06	30.89	32.54
27. E. Timor	22.02	15.60	18.85
Indonesia	**67.44**	**62.17**	**64.77**

Table 7.13 Access to Newspaper

Province	Read Newspaper/magazine (Male)	Read Newspaper/magazine (Female)	Read Newspaper/magazine (Male + Female)
1. Aceh	29.45	16.20	22.83
2. N. Sumatera	39.09	23.79	29.84
3. W. Sumatera	33.15	26.84	29.86
4. Riau	22.30	16.13	19.26
5. Jambi	16.57	12.05	14.34
6. S. Sumatera	27.70	22.30	25.00
7. Bengkulu	20.23	17.59	18.92
8. Lampung	15.31	12.55	13.95
9. Jakarta	69.76	56.92	63.27
10. W. Java	29.23	21.73	25.48
11. C. Java	21.87	16.48	19.13
12. Yogyakarta	40.49	30.55	35.36
13. E. Java	20.89	15.38	18.03
14. Bali	26.28	17.98	22.11
15. W. Nusa T.	12.57	9.35	10.91
16. E. Nusa T.	12.11	8.85	10.43
17. W. Kalimantan	16.75	11.49	14.13
18. C. Kalimantan	20.66	17.26	19.01
19. S. Kalimantan	25.82	18.24	21.98
20. E. Kalimantan	34.59	28.09	31.46
21. N. Sulawesi	32.97	29.46	31.24
22. C. Sulawesi	18.09	14.14	16.13
23. S. Sulawesi	19.65	16.53	18.02
24. SE. Sulawesi	17.75	14.56	16.11
25. Maluku	21.84	17.03	19.43
26. Irian Jaya	13.93	10.39	12.23
27. E. Timor	11.87	7.12	9.52
Indonesia	**26.66**	**20.06**	**23.31**

Table 7.14 Association and Facilities of Art and Culture

No.	Province	Total
1.	Aceh	1,499
2.	N. Sumatera	1,243
3.	W. Sumatera	2,408
4.	Riau	553
5.	Jambi	811
6.	S. Sumatera	837
7.	Bengkulu	380
8.	Lampung	247
9.	Jakarta	2,029
10.	W. Java	18,241
11.	C. Java	12,165
12.	Yogyakarta	2,128
13.	E. Java	33,162
14.	Bali	4,288
15.	W. Nusa T.	545
16.	E. Nusa T.	1,635
17.	W. Kalimantan	821
18.	C. Kalimantan	362
19.	S. Kalimantan	1,002
20.	E. Kalimantan	289
21.	N. Sulawesi	-
22.	C. Sulawesi	471
23.	S. Sulawesi	198
24.	SE. Sulawesi	-
25.	Maluku	-
26.	Irian Jaya	268
27.	E. Timor	-
Indonesia		**85,582**

Table 7.15 Population

No.	Province	Total
1.	Aceh	3,689,200
2.	N. Sumatera	10,813,400
3.	W. Sumatera	4,203,000
4.	Riau	3,667,700
5.	Jambi	2,237,300
6.	S. Sumatera	6,875,100
7.	Bengkulu	1,320,400
8.	Lampung	6,427,700
9.	Jakarta	8,796,800
10.	W. Java	37,791,200
11.	C. Java	29,272,500
12.	Yogya	2,918,300
13.	E. Java	33,380,400
14.	Bali	2,856,000
15.	W. Nusa Tenggara	3,547,600
16.	E. Nusa Tenggara	3,464,000
17.	W. Kalimantan	3,490,800
18.	C. Kalimantan	1,542,300
19.	S. Kalimantan	2,781,500
20.	E. Kalimantan	2,144,200
21.	N. Sulawesi	2,584,300
22.	C. Sulawesi	1,850,800
23.	S. Sulawesi	7,346,300
24.	SE. Sulawesi	749,000
25.	Maluku	2,001,200
26.	Irian	1,828,700
27.	E. Timor	808,300
	Indonesia	**188,388,000**

Table 7.16 Length of Stay (Average)

No.	Province	Hotels	Bungalows	Homestay	Non Star	Average Star	Average Star + Non Star
1.	Aceh	NA	5.69	5.07	4.87	5.48	5.33
2.	N. Sumatera	1.71	1.28	1.51	1.40	1.44	1.43
3.	W. Sumatera	2.17	2.68	2.63	2.69	2.54	2.57
4.	Riau	1.75	2.42	1.84	2.08	2.11	2.10
5.	Jambi	NA	1.20	3.60	0.93	2.00	1.73
6.	S. Sumatera	2.82	2.35	1.45	1.96	2.54	2.42
7.	Bengkulu	NA	3.07	5.63	6.99	4.35	5.23
8.	Lampung	NA	3.06	NA	3.73	3.06	3.28
9.	Jakarta	1.99	2.94	3.33	2.07	2.64	2.54
10.	W. Java	2.22	3.04	1.73	3.03	2.45	2.55
11.	C. Java	1.68	1.84	2.82	1.50	2.04	1.93
12.	Yogya	1.55	2.76	1.98	2.59	2.26	2.33
13.	E. Java	2.06	1.81	1.98	1.99	1.94	1.95
14.	Bali	3.19	3.95	3.41	4.04	3.53	3.62
15.	W. Nusa T.	2.57	3.43	2.55	1.70	3.00	2.74
16.	E. Nusa T.	NA	3.38	7.33	5.97	5.36	5.56
17.	W. Kalimantan	NA	6.20	3.30	1.84	5.23	4.38
18.	C. Kalimantan	NA	3.61	NA	10.43	3.61	7.02
19.	S. Kalimantan	3.64	3.47	3.20	1.75	3.44	3.10
20.	E. Kalimantan	3.65	3.39	3.11	3.38	3.38	3.38
21.	N. Sulawesi	4.99	2.71	2.62	2.72	3.26	3.15
22.	C. Sulawesi	NA	3.44	NA	3.54	3.44	3.49
23.	S. Sulawesi	1.82	2.28	2.28	2.30	2.16	2.19
24.	SE. Sulawesi	NA	NA	4.28	4.53	4.28	4.41
25.	Maluku	NA	2.34	8.48	1.91	5.41	4.24
26.	Irian	NA	2.90	NA	3.65	2.90	3.15
27.	E. Timor	NA	NA	4.72	14.56	4.72	9.64

Table 7.17 Tourist Density Index (Non Star Accommodations)

No.	Province	Total Tourist	LOS	Population	Density Index
1.	Aceh	5,508	4.87	3,689,200	0.000000019920
2.	N. Sumatera	74,633	1.4	10,813,400	0.000000026473
3.	W. Sumatera	33,846	2.69	4,203,000	0.000000059348
4.	Riau	23,544	2.08	3,667,700	0.000000036581
5.	Jambi	904	0.93	2,237,300	0.000000001030
6.	S. Sumatera	1,082	1.96	6,875,100	0.000000000845
7.	Bengkulu	99	6.99	1,320,400	0.000000001436
8.	Lampung	658	3.73	6,427,700	0.000000001046
9.	Jakarta	44,818	2.07	8,796,800	0.000000028894
10.	W. Java	72,938	3.03	37,791,200	0.000000016022
11.	C. Java	12,468	1.5	29,272,500	0.000000001750
12.	Yogyakarta	53,876	2.59	2,918,300	0.000000131000
13.	E. Java	22,534	1.99	33,380,400	0.000000003681
14.	Bali	528,325	4.04	2,856,000	0.000002047536
15.	W. Nusa Tenggara	67,126	1.7	3,547,600	0.000000088128
16.	E. Nusa Tenggara	33,676	5.97	3,464,000	0.000000159010
17.	W. Kalimantan	21,640	1.84	3,490,800	0.000000031251
18.	C. Kalimantan	122	10.43	1,542,300	0.000000002260
19.	S. Kalimantan	966	1.75	2,781,500	0.000000001665
20.	E. Kalimantan	6,619	3.38	2,144,200	0.000000028586
21.	N. Sulawesi	6,814	2.72	2,584,300	0.000000019649
22.	C. Sulawesi	4,562	3.54	1,850,800	0.000000023906
23.	S. Sulawesi	15,765	2.3	7,346,300	0.000000013523
24.	SE. Sulawesi	47	4.53	749,000	0.000000000779
25.	Maluku	24,687	1.91	2,001,200	0.000000064553
26.	Irian Jaya	18,157	3.65	1,828,700	0.000000099289
27.	E. Timor	447	14.56	808,300	0.000000022060
Indonesia		**1,075,861**		**188,388,000**	

Table 7.18 Tourist Density Index (All Star Accommodations)

No.	Province	Total Tourist	LOS	Population	Density Index
1.	Aceh	3,700	5.6	3,689,200	0.000000015387
2.	N. Sumatera	351,800	1.36	10,813,400	0.000000121221
3.	W. Sumatera	33,900	2.55	4,203,000	0.000000056349
4.	Riau	174,300	2.2	3,667,700	0.000000286440
5.	Jambi	600	1.19	2,237,300	0.000000000874
6.	S. Sumatera	10,900	2.7	6,875,100	0.000000011728
7.	Bengkulu	600	3.68	1,320,400	0.000000004581
8.	Lampung	6,200	2.75	6,427,700	0.000000007267
9.	Jakarta	692,500	2.17	8,796,800	0.000000468017
10.	W. Java	143,100	2.72	37,791,200	0.000000028218
11.	C. Java	69,400	1.76	29,272,500	0.000000011432
12.	Yogyakarta	238,000	1.64	2,918,300	0.000000366436
13.	E. Java	182,100	1.78	33,380,400	0.000000026604
14.	Bali	1,168,600	3.47	2,856,000	0.000003889952
15.	W. Nusa Tenggara	59,200	3.04	3,547,600	0.000000138985
16.	E. Nusa Tenggara	3,000	5.22	3,464,000	0.000000012386
17.	W. Kalimantan	6,900	4.63	3,490,800	0.000000025073
18.	C. Kalimantan	100	3.61	1,542,300	0.000000000641
19.	S. Kalimantan	4,600	3.53	2,781,500	0.000000015994
20.	E. Kalimantan	25,300	3.39	2,144,200	0.000000109588
21.	N. Sulawesi	21,500	3.99	2,584,300	0.000000090944
22.	C. Sulawesi	1,400	3.44	1,850,800	0.000000007129
23.	S. Sulawesi	80,500	2.09	7,346,300	0.000000062745
24.	SE. Sulawesi	400	4.28	749,000	0.000000006262
25.	Maluku	9,100	4.82	2,001,200	0.000000060049
26.	Irian Jaya	7,000	2.26	1,828,700	0.000000023701
27.	E. Timor	2,447	4.72	808,300	0.000000039148
Indonesia		**3,297,147**		**188,388,000**	

Table 7.19 Tourist Density Index (Hotel Accommodations)

No.	Province	Total Tourist	LOS	Population	Density Index
1.	Aceh	-	NA	3,689,200	NA
2.	N. Sumatera	41,700	1.71	10,813,400	0.000000018067
3.	W. Sumatera	6,100	2.17	4,203,000	0.000000008629
4.	Riau	57,800	1.75	3,667,700	0.000000075558
5.	Jambi	-	NA	2,237,300	NA
6.	S. Sumatera	2,800	2.82	6,875,100	0.000000003147
7.	Bengkulu	-	NA	1,320,400	NA
8.	Lampung	-	NA	6,427,700	NA
9.	Jakarta	560,200	1.99	8,796,800	0.000000347199
10.	W. Java	62,300	2.22	37,791,200	0.000000010027
11.	C. Java	21,000	1.68	29,272,500	0.000000003302
12.	Yogyakarta	173,100	1.55	2,918,300	0.000000251887
13.	E. Java	42,900	2.055	33,380,400	0.000000007236
14.	Bali	714,100	3.185	2,856,000	0.000002181812
15.	W. Nusa Tenggara	16,600	2.57	3,547,600	0.000000032947
16.	E. Nusa Tenggara	-	NA	3,464,000	NA
17.	W. Kalimantan	-	NA	3,490,800	NA
18.	C. Kalimantan	-	NA	1,542,300	NA
19.	S. Kalimantan	1,800	3.64	2,781,500	0.000000006454
20.	E. Kalimantan	3,500	3.65	2,144,200	0.000000016323
21.	N. Sulawesi	6,200	4.99	2,584,300	0.000000032799
22.	C. Sulawesi	-	NA	1,850,800	NA
23.	S. Sulawesi	17,900	1.82	7,346,300	0.000000012150
24.	SE. Sulawesi	-	NA	749,000	NA
25.	Maluku	-	NA	2,001,200	NA
26.	Irian Jaya	-	NA	1,828,700	NA
27.	E. Timor	-	NA	808,300	NA
Indonesia		**1,728,000**		**188,388,000**	

Table 7.20 Tourist Density Index (Bungalows Accommodations)

No.	Province	Total Tourist	LOS	Population	Density Index
1.	Aceh	2,900	5.685	3,689,200	0.000000012243
2.	N. Sumatera	281,600	1.275	10,813,400	0.000000090968
3.	W. Sumatera	13,700	2.68	4,203,000	0.000000023933
4.	Riau	87,000	2.42	3,667,700	0.000000157271
5.	Jambi	600	1.20	2,237,300	0.000000000878
6.	S. Sumatera	5,800	2.945	6,875,100	0.000000006807
7.	Bengkulu	500	3.07	1,320,400	0.000000003185
8.	Lampung	6,200	3.055	6,427,700	0.000000008073
9.	Jakarta	118,500	2.94	8,796,800	0.000000108505
10.	W. Java	67,000	3.035	37,791,200	0.000000014742
11.	C. Java	40,300	1.835	29,272,500	0.000000006921
12.	Yogyakarta	45,400	2.76	2,918,300	0.000000117637
13.	E. Java	125,600	1.805	33,380,400	0.000000018607
14.	Bali	407,600	3.945	2,856,000	0.000001542518
15.	W. Nusa Tenggara	32,600	3.43	3,547,600	0.000000086354
16.	E. Nusa Tenggara	1,600	3.38	3,464,000	0.000000004277
17.	W. Kalimantan	6,400	6.20	3,490,800	0.000000031117
18.	C. Kalimantan	100	3.61	1,542,300	0.000000000641
19.	S. Kalimantan	2,600	3.47	2,781,500	0.000000008874
20.	E. Kalimantan	7,500	3.39	2,144,200	0.000000032486
21.	N. Sulawesi	4,500	2.705	2,584,300	0.000000012905
22.	C. Sulawesi	700	3.44	1,850,800	0.000000003565
23.	S. Sulawesi	17,800	2.275	7,346,300	0.000000015102
24.	SE. Sulawesi	-	NA	749,000	NA
25.	Maluku	3,400	2.34	2,001,200	0.000000010892
26.	Irian Jaya	3,500	2.9	1,828,700	0.000000015207
27.	E. Timor	1,447	NA	808,300	NA
Indonesia		**1,284,847**		**188,388,000**	

Table 7.21 Tourist Density Index (Homestay Accommodations)

No.	Province	Total Tourist	LOS	Population	Density Index
1.	Aceh	800	5.07	3,689,200	0.000000003012
2.	N. Sumatera	28,500	1.51	10,813,400	0.000000010904
3.	W. Sumatera	14,100	2.63	4,203,000	0.000000024173
4.	Riau	29,500	1.84	3,667,700	0.000000040546
5.	Jambi	-	3.60	2,237,300	0.000000000000
6.	S. Sumatera	2,300	1.45	6,875,100	0.000000001329
7.	Bengkulu	100	5.63	1,320,400	0.000000001168
8.	Lampung	-	NA	6,427,700	NA
9.	Jakarta	13,800	3.33	8,796,800	0.000000014312
10.	W. Java	13,800	1.73	37,791,200	0.000000001731
11.	C. Java	8,100	2.82	29,272,500	0.000000002138
12.	Yogyakarta	19,500	1.98	2,918,300	0.000000036247
13.	E. Java	13,600	1.98	33,380,400	0.000000002210
14.	Bali	46,900	3.41	2,856,000	0.000000153418
15.	W. Nusa Tenggara	10,000	2.55	3,547,600	0.000000019693
16.	E. Nusa Tenggara	1,400	7.33	3,464,000	0.000000008116
17.	W. Kalimantan	500	3.30	3,490,800	0.000000001295
18.	C. Kalimantan	-	NA	1,542,300	NA
19.	S. Kalimantan	200	3.20	2,781,500	0.000000000630
20.	E. Kalimantan	14,300	3.11	2,144,200	0.000000056825
21.	N. Sulawesi	10,800	2.62	2,584,300	0.000000029998
22.	C. Sulawesi	700	NA	1,850,800	NA
23.	S. Sulawesi	44,800	2.28	7,346,300	0.000000038094
24.	SE. Sulawesi	400	4.28	749,000	0.000000006262
25.	Maluku	5,700	8.48	2,001,200	0.000000066174
26.	Irian Jaya	3,500	NA	1,828,700	NA
27.	E. Timor	1,000	4.72	808,300	0.000000015998
Indonesia		**284,300**		**188,388,000**	

Table 7.22 Average Price Distance

No.	PROVINCE	AIRPORT				
		Soekarno-Hatta (Jakarta)	Ngurah Rai (Bali)	Polonia (N. Sumatera)	Juanda (E.Java)	Sam Ratulangi (N. Sulawesi)
1.	Aceh	442,700	665,400	125,900	629,400	994,800
2.	N. Sumatera	339,300	562,000	50,000	525,700	891,400
3.	W. Sumatera	245,800	468,500	151,200	432,200	797,900
4.	Riau	249,100	471,800	138,000	435,500	801,200
5.	Jambi	176,500	399,200	513,600	362,900	728,600
6.	S. Sumatera	138,000	360,700	256,800	324,400	690,100
7.	Bengkulu	165,500	288,200	348,600	351,900	717,600
8.	Lampung	72,000	294,700	513,600	256,200	624,100
9.	Jakarta	10,000	222,700	337,100	186,400	525,100
10.	W. Java	75,300	298,000	412,400	147,900	561,300
11.	C. Java	118,200	340,900	455,300	70,900	484,300
12.	Yogyakarta	129,200	122,600	468,500	64,400	478,800
13.	E. Java	186,400	94,000	523,500	20,000	413,400
14.	Bali	233,800	10,000	564,800	92,900	507,400
15.	W. Nusa T.	259,500	55,500	596,600	109,400	522,800
16.	E. Nusa T.	449,800	227,100	786,900	301,300	714,700
17.	W. Kalimantan	200,700	241,900	537,800	183,600	597,100
18.	C. Kalimantan	235,900	277,100	573,000	183,600	597,000
19.	S. Kalimantan	245,800	313,400	582,900	147,900	561,300
20.	E. Kalimantan	314,000	313,400	651,100	274,900	688,300
21.	N. Sulawesi	552,100	507,400	889,200	413,400	50,000
22.	C. Sulawesi	467,300	399,700	804,400	305,700	784,500
23.	S. Sulawesi	331,600	157,800	668,100	208,400	621,800
24.	S E. Sulawesi	426,710	692,300	763,800	283,700	697,100
25.	Maluku	475,100	320,800	657,900	405,800	819,200
26.	Irian Jaya	744,600	642,300	1,081,700	727,000	1,205,800
27.	E. Timor	501,500	270,800	838,600	366,200	845,000
VISITORS		1,181,541	1,048,901	188,562	36,554	7,468

Table 7.23 Daily Direct Flight Frequency

No.	PROVINCE	AIRPORT				
		Soekarno-Hatta (Jakarta)	Ngurah Rai (Bali)	Polonia (N. Sumatera)	Juanda (E.Java)	Sam Ratulangi (N. Sulawesi)
1.	Aceh	-	-	2	-	-
2.	N. Sumatera	6	-	64	-	-
3.	W. Sumatera	6	-	6	-	-
4.	Riau	2	-	1	-	-
5.	Jambi	3	-	-	-	-
6.	S. Sumatera	7	-	-	-	-
7.	Bengkulu	2	-	-	-	-
8.	Lampung	7	-	-	-	-
9.	Jakarta	132	15	6	17	1
10.	W. Java	9	2	-	3	-
11.	C. Java	10	3	-	4	-
12.	Yogyakarta	8	5	-	3	-
13.	E. Java	16	8	-	92	-
14.	Bali	14	99	-	9	-
15.	W. Nusa T.	-	10	-	6	-
16.	E. Nusa T.	-	3	-	1	-
17.	W. Kalimantan	8	-	-	-	-
18.	C. Kalimantan	1	-	-	-	-
19.	S. Kalimantan	3	-	-	1	-
20.	E. Kalimantan	2	-	-	3	-
21.	N. Sulawesi	1	-	-	-	27
22.	C. Sulawesi	1	1	-	-	-
23.	S. Sulawesi	8	2	-	2	1
24.	S E. Sulawesi	1	1	-	-	-
25.	Maluku	-	1	-	-	-
26.	Irian Jaya	-	1	-	-	-
27.	E. Timor	-	1	-	-	-
VISITORS		**1,181,541**	**1,048,901**	**188,562**	**36,554**	**7,468**

Table 7.24 Weekly Direct Flight Frequency

No.	PROVINCE	AIRPORT				
		Soekarno-Hatta (Jakarta)	Ngurah Rai (Bali)	Polonia (N. Sumatera)	Juanda (E.Java)	Sam Ratulangi (N. Sulawesi)
1.	Aceh	-	-	14	-	-
2.	N. Sumatera	44	-	436	-	-
3.	W. Sumatera	42	-	42	-	-
4.	Riau	14	-	4	-	-
5.	Jambi	18	-	-	-	-
6.	S. Sumatera	49	-	-	-	-
7.	Bengkulu	14	-	-	-	-
8.	Lampung	47	-	-	-	-
9.	Jakarta	924	107	43	117	9
10.	W. Java	61	14	-	21	-
11.	C. Java	68	21	-	28	-
12.	Yogyakarta	55	35	-	21	-
13.	E. Java	114	54	-	638	-
14.	Bali	99	691	-	60	-
15.	W. Nusa T.	-	69	-	42	-
16.	E. Nusa T.	-	23	-	10	-
17.	W. Kalimantan	56	-	-	-	-
18.	C. Kalimantan	7	-	-	-	-
19.	S. Kalimantan	21	-	-	7	-
20.	E. Kalimantan	14	-	-	21	-
21.	N. Sulawesi	7	-	-	-	160
22.	C. Sulawesi	7	7	-	-	-
23.	S. Sulawesi	54	14	-	14	7
24.	S E. Sulawesi	7	7	-	-	-
25.	Maluku	-	7	-	-	-
26.	Irian Jaya	-	7	-	-	-
27.	E. Timor	-	7	-	-	-
	VISITORS	**1,181,541**	**1,048,901**	**188,562**	**36,554**	**7,468**

Table 7.25 Time Factors from 5 International Airports

No.	PROVINCE	AIRPORT				
		Soekarno-Hatta (Jakarta)	Ngurah Rai (Bali)	Polonia (N. Sumatera)	Juanda (E Java)	Sam Ratulangi (N. Sulawesi)
1.	Aceh	3.25	5.05	1.10	4.45	8.15
2.	N. Sumatera	2.15	3.55	0.30	3.35	7.05
3.	W. Sumatera	1.45	3.25	1.10	3.05	6.35
4.	Riau	1.40	3.20	1.05	3.00	6.30
5.	Jambi	1.20	3.00	3.35	2.40	6.10
6.	S. Sumatera	1.05	2.45	3.20	2.25	5.55
7.	Bengkulu	1.15	2.55	3.30	2.35	6.05
8.	Lampung	0.30	2.10	2.45	1.50	5.20
9.	Jakarta	0.10	1.40	2.15	1.20	4.50
10.	W. Java	0.40	1.35	2.55	1.10	5.30
11.	C. Java	1.00	1.20	3.15	1.00	5.50
12.	Yogyakarta	1.05	1.15	3.20	0.50	5.55
13.	E. Java	1.20	0.55	3.35	0.20	6.10
14.	Bali	1.40	0.15	3.55	0.50	3.05
15.	W. Nusa T.	2.20	0.40	4.35	1.20	3.45
16.	E. Nusa T.	2.35	0.55	4.50	1.55	4.00
17.	W. Kalimantan	1.30	3.10	3.45	2.50	4.55
18.	C. Kalimantan	1.40	3.20	3.55	3.00	5.55
19.	S. Kalimantan	1.45	3.25	4.00	2.00	5.45
20.	E. Kalimantan	2.00	3.30	4.15	2.40	3.20
21.	N. Sulawesi	4.50	3.05	7.05	3.15	0.30
22.	C. Sulawesi	4.20	3.50	6.35	2.40	3.05
23.	S. Sulawesi	2.20	1.20	4.35	1.30	1.45
24.	S E. Sulawesi	3.55	2.55	6.10	2.25	2.00
25.	Maluku	4.05	4.55	6.20	3.15	2.15
26.	Irian Jaya	6.50	6.15	9.05	6.00	6.15
27.	E. Timor	1.95	0.55	4.10	1.05	4.20
VISITORS		**1,181,541**	**1,048,901**	**188,562**	**36,554**	**7,468**

Table 7.26 Average Time Distance

No.	PROVINCE	AVERAGE TIME
1.	Aceh	5.79
2.	N. Sumatera	4.06
3.	W. Sumatera	5.22
4.	Riau	4.29
5.	Jambi	5.37
6.	S. Sumatera	6.79
7.	Bengkulu	5.25
8.	Lampung	4.38
9.	Jakarta	1.87
10.	W. Java	2.27
11.	C. Java	2.67
12.	Yogyakarta	2.4
13.	E. Java	3.25
14.	Bali	2.58
15.	W. Nusa T.	4.34
16.	E. Nusa T.	4.87
17.	W. Kalimantan	7.01
18.	C. Kalimantan	5.97
19.	S. Kalimantan	4.78
20.	E. Kalimantan	4.74
21.	N. Sulawesi	4.02
22.	C. Sulawesi	4.65
23.	S. Sulawesi	3.76
24.	S E. Sulawesi	4.83
25.	Maluku	4.17
26.	Irian Jaya	6.96
27.	E. Timor	6.32

Table 7.27 Expenditure and Scale of Accommodation

Provinces	Hotels	Bungalows	Others
1. Aceh	29,535,166,506	2,598,228,090	13,339,563,864
2. N. Sumatera	944,629,971,229	72,909,135,737	103,654,488,689
3. W. Sumatera	131,243,118,105	21,747,468,668	27,350,233,504
4. Riau	1,695,088,425,429	48,430,975,840	148,913,860,603
5. Jambi	6,398,614,838	308,785,207	2,321,283,216
6. Bengkulu	3,647,188,387	461,556,875	958,350,420
7. S. Sumatera	49,473,935,274	2,038,960,632	9,272,349,847
8. Lampung	38,938,058,947	530,854,583	5,602,713,246
9. Jakarta	5,343,999,632,162	200,848,324,215	390,879,530,279
10. W. Java	882,532,736,358	28,828,770,752	79,109,447,456
11. C. Java	388,448,984,255	6,594,906,005	38,753,334,537
12. Yogyakarta	904,321,192,358	42,256,880,049	115,678,547,401
13. E. Java	1,059,577,671,453	16,679,921,613	111,700,843,012
14. Bali	4,296,076,864,259	602,213,634,588	641,368,696,369
15. W. Nusa T.	40,142,036,888	21,503,414,258	5,438,579,427
16. E. Nusa T.	290,225,986,719	65,817,344,510	84,743,264,991
17. W. Kalimantan	30,120,314,478	1,596,747,316	7,477,721,776
18. C. Kalimantan	27,130,626,209	2,965,176,151	7,031,700,250
19. S. Kalimantan	31,100,004,008	1,171,180,473	8,790,796,168
20. E. Kalimantan	59,078,363,248	996,045,667	8,162,938,623
21. N. Sulawesi	58,325,965,120	2,733,428,306	17,635,474,769
22. C. Sulawesi	10,211,012,202	1,602,743,214	3,116,093,638
23. S. Sulawesi	429,348,826,044	13,038,313,956	139,917,869,416
24. SE. Sulawesi	8,122,784,475	450,940,026	2,883,675,339
25. Maluku	66,742,861,046	1,869,824,470	18,124,951,841
26. Irian Jaya	56,831,078,448	4,107,168,080	20,693,934,022
27. E. Timor	12,373,685,590	625,070,532	5,535,899,665
National	**16,893,665,104,036**	**1,164,926,799,811**	**2,018,466,142,370**
Average	**625,691,300,149**	**43,145,399,993**	**74,757,634,903**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.28 Expenditure/Purpose of Visit

Provinces	Holiday	Business	Mission & Education	MICE	Others
1. Aceh	40,529,682,200	3,594,413,348	415,004,013	104,356,160	829,502,739
2. N. Sumatera	673,662,636,664	368,309,762,052	26,624,565,978	22,280,538,526	30,316,092,435
3. W. Sumatera	130,682,371,028	39,569,544,152	3,756,540,951	3,433,776,806	2,898,587,340
4. Riau	1,109,668,789,515	650,779,629,676	42,654,589,081	38,082,089,835	51,248,163,766
5. Jambi	7,307,524,441	1,441,641,438	88,504,590	33,582,335	157,430,453
6. Bengkulu	3,792,318,813	1,107,913,245	50,406,656	28,679,003	87,777,965
7. S. Sumatera	41,126,380,723	16,511,430,553	1,430,600,515	480,337,706	1,236,496,257
8. Lampung	30,029,867,358	12,420,971,047	1,086,980,140	633,756,009	900,052,222
9. Jakarta	3,450,807,524,402	2,094,209,766,917	127,644,369,861	119,434,459,548	143,631,365,928
10. W. Java	586,415,626,345	338,913,425,396	24,569,850,007	20,462,118,129	20,109,934,688
11. C. Java	258,504,564,374	146,059,683,209	10,661,887,384	9,222,897,274	9,348,192,555
12. Yogyakarta	703,699,799,588	293,661,800,984	22,669,804,440	22,515,163,667	19,710,051,129
13. E. Java	699,549,466,008	405,100,353,159	29,562,761,001	29,947,049,571	23,798,806,339
14. Bali	3,764,627,249,061	1,440,164,591,632	109,372,037,537	129,142,145,801	96,353,171,185
15. W. Nusa T.	328,312,356,846	93,900,195,534	7,847,600,216	3,690,036,561	7,036,407,063
16. E. Nusa T.	45,180,162,628	17,613,964,973	1,516,001,977	1,450,129,107	1,323,771,888
17. W. Kalimantan	29,159,891,949	8,467,526,692	536,070,283	295,308,330	735,986,316
18. C. Kalimantan	27,758,733,023	8,071,326,322	395,579,373	234,560,360	667,303,533
19. S. Kalimantan	28,930,382,273	9,706,287,034	728,134,870	1,048,270,701	648,905,771
20. E. Kalimantan	46,353,078,051	17,743,549,174	1,508,572,051	1,399,418,878	1,232,729,385
21. N. Sulawesi	55,992,971,289	18,430,951,228	1,028,972,484	1,987,826,191	1,254,147,003
22. C. Sulawesi	11,067,454,570	3,236,068,897	228,873,550	122,300,174	275,151,863
23. S. Sulawesi	423,372,308,594	126,724,406,753	12,025,854,919	11,011,092,092	9,171,347,059
24. SE. Sulawesi	8,764,275,965	2,252,593,474	157,908,826	93,454,071	189,167,504
25. Maluku	63,726,747,508	18,687,562,398	1,463,671,571	1,562,991,186	1,296,664,694
26. Irian Jaya	65,898,663,380	13,083,896,444	835,850,801	340,947,636	1,472,822,290
27. E. Timor	15,130,482,526	2,848,212,502	180,691,303	57,335,383	317,934,073
National	**12,650,051,309,123**	**6,152,611,468,231**	**429,041,884,377**	**419,094,621,040**	**426,247,963,447**
Average	**468,520,418,856**	**227,874,498,823**	**15,890,432,755**	**15,522,023,001**	**15,786,961,609**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.29. Average Daily Expenditure (US $)

(By Province/ Country of Origin)

Country of Origin	Aceh	N. Sum.	W. Sum.	Riau	Jambi	Bengkulu	S. Sum.	Lampung	Jakarta	W. Java	C. Java	Yogya	E. Java	Bali
1. Brunei Darussalam	253.70	427.21	263.58	418.19	-	-	277.05	513.96	292.87	278.23	332.31	600.22	285.55	304.68
2. Malaysia	105.24	140.29	109.34	217.07	64.72	69.18	64.18	138.38	121.49	115.42	196.57	241.39	118.45	135.81
3. Philippines	-	285.72	108.54	181.75	-	-	116.70	184.37	120.60	114.57	449.54	474.02	117.59	95.74
4. Singapore	143.36	257.15	148.94	276.26	74.47	79.60	73.85	147.85	165.49	157.22	442.00	235.86	161.35	111.23
5. Thailand	103.52	315.19	107.55	274.88	-	-	130.24	245.59	119.50	113.53	420.47	306.87	116.51	113.91
6. Hongkong	135.38	220.11	140.65	210.07	-	-	268.60	325.03	156.28	148.47	157.21	453.51	152.37	124.17
7. India	109.39	345.73	113.65	493.95	-	-	56.35	111.58	126.28	119.97	285.28	320.33	123.12	113.74
8. Japan	218.98	275.82	227.51	609.67	432.04	461.82	428.44	659.19	252.79	240.15	153.52	175.53	246.47	142.41
9. Korea, South	132.26	425.51	137.41	68.71	68.71	73.44	68.13	82.45	152.68	145.05	167.31	632.80	148.86	140.00
10. Pakistan	173.52	120.19	180.28	90.14	-	-	-	-	200.31	190.29	185.29	180.28	195.30	195.30
11. Bangladesh	-	142.96	-	107.22	-	-	-	-	238.27	226.36	220.40	214.44	232.31	232.31
12. Sri Lanka	104.91	72.67	-	54.50	-	-	-	-	121.11	115.05	112.03	109.00	118.08	118.08
13. Taiwan	131.52	157.00	136.65	75.48	68.32	73.03	67.75	81.99	151.83	144.24	151.21	327.71	148.03	132.49
14. Middle East	163.83	113.48	170.22	85.11	-	-	-	-	189.13	179.67	174.95	170.22	184.40	184.40
15. China	102.49	70.99	106.48	53.24	53.24	56.91	52.80	63.89	118.31	112.39	109.44	106.48	115.35	115.35
16. Other Asia	-	77.99	116.98	58.49	-	-	-	-	129.98	123.48	120.23	116.98	126.73	126.73
17. Austria	89.20	558.15	92.57	318.51	164.75	176.11	163.38	197.70	102.97	97.82	441.94	406.25	100.40	89.98
18. Belgium	88.37	61.21	91.82	45.91	45.91	49.07	45.53	55.09	102.02	96.92	94.37	91.82	99.47	99.47
19. Denmark	62.36	43.19	64.79	32.40	-	-	32.13	38.87	71.99	68.39	66.59	64.79	70.19	70.19
20. France	96.15	345.27	99.89	217.36	49.95	53.39	49.53	59.93	110.99	105.44	284.29	413.11	108.22	105.75
21. Germany	87.95	244.41	91.38	77.48	45.69	48.84	45.31	54.83	101.53	96.45	153.34	188.36	98.99	92.21
22. Italy	128.08	88.72	133.07	97.27	-	-	-	115.55	147.86	140.47	125.14	636.64	144.16	97.76
23. Netherlands	73.16	104.12	76.01	165.95	143.70	153.61	142.51	172.44	84.46	80.24	179.96	98.36	82.35	50.59
24. Spain & Portugal	-	242.10	124.48	66.95	-	-	66.39	80.34	138.31	131.39	178.49	814.02	134.85	99.37
25. Sweden	-	68.07	102.11	51.05	51.05	54.57	50.63	61.26	113.45	107.78	104.94	102.11	110.61	110.61
26. Switzerland	94.99	208.55	98.69	68.77	104.48	111.68	103.61	125.38	109.66	104.18	227.35	380.34	106.92	89.65
27. United Kingdom	93.01	416.57	96.63	48.32	152.94	163.48	151.66	250.82	107.37	102.00	116.85	177.55	104.69	91.51
28. Finland	-	66.71	100.07	50.04	-	-	49.62	60.04	111.19	105.63	102.85	100.07	108.41	108.41
29. Norway	-	59.96	89.95	44.97	44.97	-	44.60	53.97	99.94	94.94	92.44	89.95	97.44	97.44
30. Other Europe	-	71.73	107.60	53.80	-	-	-	64.56	119.55	113.57	110.58	107.60	116.56	116.56
31. USA	101.31	171.22	105.26	85.10	52.63	56.26	52.19	63.15	116.95	111.10	215.23	398.04	114.03	70.95
32. Canada	83.62	792.19	86.88	96.19	83.30	89.05	82.61	111.72	96.53	91.70	52.41	296.62	94.12	72.55
33. Other America	-	57.63	86.45	168.13	-	-	-	-	96.05	91.25	88.85	86.45	93.65	93.65
34. Australia	103.34	245.00	107.37	53.69	226.65	242.27	224.76	271.98	119.30	113.34	115.22	878.00	116.32	77.61
35. New Zealand	99.53	68.94	103.41	51.71	51.71	55.27	51.27	62.05	114.90	109.16	106.28	103.41	112.03	112.03
36. Other Oceania	-	32.14	-	68.27	-	-	-	-	53.57	50.89	49.55	48.21	52.23	52.23
37. Africa	-	103.90	-	77.92	-	-	-	-	173.16	164.50	160.17	155.84	168.83	168.83
Total	**3,079.17**	**7,497.78**	**3,925.30**	**5,214.49**	**1,979.22**	**2,067.56**	**2,958.80**	**4,453.96**	**4,948.67**	**4,701.24**	**6,744.60**	**10,302.15**	**4,824.95**	**4,353.72**
Average	**83.22**	**202.64**	**106.12**	**140.93**	**53.49**	**55.88**	**79.96**	**120.38**	**133.75**	**127.06**	**182.29**	**278.46**	**130.40**	**117.67**

Country of Origin	W. Nusa T.	E. Nusa T.	W. Kal.	C. Kal.	S. Kal.	E. Kal.	N. Sul.	C. Sul.	S. Sul.	SE. Sul.	Maluku	Irian	E. Timor
1. Brunei Darussalam	270.90	241.62	143.86	156.19	178.50	197.39	234.30	294.58	256.26	-	248.94	291.04	-
2. Malaysia	112.38	100.23	93.02	100.99	115.42	112.38	197.19	91.12	186.30	120.94	223.27	251.22	281.56
3. Philippines	111.56	99.50	200.22	217.38	248.44	241.90	185.48	150.99	165.53	153.28	142.51	179.18	283.44
4. Singapore	153.08	136.53	97.81	106.19	121.36	118.17	182.39	124.12	144.80	225.49	240.67	290.06	278.90
5. Thailand	110.54	98.59	287.29	311.91	356.47	344.43	165.60	393.99	154.56	525.32	201.58	349.08	335.65
6. Hongkong	144.56	128.93	119.65	-	148.47	254.56	125.02	267.80	156.75	296.93	232.84	-	-
7. India	116.81	104.18	289.83	-	359.63	277.65	151.02	-	170.50	-	227.34	-	-
8. Japan	233.83	208.55	447.83	486.21	555.67	446.38	202.23	311.98	221.19	415.97	264.87	218.23	296.38
9. Korea, South	141.23	125.96	116.90	126.92	145.05	152.68	182.14	135.66	173.60	275.88	259.78	234.03	228.88
10. Pakistan	-	-	-	-	-	509.73	-	-	175.27	-	-	-	-
11. Bangladesh	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Sri Lanka	112.03	-	-	-	-	-	-	-	185.97	-	-	-	-
13. Taiwan	140.44	125.26	109.24	118.61	135.55	213.95	121.46	107.01	192.85	242.69	229.06	165.73	241.66
14. Middle East	-	-	-	-	291.77	-	-	-	-	-	-	-	-
15. China	109.44	97.61	239.05	259.54	296.62	288.81	184.65	88.73	183.52	228.31	230.56	-	269.70
16. Other Asia	-	-	-	-	192.69	-	113.98	-	-	-	-	-	-
17. Austria	95.25	84.95	100.91	109.56	125.21	121.92	82.38	270.38	90.10	-	107.52	136.85	-
18. Belgium	94.37	84.17	78.11	84.80	96.92	94.37	81.62	-	89.27	-	116.72	133.50	135.65
19. Denmark	66.59	-	-	-	-	-	57.59	-	112.99	-	-	-	-
20. France	102.67	91.57	84.98	92.26	105.44	114.56	88.79	83.24	97.12	110.99	104.34	106.63	159.45
21. Germany	93.92	83.76	79.84	86.69	99.07	116.27	81.22	76.15	88.84	135.69	106.30	129.15	118.80
22. Italy	136.77	121.98	113.21	122.91	140.47	136.77	118.29	-	129.38	126.52	125.68	137.88	-
23. Netherlands	78.13	69.68	83.70	90.88	103.86	59.98	67.57	176.00	73.90	131.33	91.79	113.88	187.20
24. Spain & Portugal	127.94	114.11	-	-	-	-	110.65	-	121.02	-	117.56	205.39	173.45
25. Sweden	104.94	93.60	86.86	94.31	107.78	74.94	90.76	-	99.27	-	96.43	-	-
26. Switzerland	101.44	90.47	83.96	91.15	104.18	65.40	87.73	-	95.95	-	93.21	148.28	-
27. United Kingdom	99.32	88.58	82.21	89.25	102.00	99.32	125.90	229.22	113.95	180.09	101.26	136.47	217.76
28. Finland	102.85	91.73	-	-	105.63	92.85	118.95	-	117.29	-	-	-	-
29. Norway	92.44	82.45	-	-	94.94	92.44	119.95	-	137.45	-	-	-	-
30. Other Europe	110.58	98.63	-	-	-	-	-	-	-	-	-	-	-
31. USA	108.18	96.48	79.65	86.48	98.83	88.15	93.56	87.71	102.33	116.95	109.45	161.10	113.75
32. Canada	89.29	79.64	73.91	80.24	91.70	75.29	77.22	157.33	84.46	120.00	102.05	145.44	149.46
33. Other America	88.85	-	-	-	-	85.85	-	-	84.04	-	-	-	118.45
34. Australia	110.35	98.42	91.34	99.17	113.34	69.21	115.44	279.77	104.39	373.03	101.41	176.41	165.78
35. New Zealand	106.28	94.79	87.97	95.51	109.16	106.28	151.92	86.18	125.54	214.90	157.67	197.96	170.35
36. Other Oceania	-	-	-	-	-	-	42.86	-	-	-	45.53	-	-
37. Africa	160.17	-	-	-	-	-	-	-	-	-	-	-	-
Total	**3,827.10**	**3,031.96**	**3,271.32**	**3,107.13**	**4,744.14**	**4,661.62**	**3,757.87**	**3,411.95**	**4,234.38**	**3,994.31**	**4,076.33**	**3,907.53**	**3,926.27**
Average	**103.44**	**81.94**	**88.41**	**83.98**	**128.22**	**125.72**	**101.56**	**92.21**	**114.44**	**107.95**	**110.23**	**105.61**	**106.12**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.30. Average Length of Stay (days)

(By Province/ Country of Origin)

Country of Origin	Aceh	N. Sum.	W. Sum.	Riau	Jambi	Bengkulu	S. Sum.	Lampung	Jakarta	W. Java	C. Java	Yogya	E. Java	Bali
1. Brunei Darussalam	3.65	3.15	4.60	2.15	-	-	2.86	2.17	5.45	5.12	3.75	1.95	3.21	5.17
2. Malaysia	3.82	3.18	4.26	4.87	2.21	2.07	3.35	5.17	5.56	6.47	4.15	2.71	5.34	7.18
3. Philippines	-	4.75	4.54	4.82	-	-	2.75	4.75	10.30	5.18	2.17	2.48	4.15	14.78
4. Singapore	3.63	3.17	4.72	3.17	2.34	2.61	3.40	4.40	3.70	4.46	2.15	3.18	3.38	9.45
5. Thailand	8.43	2.50	5.60	2.15	-	-	2.68	4.50	4.81	4.75	2.50	3.75	4.25	12.95
6. Hongkong	2.64	4.50	4.75	3.75	-	-	1.87	1.75	7.94	5.53	4.95	1.71	4.60	8.98
7. India	4.70	2.75	6.45	2.85	-	-	6.45	13.49	12.90	10.21	3.21	3.45	5.40	16.75
8. Japan	5.52	4.17	7.52	1.98	3.18	2.13	3.28	1.98	8.89	6.52	7.85	6.27	6.26	12.75
9. Korea, South	4.28	2.75	4.52	5.10	2.25	2.49	3.06	3.21	7.68	3.78	3.55	1.95	3.11	8.98
10. Pakistan	3.90	5.80	5.44	4.74	-	-	-	-	6.84	4.20	2.20	2.74	3.44	6.54
11. Bangladesh	-	4.12	-	3.07	-	-	-	-	4.30	3.21	2.06	2.11	3.00	5.29
12. Sri Lanka	3.61	8.80	-	4.24	-	-	-	-	8.14	5.00	3.10	3.25	3.30	7.00
13. Taiwan	5.40	7.49	6.50	6.78	4.10	4.06	4.25	4.19	9.45	7.28	7.97	4.12	7.30	10.95
14. Middle East	6.90	6.25	5.30	4.50	-	-	-	-	8.75	4.25	4.75	4.40	4.28	9.90
15. China	4.43	6.38	6.40	5.61	2.45	2.28	5.28	5.30	12.68	10.70	7.80	8.10	7.30	12.43
16. Other Asia	-	5.45	5.60	4.75	-	-	-	-	12.00	9.80	6.45	5.66	5.30	12.89
17. Austria	8.00	1.98	12.00	2.75	1.80	1.70	2.36	4.50	16.00	14.25	2.15	3.71	13.10	18.95
18. Belgium	7.46	11.94	11.19	10.44	5.97	5.65	7.83	8.21	14.92	13.43	14.92	14.92	13.06	14.92
19. Denmark	10.57	16.91	15.86	14.80	-	-	11.10	11.63	21.14	19.03	21.14	21.14	18.50	21.14
20. France	7.29	3.51	10.94	5.73	5.83	5.52	7.65	8.02	14.58	13.12	6.51	4.54	12.76	16.25
21. Germany	7.58	4.98	11.36	15.15	6.06	5.73	7.95	8.33	15.15	13.64	7.51	8.15	13.26	18.17
22. Italy	5.46	8.74	8.19	7.47	-	-	-	9.53	10.92	9.83	10.51	2.75	9.56	12.45
23. Netherlands	10.53	10.52	15.80	6.75	2.23	2.11	2.92	5.57	21.06	18.95	7.45	15.12	18.43	29.95
24. Spain & Portugal	-	3.75	8.21	7.12	-	-	5.34	5.59	10.94	9.85	5.89	2.15	9.57	12.45
25. Sweden	-	11.88	11.14	10.40	5.94	5.62	7.80	8.17	14.85	13.37	14.85	14.85	12.99	14.85
26. Switzerland	8.04	6.57	12.05	16.07	3.04	2.87	3.98	7.59	16.07	14.46	7.17	4.17	14.06	17.57
27. United Kingdom	5.94	4.21	8.90	8.31	1.50	1.42	1.97	3.75	11.87	10.68	11.87	6.45	10.39	12.58
28. Finland	-	10.18	9.54	8.90	-	-	6.68	7.00	12.72	11.45	12.72	12.72	11.13	12.72
29. Norway	-	9.41	8.82	8.23	4.70	-	6.17	6.47	11.76	10.58	11.76	11.76	10.29	11.76
30. Other Europe	-	9.58	8.98	8.38	-	-	-	6.58	11.97	10.77	11.97	11.97	10.47	11.97
31. USA	6.77	7.21	10.15	13.53	5.41	5.12	7.10	7.44	13.53	12.18	7.51	4.21	11.84	16.57
32. Canada	8.16	2.21	12.24	7.37	3.40	3.22	4.47	8.51	16.32	14.69	21.02	4.78	14.28	17.17
33. Other America	-	11.02	10.33	3.54	-	-	-	-	13.77	12.39	13.77	13.77	12.05	13.77
34. Australia	5.43	3.17	8.14	7.60	1.03	0.97	1.35	2.57	10.85	9.77	10.85	2.17	9.49	14.25
35. New Zealand	4.80	7.68	7.20	6.72	3.84	3.63	5.04	5.28	9.60	8.64	9.60	9.60	8.40	9.60
36. Other Ocearia	-	17.92	-	5.54	-	-	-	-	22.40	20.16	22.40	22.40	19.60	22.40
37. Africa	-	6.38	-	5.58	-	-	-	-	7.97	7.17	7.97	7.97	6.97	7.97
Total	**156.92**	**244.54**	**277.22**	**244.90**	**67.28**	**59.20**	**128.96**	**175.64**	**427.78**	**364.96**	**308.15**	**257.13**	**333.81**	**489.45**
Average	**4.24**	**6.62**	**7.49**	**6.62**	**1.82**	**1.60**	**3.49**	**4.75**	**11.56**	**9.86**	**8.33**	**6.95**	**9.02**	**13.23**

Country of Origin	W. Nusa T.	E. Nusa T.	W. Kal.	C. Kal.	S. Kal.	E. Kal.	N. Sul.	C. Sul.	S. Sul.	SE. Sul.	Maluku	Irian	E. Timor
1. Brunei Darussalam	4.49	3.86	5.57	4.16	4.60	7.17	4.45	1.92	4.15	-	4.78	3.21	2.11
2. Malaysia	5.78	3.71	5.66	4.13	4.32	7.68	5.16	2.74	4.26	6.12	3.17	2.46	2.28
3. Philippines	4.47	3.15	3.43	3.25	3.40	4.21	3.86	2.94	5.16	6.17	6.48	3.70	2.24
4. Singapore	3.49	3.21	2.79	2.64	2.41	6.70	4.30	2.50	5.81	3.74	4.41	3.20	2.86
5. Thailand	4.16	2.81	3.47	3.25	3.36	3.50	4.25	2.20	4.55	2.50	4.02	2.95	2.30
6. Hongkong	3.92	3.80	2.80	-	2.77	3.80	5.92	2.90	4.82	2.95	3.75	-	-
7. India	4.30	2.75	3.80	-	4.10	4.50	6.50	-	4.75	-	3.46	-	-
8. Japan	5.14	3.22	3.19	3.10	3.12	3.25	8.06	4.01	5.52	4.57	4.29	5.10	4.30
9. Korea, South	3.20	2.27	4.56	3.81	5.24	8.98	6.30	2.80	5.87	2.81	3.10	3.34	4.58
10. Pakistan	-	-	-	-	-	2.45	-	-	5.20	-	-	-	-
11. Bangladesh	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Sri Lanka	6.24	-	-	-	-	-	-	-	4.38	-	-	-	-
13. Taiwan	7.40	5.20	5.10	3.25	3.80	7.97	9.49	3.78	5.40	3.55	4.25	4.30	2.80
14. Middle East	-	-	-	-	5.61	-	-	-	-	-	-	-	-
15. China	5.40	4.02	5.75	4.02	4.81	5.50	6.40	3.06	5.28	2.89	3.14	-	2.75
16. Other Asia	-	-	-	-	6.60	-	6.30	-	-	-	-	-	-
17. Austria	12.80	11.20	9.40	10.44	10.25	12.50	13.44	2.97	14.24	-	10.40	10.80	-
18. Belgium	11.94	10.44	12.31	11.56	11.19	14.92	12.53	-	13.28	-	9.70	10.07	6.33
19. Denmark	16.91	-	-	-	-	-	17.76	-	10.81	-	-	-	-
20. France	11.66	10.21	12.03	11.30	10.94	14.58	12.25	9.48	18.98	7.58	13.48	14.84	5.11
21. Germany	12.12	10.61	12.17	11.43	11.06	14.75	12.73	9.85	13.48	8.15	9.85	10.23	7.47
22. Italy	8.74	7.64	9.01	8.46	8.19	10.92	9.17	-	9.72	7.51	7.10	7.37	-
23. Netherlands	16.85	14.74	13.42	12.61	12.20	16.27	17.69	4.93	18.74	7.58	13.69	14.22	4.74
24. Spain & Portugal	8.75	7.66	-	-	-	-	9.19	-	9.74	-	7.11	7.38	5.47
25. Sweden	11.88	10.40	12.25	11.51	11.14	14.85	12.47	-	13.22	-	9.65	-	-
26. Switzerland	12.86	11.25	13.26	12.45	12.05	16.07	13.50	-	14.30	-	10.45	9.85	-
27. United Kingdom	9.50	8.31	9.79	9.20	8.90	11.87	9.97	2.71	10.56	4.17	7.72	10.01	6.61
28. Finland	10.18	8.90	-	-	9.54	12.72	10.68	-	8.32	-	-	-	-
29. Norway	9.41	8.23	-	-	8.82	11.76	9.88	-	7.47	-	-	-	-
30. Other Europe	9.58	8.38	-	-	-	-	-	-	-	-	-	-	-
31. USA	10.82	9.47	12.55	11.79	11.41	15.21	11.37	8.79	12.04	7.53	8.79	9.13	8.46
32. Canada	13.06	11.42	13.46	12.65	12.24	16.32	13.71	4.88	14.52	7.53	10.61	11.02	5.69
33. Other America	11.02	-	-	-	-	13.77	-	-	12.26	-	-	-	8.61
34. Australia	8.68	7.60	8.95	8.41	8.14	10.85	9.11	2.26	9.66	3.47	7.05	7.32	8.17
35. New Zealand	7.68	6.72	7.92	7.44	7.20	9.60	8.06	6.24	8.54	4.60	6.24	6.48	6.00
36. Other Ocearia	-	-	-	-	-	-	18.82	-	-	-	14.56	-	-
37. Africa	6.38	-	-	-	-	-	-	-	-	-	-	-	-
Total	**278.78**	**201.18**	**192.64**	**170.86**	**207.41**	**282.67**	**293.32**	**80.96**	**285.03**	**93.42**	**191.24**	**156.98**	**98.86**
Average	**7.53**	**5.44**	**5.21**	**4.62**	**5.61**	**7.64**	**7.93**	**2.19**	**7.70**	**2.52**	**5.17**	**4.24**	**2.67**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.31. Total Visitors

(By Province/ Country of Origin)

Country of Origin	Aceh	N. Sum.	W. Sum.	Riau	Jambi	Bengkulu	S. Sum.	Lampung	Jakarta	W. Java	C. Java	Yogya	E. Java	Bali
1. Brunei Darussalam	87	1,712	288	377	-	-	48	188	9,696	1,966	858	1,997	986	2,477
2. Malaysia	3,661	49,612	8,334	91,317	214	138	1,182	797	29,088	5,227	2,573	7,990	16,319	21,411
3. Philippines	-	3,044	511	6,590	-	-	291	990	13,541	2,746	1,198	2,789	496	5,308
4. Singapore	1,035	103,600	17,228	635,500	213	142	1,106	1,139	36,110	7,323	3,194	7,436	34,001	42,821
5. Thailand	865	4,281	719	8,473	-	-	373	604	33,435	6,780	2,958	6,885	909	14,864
6. Hongkong	54	3,567	599	188	-	-	244	169	124,207	25,393	11,077	25,785	24,664	7,432
7. India	169	2,521	423	471	-	-	80	198	12,037	2,441	1,065	2,479	83	2,831
8. Japan	772	23,688	3,979	24,477	1,434	1,134	11,280	3,177	153,466	31,122	13,576	28,916	45,320	321,681
9. Korea, South	802	4,852	815	16,004	573	443	801	562	23,906	4,179	2,115	4,923	5,577	25,480
10. Pakistan	61	1,053	161	192	-	-	-	-	856	672	429	987	165	886
11. Bangladesh	-	23	-	176	-	-	-	-	797	669	407	872	36	872
12. Sri Lanka	10	18	-	156	-	-	-	-	698	657	386	829	30	843
13. Taiwan	233	11,244	1,918	67,782	178	106	827	538	264,836	52,031	22,365	54,738	32,679	120,496
14. Middle East	154	1,950	328	98	-	-	-	-	11,953	2,424	1,057	2,461	248	1,062
15. China	120	2,283	384	24,455	42	25	194	255	22,736	4,611	2,011	4,682	41	1,593
16. Other Asia	-	172	98	508	-	-	-	-	13,875	2,814	1,227	2,857	83	354
17. Austria	165	3,425	575	1,506	28	67	130	149	22,067	4,475	1,952	4,544	1,446	19,995
18. Belgium	214	1,237	208	471	21	42	95	286	1,007	996	696	668	1,570	12,209
19. Denmark	64	1,665	280	941	-	-	65	288	13,875	2,814	1,227	2,857	1,239	14,687
20. France	1,268	14,983	2,517	2,824	776	145	422	919	124,378	25,223	10,307	25,613	13,096	45,652
21. Germany	5,354	35,818	6,017	5,648	732	735	5,720	1,290	118,694	24,070	10,500	24,443	17,310	152,615
22. Italy	40	4,138	695	1,036	-	-	-	288	40,791	8,272	3,608	8,400	5,701	65,294
23. Netherlands	4,989	105,693	17,754	4,707	1,824	892	9,529	3,377	175,784	35,648	15,551	36,199	96,838	43,706
24. Spain & Portugal	-	2,225	352	151	-	-	15	81	30,445	6,509	2,143	5,359	868	20,526
25. Sweden	-	1,570	264	3,766	24	16	56	110	19,894	3,292	1,760	4,097	1,322	39,282
26. Switzerland	980	14,746	2,477	1,883	43	25	198	408	41,459	8,408	3,668	8,538	10,659	54,854
27. United Kingdom	3,178	15,697	2,637	16,945	798	480	3,757	1,310	54,666	11,086	4,836	11,257	25,366	156,771
28. Finland	-	190	32	102	-	-	27	235	9,362	1,899	828	1,928	56	160
29. Norway	-	95	16	135	85	-	23	76	971	962	624	582	49	194
30. Other Europe	-	204	77	941	-	-	-	279	58,177	11,798	5,147	11,980	8,593	19,995
31. USA	1,957	17,745	2,996	11,297	713	251	522	4,559	70,213	14,239	6,211	14,459	25,903	104,222
32. Canada	1,102	5,565	1,085	2,542	386	155	527	1,463	26,748	5,424	2,366	5,508	4,379	22,649
33. Other America	-	89	55	188	-	-	-	-	20,061	4,068	1,775	4,131	207	2,123
34. Australia	1,667	25,353	4,244	9,414	103	53	477	484	53,663	10,883	4,747	11,051	25,655	238,590
35. New Zealand	22	10,940	1,838	72	13	39	61	220	18,389	3,729	1,627	3,787	6,156	42,998
36. Other Ocearia	-	285	-	48	-	-	-	-	16,521	3,492	1,523	1,546	4,214	14,510
37. Africa	-	381	-	33	-	-	-	-	3,343	678	296	689	868	3,716
Total	**29,023**	**475,865**	**79,903**	**941,415**	**8,196**	**4,888**	**36,051**	**24,437**	**1,671,746**	**339,019**	**147,889**	**344,265**	**413,130**	**1,645,159**
Average	**784**	**12,856**	**2,160**	**25,444**	**222**	**132**	**1,028**	**660**	**45,182**	**9,163**	**3,997**	**9,304**	**11,166**	**44,464**

Country of Origin	W. Nusa T.	E. Nusa T.	W. Kal.	C. Kal.	S. Kal.	E. Kal.	N. Sul.	C. Sul.	S. Sul.	SE. Sul.	Maluku	Irian	E. Timor
1. Brunei Darussalam	48	17	68	64	62	86	104	33	212	-	65	46	-
2. Malaysia	460	94	1,549	1,454	1,018	1,950	261	82	2,100	51	860	43	26
3. Philippines	97	44	121	113	111	152	145	45	431	28	115	81	44
4. Singapore	592	121	663	621	605	832	4,408	176	1,320	47	1,618	437	28
5. Thailand	526	108	19	21	17	124	151	47	307	29	352	249	17
6. Hongkong	690	141	379	-	346	476	162	51	2,740	31	377	-	-
7. India	66	13	121	-	111	152	185	-	377	-	140	-	-
8. Japan	7,594	1,515	1,029	963	939	1,291	4,989	577	6,880	295	3,154	1,947	435
9. Korea, South	246	50	265	248	242	533	756	112	203	69	2,119	1,498	16
10. Pakistan	-	-	-	-	-	55	-	-	136	-	-	-	-
11. Bangladesh	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Sri Lanka	33	-	-	-	-	-	-	-	83	-	-	-	-
13. Taiwan	99	20	406	379	370	509	831	261	3,577	161	779	551	28
14. Middle East	-	-	-	-	172	-	-	-	-	-	-	-	-
15. China	690	141	991	585	683	114	139	44	2,283	27	172	-	25
16. Other Asia	-	-	-	-	221	-	371	-	-	-	-	-	-
17. Austria	2,218	454	1,325	1,239	1,209	1,662	209	65	7,424	-	115	181	-
18. Belgium	4,256	870	163	552	149	805	446	-	6,108	-	154	109	78
19. Denmark	4,995	-	-	-	-	-	223	-	5,454	-	-	-	-
20. France	4,864	995	819	966	747	1,027	1,608	1,864	31,935	1,154	865	712	102
21. Germany	22,921	4,714	1,054	986	962	1,722	1,782	1,597	27,668	1,089	1,853	1,310	516
22. Italy	9,218	1,885	1,116	1,044	1,019	1,401	1,782	-	10,838	346	542	383	-
23. Netherlands	25,174	5,106	1,220	1,142	1,114	1,532	3,917	1,223	26,369	864	10,560	7,463	1,786
24. Spain & Portugal	1,646	366	-	-	-	-	151	-	1,306	-	298	211	1,824
25. Sweden	4,585	937	167	356	152	209	119	-	2,241	-	140	-	-
26. Switzerland	6,326	1,294	341	319	311	428	594	-	7,933	-	305	216	-
27. United Kingdom	19,833	4,003	1,510	1,413	1,378	1,896	788	335	5,975	153	1,016	1,918	261
28. Finland	214	44	-	-	35	48	58	-	2,117	-	-	-	-
29. Norway	1,265	259	-	-	67	93	374	-	761	-	-	-	-
30. Other Europe	99	20	-	-	-	-	-	-	-	-	-	-	-
31. USA	16,038	3,261	1,633	1,528	1,491	2,050	2,112	962	13,709	402	2,754	3,247	795
32. Canada	5,094	1,042	1,190	1,113	1,084	1,494	707	222	4,933	237	352	489	67
33. Other America	197	-	-	-	-	62	-	-	756	-	-	-	24
34. Australia	19,599	4,123	1,484	1,390	1,356	1,865	1,095	343	6,275	212	6,287	3,457	1,125
35. New Zealand	4,601	941	190	177	173	235	162	51	836	32	524	371	359
36. Other Ocearia	-	-	-	-	-	-	117	-	-	-	11	-	-
37. Africa	37	-	-	-	-	-	-	-	-	-	-	-	-
Total	**184,320**	**32,577**	**17,823**	**16,674**	**16,146**	**22,902**	**28,746**	**8,089**	**183,286**	**5,229**	**35,527**	**24,916**	**7,556**
Average	**4,441**	**880**	**482**	**451**	**436**	**616**	**777**	**219**	**4,954**	**141**	**960**	**673**	**204**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.32. Total Expenditure (Thousand US $)

(By Province/Country of Origin)

Country of Origin	Aceh	N. Sum.	W. Sum.	Riau	Jambi	Bengkulu	S. Sum.	Lampung	Jakarta	W. Java	C. Java	Yogya
1. Brunei Darussalam	80,562	2,304,388	348,771	338,574	-	-	38,033	209,859	15,476,390	2,801,048	1,068,901	2,337,039
2. Malaysia	1,471,793	22,132,446	3,881,861	96,534,292	30,607	19,720	254,135	569,940	19,648,747	3,903,201	2,099,184	5,226,932
3. Philippines	-	4,131,573	251,993	5,772,987	-	-	93,389	866,736	16,820,537	1,629,708	1,168,554	3,278,130
4. Singapore	538,595	84,451,013	12,111,310	556,535,439	37,118	29,477	277,655	740,812	22,110,447	5,134,616	3,035,641	5,577,352
5. Thailand	754,840	3,373,343	433,116	5,007,319	-	-	130,189	667,065	19,218,225	3,656,278	3,109,144	7,923,345
6. Hongkong	19,299	3,533,579	400,372	148,322	-	-	122,575	95,908	154,123,895	20,847,693	8,619,916	19,996,669
7. India	86,889	2,396,883	310,439	662,642	-	-	29,105	297,942	19,607,719	2,989,788	975,090	2,739,316
8. Japan	933,167	27,245,347	6,807,892	29,547,074	1,970,159	1,115,787	15,851,622	4,146,360	344,885,253	48,730,157	16,361,125	31,824,172
9. Korea, South	453,987	5,677,326	506,205	5,607,830	88,507	80,929	166,947	148,750	28,031,717	2,291,237	1,256,120	6,074,771
10. Pakistan	41,280	734,024	157,896	82,034	-	-	-	-	1,172,823	537,087	174,874	487,543
11. Bangladesh	-	13,547	-	57,934	-	-	-	-	816,575	486,098	184,788	394,558
12. Sri Lanka	3,787	11,510	-	36,048	-	-	-	-	688,113	377,954	134,051	293,671
13. Taiwan	165,482	13,222,157	1,703,287	34,686,904	49,943	31,488	238,266	184,687	379,984,971	54,635,478	26,953,039	73,905,525
14. Middle East	174,090	1,383,174	295,546	37,533	-	-	-	-	19,780,844	1,850,986	878,694	1,843,548
15. China	54,482	1,034,036	261,366	7,304,063	5,466	3,245	54,210	86,218	34,107,502	5,544,875	1,716,851	4,038,134
16. Other Asia	-	73,106	64,200	141,240	-	-	-	-	21,642,437	3,405,088	951,901	1,891,936
17. Austria	117,741	3,784,860	639,779	1,319,340	8,284	19,995	50,041	132,618	36,355,902	6,238,026	1,854,862	6,849,109
18. Belgium	141,085	903,587	213,449	225,692	5,628	11,709	33,995	129,254	1,532,793	1,296,223	979,953	915,110
19. Denmark	42,186	1,216,151	287,264	451,304	-	-	23,112	130,336	21,116,675	3,661,385	1,727,957	3,913,728
20. France	888,738	18,158,406	2,749,279	3,517,520	225,915	42,744	159,989	441,511	201,272,575	34,898,315	19,075,452	48,038,271
21. Germany	3,566,963	43,595,783	6,246,962	6,630,322	202,781	205,808	2,061,171	589,448	182,572,625	31,655,962	12,091,763	37,522,996
22. Italy	27,973	3,207,266	757,634	752,419	-	-	-	317,536	65,861,779	11,419,664	4,745,965	14,706,500
23. Netherlands	3,843,582	115,770,476	21,316,719	5,272,689	583,992	288,890	3,970,923	3,243,842	312,672,016	54,213,678	20,848,624	53,835,960
24. Spain & Portugal	-	2,020,004	359,515	71,793	-	-	5,407	36,240	46,066,677	8,420,973	2,252,949	9,379,016
25. Sweden	-	1,269,367	299,855	1,998,401	7,278	4,908	22,103	55,023	33,515,693	4,741,949	2,742,556	6,211,740
26. Switzerland	748,003	20,204,051	2,946,407	2,080,779	13,552	8,174	81,862	388,350	73,061,081	12,667,939	5,978,516	13,541,014
27. United Kingdom	1,754,288	27,528,670	2,268,373	6,802,959	183,067	111,386	1,121,792	1,231,987	69,670,948	12,080,129	6,707,537	12,892,021
28. Finland	-	129,168	30,513	45,443	-	-	8,947	98,544	13,240,707	2,295,784	1,083,474	2,454,010
29. Norway	-	53,668	12,678	49,979	17,982	-	6,333	26,443	1,141,211	966,691	678,380	615,619
30. Other Europe	-	140,125	74,377	424,361	-	-	-	118,400	83,251,730	14,434,878	6,812,407	15,429,731
31. USA	1,341,226	21,906,135	3,200,340	13,007,377	202,951	72,315	193,657	2,142,685	111,100,907	19,263,601	10,039,780	24,229,864
32. Canada	751,930	9,743,359	1,153,618	1,801,938	109,462	44,423	194,530	1,391,120	42,137,885	7,306,217	2,606,770	7,809,762
33. Other America	-	56,502	49,102	112,061	-	-	-	-	26,532,786	4,600,475	2,171,152	4,917,540
34. Australia	934,585	19,690,187	3,707,933	3,838,503	23,928	12,491	144,543	338,580	69,461,716	12,043,851	5,934,696	21,054,850
35. New Zealand	10,511	5,792,440	1,368,315	25,017	2,610	7,800	15,766	72,051	20,284,030	3,517,014	1,659,822	3,759,407
36. Other Oceania	-	164,385	-	18,144	-	-	-	-	19,824,671	3,582,589	1,690,770	1,669,559
37. Africa	-	252,080	-	14,346	-	-	-	-	4,614,304	800,066	377,584	855,207
Total	**18,947,066**	**467,304,123**	**75,216,395**	**790,960,821**	**3,765,229**	**2,111,290**	**25,350,296**	**18,896,245**	**2,533,404,906**	**408,926,703**	**180,748,844**	**458,433,656**
Average	**512,083**	**12,629,841**	**2,032,875**	**21,377,314**	**101,871**	**57,062**	**685,143**	**510,763**	**68,470,403**	**11,052,073**	**4,885,104**	**12,390,099**

Country of Origin	E. Java	Bali	W. Nusa T.	E. Nusa T.	W. Kal.	C. Kal.	S. Kal.	E. Kal.	N. Sul.	C. Sul.	S. Sul.	SE. Sul.	Maluku	Irian	E. Timor
1. Brunei Darussala	903,777	3,902,177	58,385	15,855	54,663	41,469	51,126	121,175	108,744	18,488	225,769	-	76,910	42,687	-
2. Malaysia	10,322,152	20,877,861	298,854	34,983	815,448	606,346	507,705	1,683,154	265,314	20,402	1,666,673	37,443	608,339	26,459	16,725
3. Philippines	241,918	7,511,619	48,369	13,790	83,290	80,162	93,502	155,011	103,713	20,154	368,121	26,580	106,111	53,853	27,936
4. Singapore	18,542,985	45,010,469	316,033	53,010	180,987	173,955	177,053	659,023	3,456,989	54,696	1,110,529	39,819	1,716,841	405,247	22,334
5. Thailand	450,060	21,925,794	241,793	29,785	18,891	21,013	20,716	149,221	106,031	40,926	215,650	38,387	285,154	256,170	13,061
6. Hongkong	17,287,290	8,286,798	391,085	69,138	126,975	-	142,260	460,117	120,083	39,489	2,070,100	27,573	328,767	-	-
7. India	54,935	5,393,770	33,014	3,850	133,574	-	163,218	190,179	182,019	-	305,644	-	110,155	-	-
8. Japan	69,924,956	584,084,475	9,127,153	1,017,378	1,469,976	1,451,015	1,628,239	1,873,504	8,131,985	721,468	8,400,313	560,984	3,584,049	2,166,940	554,376
9. Korea, South	2,582,068	32,034,009	111,392	14,411	141,417	120,019	184,039	730,726	867,923	42,423	206,858	53,597	1,706,111	1,170,667	16,772
10. Pakistan	111,023	1,131,668	-	-	-	-	-	68,312	-	-	123,616	-	-	-	-
11. Bangladesh	25,090	1,071,633	-	-	-	-	-	-	-	-	-	-	-	-	-
12. Sri Lanka	11,690	696,803	23,069	-	-	-	-	-	-	-	67,248	-	-	-	-
13. Taiwan	35,314,112	174,811,897	102,464	13,131	225,939	146,249	190,655	867,863	958,460	105,415	3,725,076	138,985	759,079	392,546	18,946
14. Middle East	195,635	1,938,183	-	-	-	-	281,534	-	-	-	-	-	-	-	-
15. China	34,788	2,283,406	407,846	55,370	1,362,109	610,462	974,483	181,336	164,340	11,834	2,212,263	17,802	124,782	-	18,542
16. Other Asia	55,498	578,107	-	-	-	-	281,549	-	266,301	-	-	-	-	-	-
17. Austria	1,901,697	34,094,009	2,704,498	431,562	1,256,467	1,417,471	1,551,640	2,533,473	230,946	52,508	9,525,038	-	128,494	267,514	-
18. Belgium	2,038,324	18,119,772	4,793,757	764,949	156,687	541,748	161,318	1,132,766	456,376	-	7,240,211	-	174,774	146,751	66,923
19. Denmark	1,609,155	21,792,382	5,625,652	-	-	-	-	-	228,147	-	6,664,544	-	-	-	-
20. France	18,080,067	78,450,891	5,824,454	929,419	836,767	1,006,940	861,501	1,716,093	1,748,566	1,470,587	58,852,928	970,858	1,216,910	1,126,251	83,149
21. Germany	22,715,403	255,699,257	26,099,893	4,187,386	1,023,673	976,786	1,053,931	2,953,774	1,841,747	1,197,659	33,142,315	1,204,033	1,939,556	1,729,925	457,840
22. Italy	7,853,293	79,469,658	11,014,337	1,757,578	1,138,329	1,086,191	1,171,977	2,092,170	1,933,286	-	13,627,637	328,466	483,697	389,551	-
23. Netherlands	146,948,938	66,222,091	33,135,258	5,244,961	1,371,117	1,308,317	1,411,646	1,494,674	4,682,009	1,060,500	36,525,920	860,557	13,268,865	12,081,767	1,583,896
24. Spain & Portugal	1,119,927	25,393,763	1,843,030	320,019	-	-	-	-	153,187	-	1,538,906	-	249,157	319,547	1,730,164
25. Sweden	1,900,117	64,525,641	5,715,540	912,039	177,457	386,396	182,702	232,915	134,482	-	2,940,159	-	130,352	-	-
26. Switzerland	16,024,453	86,402,872	8,249,868	1,316,446	379,678	362,288	390,901	449,917	703,341	-	10,886,785	-	297,171	315,050	-
27. United Kingdom	27,580,456	180,473,602	18,705,232	2,946,261	1,215,826	1,160,138	1,251,764	2,234,603	989,212	208,124	7,192,638	114,817	793,961	2,620,665	375,472
28. Finland	67,570	220,637	223,572	35,676	-	-	34,859	56,178	73,646	-	2,066,101	-	-	-	-
29. Norway	49,131	222,307	1,100,423	175,596	-	-	56,486	100,837	442,856	-	780,673	-	-	-	-
30. Other Europe	10,490,748	27,897,881	104,404	16,660	-	-	-	-	-	-	-	-	-	-	-
31. USA	34,967,531	122,527,800	18,778,893	2,979,894	1,632,618	1,557,840	1,680,877	2,748,688	2,245,811	742,022	16,892,808	354,014	2,651,023	4,777,196	764,709
32. Canada	5,885,559	28,213,834	5,938,357	947,594	1,184,190	1,129,951	1,216,949	1,835,207	748,376	170,150	6,051,899	214,284	380,948	783,076	57,017
33. Other America	233,078	2,738,181	192,810	-	-	-	-	73,096	-	-	778,666	-	-	-	24,466
34. Australia	28,330,953	263,866,964	18,772,732	3,082,321	1,213,055	1,159,054	1,250,595	1,400,232	1,152,221	216,582	6,325,312	275,028	4,496,554	4,466,130	1,523,511
35. New Zealand	5,792,645	46,243,062	3,755,532	599,277	132,029	125,982	135,932	239,600	198,761	27,343	896,687	31,633	515,779	475,416	366,934
36. Other Ocearia	4,313,892	16,975,890	-	-	-	-	-	-	94,655	-	-	-	7,142	-	-
37. Africa	1,021,468	5,000,049	37,787	-	-	-	-	-	-	-	-	-	-	-	-
Total	**494,982,682**	**2,336,088,213**	**183,765,496**	**27,968,339**	**16,331,160**	**15,486,793**	**17,105,159**	**28,433,847**	**32,789,528**	**6,220,770**	**242,627,087**	**6,294,862**	**38,140,682**	**34,013,409**	**7,722,773**
Average	**13,377,910**	**63,137,546**	**4,966,635**	**755,901**	**441,383**	**418,103**	**462,410**	**768,482**	**886,203**	**168,128**	**6,557,489**	**143,104**	**976,775**	**919,281**	**208,724**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.33. Expenditure/Province/Country of Origin

Provinces	Singapore	Japan	France	Germany	Netherlands	Sweden etc.	U. Kingdom	Taiwan	U S A	AUSTRALIA
1. Aceh	538,595	933,167	888,738	3,566,963	3,843,582	42,186	1,754,288	165,482	1,341,226	840,568
2. N. Sumatera	84,451,013	27,245,347	18,158,406	43,595,783	115,770,476	2,668,355	27,528,670	13,222,157	21,906,135	22,810,453
3. W. Sumatera	12,111,310	6,807,892	2,749,279	6,246,962	21,316,719	630,330	2,268,373	1,703,287	3,200,340	4,514,815
4. Riau	554,513,039	29,547,074	3,517,520	6,630,322	5,272,689	2,545,127	6,802,959	34,686,904	13,007,377	3,452,351
5. Jambi	37,118	1,970,159	225,915	202,781	583,992	17,982	183,067	49,943	202,951	23,603
6. Bengkulu	29,477	1,115,787	42,744	205,808	288,890	4,908	111,386	31,488	72,315	18,047
7. S. Sumatera	277,655	15,851,622	159,989	2,061,171	3,970,923	37,383	1,121,792	238,266	193,657	142,579
8. Lampung	740,812	4,146,360	441,511	589,448	3,243,842	310,346	1,231,987	184,687	2,142,685	365,215
9. Jakarta	22,277,402	341,300,137	210,716,369	183,562,140	302,461,434	144,179,823	69,849,854	372,432,789	113,304,158	59,728,008
10. W. Java	5,433,204	49,636,305	32,686,961	31,211,563	55,315,270	26,735,355	12,164,307	54,215,169	20,307,512	18,054,597
11. C. Java	3,035,641	16,361,125	19,075,452	12,091,763	20,848,624	13,044,774	6,707,537	26,953,039	10,039,780	8,258,336
12. Yogyakarta	5,577,352	31,824,172	48,038,271	37,522,996	53,438,960	13,195,097	12,892,021	73,905,525	24,229,864	23,554,706
13. E. Java	18,542,985	69,924,956	18,080,067	22,715,403	146,948,938	14,116,721	27,580,456	35,314,112	34,967,531	34,186,304
14. Bali	45,010,469	584,084,475	78,450,891	255,699,257	66,222,091	86,760,967	180,473,602	174,811,897	122,527,800	290,910,214
15. W. Nusa T.	316,033	9,127,153	5,824,454	26,089,893	33,135,258	12,665,188	18,705,232	102,464	18,778,893	20,036,638
16. E. Nusa T.	53,010	1,017,378	929,419	4,187,386	5,244,961	1,123,312	2,946,261	13,131	2,979,894	3,274,413
17. W. Kalimantan	180,987	1,469,976	836,767	1,023,673	1,371,117	177,457	1,215,826	225,939	1,632,618	1,196,318
18. C. Kalimantan	173,955	1,451,015	1,006,940	976,786	1,308,317	386,396	1,160,138	146,249	1,557,840	1,142,912
19. S. Kalimantan	177,053	1,628,239	861,501	1,053,931	1,411,646	274,047	1,251,764	190,655	1,680,877	1,233,177
20. E. Kalimantan	659,023	1,871,885	1,716,093	2,953,774	1,494,674	389,930	2,234,603	867,863	2,748,688	1,458,467
21. N. Sulawesi	3,456,989	8,131,985	1,748,566	1,841,747	4,682,009	879,130	989,212	958,460	2,245,811	1,285,750
22. C. Sulawesi	54,696	721,468	1,470,587	1,197,659	1,060,500	-	208,124	105,415	742,022	216,947
23. S. Sulawesi	1,110,529	8,400,313	58,852,928	33,142,315	36,525,920	12,451,477	7,192,638	3,725,076	16,892,808	6,423,246
24. SE. Sulawesi	39,819	560,984	970,858	1,204,033	860,557	-	114,817	138,985	354,014	-
25. Maluku	1,716,841	3,584,049	1,216,910	1,939,556	13,268,865	130,352	793,961	759,079	2,651,023	4,464,321
26. Irian Jaya	405,247	2,166,940	1,126,251	1,729,925	12,081,767	-	2,620,665	392,546	4,777,196	4,395,011
27. E. Timor	22,334	554,376	83,149	457,840	1,583,896	-	375,472	18,946	764,709	1,681,361
National	**760,942,588**	**1,221,434,339**	**509,876,538**	**683,700,879**	**913,555,917**	**332,786,642**	**390,479,010**	**795,559,553**	**425,249,725**	**513,668,356**
Average	**28,183,059**	**45,238,309**	**18,884,316**	**25,322,255**	**33,835,404**	**12,324,690**	**14,462,186**	**29,465,169**	**15,749,990**	**19,024,754**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.34. Average Daily Expenditure (*the 10 biggest market*)

Provinces	Singapore	Japan	France	Germany	Netherlands	Sweden etc.	U. Kingdom	Taiwan	U S A	AUSTRALIA
1. Aceh	143.36	218.98	96.15	87.95	73.16	-	93.01	131.52	101.31	103.34
2. N. Sumatera	257.15	275.82	345.27	244.41	104.12	68.07	416.57	157.00	171.22	245.00
3. W. Sumatera	148.94	227.51	99.89	91.38	76.01	102.11	96.63	136.65	105.26	107.37
4. Riau	276.26	609.67	217.36	77.48	165.95	51.05	48.32	75.48	85.10	53.69
5. Jambi	74.47	432.04	49.95	45.69	143.70	51.05	152.94	68.32	52.63	226.65
6. Bengkulu	79.60	461.82	53.39	48.84	153.61	54.57	163.48	73.03	56.26	242.27
7. S. Sumatera	73.85	428.44	49.53	45.31	142.51	50.63	151.66	67.75	52.19	224.76
8. Lampung	147.85	659.19	59.93	54.83	172.44	61.26	250.82	81.99	63.15	271.98
9. Jakarta	165.49	252.79	110.99	101.53	84.46	113.45	107.37	151.83	116.95	119.30
10. W. Java	157.22	240.15	105.44	96.45	80.24	107.78	102.00	144.24	111.10	113.34
11. C. Java	442.00	153.52	284.29	153.34	179.96	104.94	116.85	151.21	215.23	115.22
12. Yogyakarta	235.86	175.53	413.11	188.36	98.36	102.11	177.55	327.71	398.04	878.00
13. E. Java	161.35	246.47	108.22	98.99	82.35	110.61	104.69	148.03	114.03	116.32
14. Bali	111.23	142.41	105.75	92.21	50.59	110.61	91.51	132.49	70.95	77.61
15. W. Nusa T.	153.08	233.83	102.67	93.92	78.13	104.94	99.32	140.44	108.18	110.35
16. E. Nusa T.	136.53	208.55	91.57	83.76	69.68	93.60	88.58	125.26	96.48	98.42
17. W. Kalimantan	97.81	447.83	84.98	79.84	83.70	86.86	82.21	109.24	79.65	91.34
18. C. Kalimantan	106.19	486.21	92.26	86.69	90.88	94.31	89.25	118.61	86.48	99.17
19. S. Kalimantan	121.36	555.67	105.44	99.07	103.86	107.78	102.00	135.55	98.83	113.34
20. E. Kalimantan	118.17	446.38	114.56	116.27	59.98	74.94	99.32	213.95	88.15	69.21
21. N. Sulawesi	182.39	202.23	88.79	81.22	67.57	90.76	125.90	121.46	93.56	115.44
22. C. Sulawesi	124.12	311.98	83.24	76.15	176.00	-	229.22	107.01	87.71	279.77
23. S. Sulawesi	144.80	221.19	97.12	88.84	73.90	99.27	113.95	192.85	102.33	104.39
24. SE. Sulawesi	225.49	415.97	110.99	135.69	131.33	-	180.09	242.69	116.95	373.03
25. Maluku	240.67	264.87	104.34	106.30	91.79	96.43	101.26	229.06	109.45	101.41
26. Irian Jaya	290.06	218.23	106.63	129.15	113.88	-	136.47	165.73	161.10	176.41
27. E. Timor	278.90	296.38	159.45	118.80	187.20	-	217.76	241.66	113.75	165.78
National	**4,694**	**8,834**	**3,441**	**2,722**	**2,535**	**1,937**	**3,739**	**3,991**	**3,056**	**4,793**
Average	**174**	**327**	**127**	**101**	**109**	**72**	**138**	**148**	**113**	**178**

(Source: BPS 1995, DGT 1995, Kanwil dan Inparda 27 propinsi, 1995)

Table 7.35. Average Length of Stay (*the 10 biggest market*)

Provinces	Singapore	Japan	France	Germany	Netherlands	Sweden etc.	U. Kingdom	Taiwan	U S A	AUSTRALIA
1. Aceh	3.63	5.52	7.29	7.58	10.53	-	5.94	5.40	6.77	5.43
2. N. Sumatera	3.17	4.17	3.51	4.98	10.52	11.88	4.21	7.49	7.21	3.17
3. W. Sumatera	4.72	7.52	10.94	11.36	15.80	11.14	8.90	6.50	10.15	8.14
4. Riau	3.17	1.98	5.73	15.15	6.75	10.40	8.31	6.78	13.53	7.60
5. Jambi	2.34	3.18	5.83	6.06	2.23	5.94	1.50	4.10	5.41	1.03
6. Bengkulu	2.61	2.13	5.52	5.73	2.11	5.62	1.42	4.06	5.12	0.97
7. S. Sumatera	3.40	3.28	7.65	7.95	2.92	7.80	1.97	4.25	7.10	1.35
8. Lampung	4.40	1.98	8.02	8.33	5.57	8.17	3.75	4.19	7.44	2.57
9. Jakarta	3.70	8.89	14.58	15.15	21.06	14.85	11.87	9.45	13.53	10.85
10. W. Java	4.46	6.52	13.12	13.64	18.95	13.37	10.68	7.28	12.18	9.77
11. C. Java	2.15	7.85	6.51	7.51	7.45	14.85	11.87	7.97	7.51	10.85
12. Yogyakarta	3.18	6.27	4.54	8.15	15.12	14.85	6.45	4.12	4.21	2.17
13. E. Java	3.38	6.26	12.76	13.26	18.43	12.99	10.39	7.30	11.84	9.49
14. Bali	9.45	12.75	16.25	18.17	29.95	14.85	12.58	10.95	16.57	14.25
15. W. Nusa T.	3.49	5.14	11.66	12.12	16.85	11.88	9.50	7.40	10.82	8.68
16. E. Nusa T.	3.21	3.22	10.21	10.61	14.74	10.40	8.31	5.20	9.47	7.60
17. W. Kalimantan	2.79	3.19	12.03	12.17	13.42	12.25	9.79	5.10	12.55	8.95
18. C. Kalimantan	2.64	3.10	11.30	11.43	12.61	11.51	9.20	3.25	11.79	8.41
19. S. Kalimantan	2.41	3.12	10.94	11.06	12.20	11.14	8.90	3.80	11.41	8.14
20. E. Kalimantan	6.70	3.25	14.58	14.75	16.27	14.85	11.87	7.97	15.21	10.85
21. N. Sulawesi	4.30	8.06	12.25	12.73	17.69	12.47	9.97	9.49	11.37	9.11
22. C. Sulawesi	2.50	4.01	9.48	9.85	4.93	-	2.71	3.78	8.79	2.26
23. S. Sulawesi	5.81	5.52	18.98	13.48	18.74	13.22	10.56	5.40	12.04	9.66
24. SE. Sulawesi	3.74	4.57	7.58	8.15	7.58	-	4.17	3.55	7.53	3.47
25. Maluku	4.41	4.29	13.48	9.85	13.69	9.65	7.72	4.25	8.79	7.05
26. Irian Jaya	3.20	5.10	14.84	10.23	14.22	-	10.01	4.30	9.13	7.32
27. E. Timor	2.86	4.30	5.11	7.47	4.74	-	6.61	2.80	8.46	8.17
National	**101.82**	**135.17**	**274.57**	**286.91**	**335.06**	**254.06**	**209.15**	**156.13**	**285.83**	**187.29**
Average	**3.77**	**5.01**	**10.17**	**10.63**	**12.41**	**9.41**	**7.75**	**5.78**	**9.85**	**6.94**

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

Table 7.36. Total Visitors (*the 10 biggest market*)

Provinces	Singapore	Japan	France	Germany	Netherlands	Sweden etc	U. Kingdom	Taiwan	U.S.A	AUSTRALIA
1. Aceh	1,035	772	1,268	5,354	4,989	-	3,178	233	1,957	1,667
2. N. Sumatera	103,600	23,688	14,983	35,818	105,693	1,570	15,697	11,244	17,745	25,353
3. W. Sumatera	17,228	3,979	2,517	6,017	17,754	264	2,637	1,918	2,996	4,244
4. Riau	635,500	24,477	2,824	5,648	4,707	3,766	16,945	67,782	11,297	9,414
5. Jambi	213	1,434	776	732	1,824	24	798	178	713	103
6. Bengkulu	142	1,134	145	735	892	16	480	106	251	53
7. S. Sumatera	1,106	11,280	422	5,720	9,529	56	3,757	827	522	477
8. Lampung	1,139	3,177	919	1,290	3,377	110	1,310	538	4,559	484
9. Jakarta	36,110	153,466	124,378	118,694	175,784	19,894	54,666	264,836	70,213	53,663
10. W. Java	7,323	31,122	25,223	24,070	35,648	3,292	11,086	52,031	14,239	10,883
11. C. Java	3,194	13,576	10,307	10,500	15,551	1,760	4,836	22,365	6,211	4,747
12. Yogyakarta	7,436	28,916	25,613	24,443	36,199	4,097	11,257	54,738	14,459	11,051
13. E. Java	34,001	45,320	13,096	17,310	96,838	1,322	25,366	32,679	25,903	25,655
14. Bali	42,821	321,681	45,652	152,615	43,706	39,282	156,771	120,496	104,222	238,590
15. W. Nusa T.	592	7,594	4,864	22,921	25,174	4,585	19,833	99	16,038	19,599
16. E. Nusa T.	121	1,515	995	4,714	5,106	937	4,003	20	3,261	4,123
17. W. Kalimantan	663	1,029	819	1,054	1,220	167	1,510	406	1,633	1,484
18. C. Kalimantan	621	963	966	986	1,142	356	1,413	379	1,528	1,390
19. S. Kalimantan	605	939	747	962	1,114	152	1,378	370	1,491	1,356
20. E. Kalimantan	832	1,291	1,027	1,722	1,532	209	1,896	509	2,050	1,865
21. N. Sulawesi	4,408	4,989	1,608	1,782	3,917	119	788	831	2,112	1,095
22. C. Sulawesi	176	577	1,864	1,597	1,223	-	335	261	962	343
23. S. Sulawesi	1,320	6,880	31,935	27,668	26,369	2,241	5,975	3,577	13,709	6,275
24. SE. Sulawesi	47	295	1,154	1,089	864	-	153	161	402	212
25. Maluku	1,618	3,154	865	1,853	10,560	140	1,016	779	2,754	6,287
26. Irian Jaya	437	1,947	712	1,310	7,463	-	1,918	551	3,247	3,457
27. E. Timor	28	435	102	516	1,786	-	261	28	795	1,125
National	902,314.98	892,630.51	315,781.59	477,118.72	539,960.80	84,357.81	349,264.43	637,942.46	325,271.05	434,995.18
Average	33,419.07	25,764.09	11,695.61	17,671.06	20,702.25	3,124.36	12,935.72	23,627.50	12,047.08	16,110.99

(Source: BPS 1995, DGT 1995, Kanwil dan Diparda 27 propinsi, 1995)

GUIDELINES FOR INTERVIEWS WITH NATIONAL TOURISM OFFICIALS (27 PROVINCES IN INDONESIA)

POLICY QUESTIONS

1. Who should decide where and when to develop tourism ?

2. Who should decide what kind of tourism to be developed in particular region ?

3. What kind of decision making process presently exist in order to develop tourism ?

4. What changes or improvements could be made in the present decision-making process regarding tourism development?

5. What kind of consideration/criteria/guidelines do they have at present in order to decide what kind of scale and type of tourism development should take place ?

6. What kind of preferences do they have in terms of scale and type of tourism development in the country/ province?

7. What kind of tourism plans presently exist to their knowledge in the country/ province ?

8. Who should be responsible for developing the tourism sector ?

9. What kind of public/private sector relationship do they have at present ?

10. What kind of future strategy, policy and plans do they have for developing tourism in Indonesia ?

11. Is there any environmental policy or impact assessment studies regarding tourism development in your region that you are aware of?

12. What is the significance of tourism for Indonesia's development ?

13. What are the main strategies and policies for developing Indonesian tourism in the future (short term and long term)?

14. What are the objectives of these strategies and policies towards:

☐ national development

☐ regional development

☐ local communities

15. What are the main constraints at present for tourism development in Indonesia ?

16. What would you prefer in term of scale of development *(give examples of each type)*

- ☐ larger _____
- ☐ medium _____
- ☐ mixed _____
- ☐ smaller _____

Why ?

_____

_____

_____

17. What do you think about tourism development at the provincial level ? Should every province develop tourism? What are the constraints on this?

_____

_____

_____

18. Why has the TDC concept (*Tourism Development Corporation*) been developed in Indonesia ? How many TDC types of development does Indonesia have at present ?

_____

_____

_____

19. How will you identify new trends of tourism demand for Indonesia ?

_____

_____

_____

20. Are there any incentive and disincentive systems provided in developing tourism ?

_____

_____

_____

21. What areas of tourism development do you think the government should be involved in terms of regulation – private and public?

_____

_____

_____

22. What do you think about the different types of ownership in tourism enterprises in Indonesia ? (public/private, local/non-local, foreign/national)

_____

_____

_____

23. What do you think about tourism impacts ? What are the main positive and negative impacts of tourism development in Indonesia ?

_____

_____

_____

GUIDELINES FOR INTERVIEWS WITH PROVINCIAL GOVERNMENT TOURISM OFFICIALS (27 PROVINCES IN INDONESIA)

POLICY QUESTIONS FOR BOTH PROVINCIAL LEVEL

1. Who should decide where and when to develop tourism ?

2. Who should decide what kind of tourism to be developed in particular region ?

3. What kind of decision making process presently exist in order to develop tourism ?

4. What changes or improvements could be made in the present decision-making process regarding tourism development?

5. What kind of consideration/criteria/guidelines do they have at present in order to decide what kind of scale and type of tourism development should take place ?

6. What kind of preferences do they have in terms of scale and type of tourism development in the country/ province?

7. What kind of tourism plans presently exist to their knowledge in the country/ province ?

8. Who should be responsible for developing the tourism sector ?

9. What kind of public/private sector relationship do they have at present ?

10. What kind of future strategy, policy and plans do they have for developing tourism in Indonesia ?

11. Is there any environmental policy or impact assessment studies regarding tourism development in your region that you are aware of?

12. What do you think is the main backbone of development in this province ?

13. What are the development objectives for this province?

14. What do you think about the significance of tourism for regional development?

15. What areas of tourism development should the government be involved in terms of regulation – both public and private?

16. What are the strongest and weakest points for developing tourism in this region ?

17. What kind of scale of tourism development do you think is suitable for your region ? *(Give examples of scale e.g.* Larger scale = *international resort hotel with supporting facilities)*

☐ Larger scale

☐ Medium scale

☐ Smaller scale

18. What kind of type of tourism development do you think is suitable for this region ? (*Give examples for each type*)

☐ Natural

☐ Cultural

☐ Recreational

☐ Special interest

19. What do you think about tourism impacts ? What are the positive and negative impacts of tourism in your province?

KEY PERSON INTERVIEW

A. Community Level

GUIDELINES FOR INTERVIEWS:
COMMUNITY LEADERS

1. What do you think about the existing social and cultural organisations in the community?
   - ☐ PKK (Women & Family Association)
   - ☐ PUSKESMAS (Health Centre)
   - ☐ Karang Taruna (Youth & Sport Association)
   - ☐ LKMD (Community Center)
   - ☐ Koperasi Desa (Community Development & Cooperation)
   - ☐ Kelompok Kesenian (Art & Culture association)
   - ☐ Kelompok Keagamaan (Religious Association)

2. Do you think the community needs to have a specific association on tourism?
   - ☐ No
   - ☐ Yes

   Why ?

3. What do you think about the level of tourism awareness in the community ?

4. Regarding hawkers: what do you think regarding:
   - ☐ Employment
   - ☐ Encouraging culture (e.g. handicraft sales)
   - ☐ Selling poor products
   - ☐ Too aggressive, creating bad image

5. What is the degree of local community participation at present in:

	High	Average	Low	None
festivals				
culture performances				
art exhibitions				
religious rituals				

6. What do you think of foreigners participating in those events ?

7. Do you have any concerns about cultural dances that are performed specially for tourists in hotels?

8. Is there any efforts from community members you are aware of to preserve local cultural or environmental assets:

	Full effort	Average effort	Little effort	No effort
dances				
music				
historical buildings				
monuments				
wildlife				
places of natural beauty				

9. What is the most common problem in the community which creates conflicts ?

10. What is the degree of community participation in selected community activities ('gotong royong' "voluntary community improvement projects" etc.) ?

11. What about the influence of tourism on the youth ? Do they leave the community ? Where do they go the most? Do they send money home ?

12. How does this community select their leaders ?

13. Have you noticed any changes over the last decade in terms of:

	Many changes	Average changes	Little changes	No change
occupations				
patterns in prestige change				
transmigration				
land use				
land prices				
general goods and services prices				
community participation in socio-cultural activities				
general community prosperity				
education availability				
public infrastructures and facilities				

14. Have there been any changes in the community over the past decade in terms of moral behaviour? Are any of these changes related to the impact/ influence of tourism?

15. What do you think is the local people's attitude towards tourism development in general?

16. Are you aware of any new tourism activities or plans in the near future that will affect the community?

17. What is the main weakness or main problems in the community regarding developing tourism? What is the potential ?

18. Is there is any community income from tourism (tickets to sites, traditional villages, monuments etc.). If so, how is this income managed by the community ?

19. Is there any sponsorship from government/NGOs to develop tourism related activities ?

20. Has this community ever won any art, cultural or development competitions from the government?

21. Is there any community or governmental tourism related programs on human resources or development ?

22. What do people in this community think about labour who come from outside the region ?

23. What do people in the community think about foreigners who work here?

APPENDIX 2

MULTIPLE REGRESSION OUTPUT FOR:

MODELS OF CHARACTERISTICS OF TOURISM DEVELOPMENT

VARIOUS TOURIST MULTIPLIER VALUES

```
176  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
177   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
178   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
179   avertim2
180   avrooms locpopdy tourdens mintime/sta=end/
181   dep=avrooms/method=stepwise/res=durbin/save=pred(pred01) zresid(stres01).
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. AVROOMS Average rooms per hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.9549	.9119	258.814	.000	In:	MOB91	.9549

Variable(s) Entered on Step Number
1.. MOB91

Multiple R	.95494
R Square	.91191
Adjusted R Square	.90839
Standard Error	4.07269

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	4292.89938	4292.89938
Residual	25	414.66985	16.58679

F = 258.81429 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
MOB91	1.41168E-05	8.7749E-07	.954942	16.088	.0000
(Constant)	17.420599	.868686		20.054	.0000

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. AVROOMS Average rooms per hotel

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	.100386	.185098	.299476	.923	.3653
TOURNSTR	.039760	.129692	.937228	.641	.5277
TOTALPOP	.025803	.086089	.980559	.423	.6758
AREAKM2	-.052452	-.174574	.975775	-.869	.3937
UNEDUC	-.061030	-.174800	.722607	-.870	.3931
SDSMTP	.064877	.214367	.961694	1.075	.2930
SMAGRAD	.015766	.032512	.374564	.159	.8747
LABORSRV	.024065	.079899	.970959	.393	.6980
TOTLABOR	.012929	.043233	.984936	.212	.8339
PPI	.089795	.244768	.654503	1.237	.2282
LABS1991	.097906	.235036	.507636	1.185	.2478
RADIOTOT	.076958	.238336	.844839	1.202	.2410
TVALL	.074725	.219288	.758587	1.101	.2818
PAPERALL	.060647	.128806	.397332	.636	.5306
GDPR9091	-.089632	-.301662	.997753	-1.550	.1342
GDPSS91	.040341	.104571	.591877	.515	.6112
GDPCP91	.035207	.068889	.337245	.338	.7381
TINVPMA	.112631	.225341	.352594	1.133	.2684
TINVPMON	.081686	.216533	.618957	1.087	.2880
TINVNONP	.304255	.359915	.123262	1.890	.0709
ARTCULT	.012186	.040694	.982233	.200	.8435
PRICEIND	.034563	.080899	.482578	.398	.6944
DIRFLWK	-.004927	-.009871	.353594	-.048	.9618
TOTFLWK	.032593	.080946	.543316	.398	.6943
FLFREIND	-.028599	-.070121	.529565	-.344	.7336
AVETIME	-.086930	-.278026	.901014	-1.418	.1691
TIMEIND	.011261	.028640	.569829	.140	.8895
LOSSTR	.009026	.029408	.935003	.144	.8866
LOSNSTR	-.046646	-.154763	.969643	-.767	.4503
AVERTIM2	-.023149	-.067171	.741638	-.330	.7444
LOCPOPDY	.083092	.083618	.089205	.411	.6847
TOURDENS	.026272	.086107	.946191	.423	.6758
MINTIME	-.095501	-.312361	.942337	-1.611	.1203

End Block Number 1 PIN = .050 Limits reached.

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. AVROOMS Average rooms per hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	17.7573	84.1397	23.4463	12.8496	27
*RESID	-5.8250	9.7703	.0000	3.9936	27
*ZPRED	-.4427	4.7234	.0000	1.0000	27
*ZRESID	-1.4303	2.3990	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 2.46733

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED01	Predicted Value
STRES01	Standardized Residual

```
182  var label pred01'Predicted value of AVROOMS'.
183  list var=province avrooms mob91 tourstr tournstr.
```

PROVINCE	AVROOMS	MOB91	TOURSTR	TOURNSTR
ACEH	18.48	27270	37810	5508
BALI	38.67	1323696	537264	528325
BENGKULU	13.76	33571	56871	99
CENTRAL_JAVA	20.50	333797	67884	12468
CENTRAL_KALIMANT	19.34	137809	46068	122
CENTRAL_SULAWESI	12.31	50609	27681	4562
EAST_JAVA	29.05	1020996	97398	22534
EAST_KALIMANTAN	23.44	473859	37479	6619
EAST_NUSA_TENGGA	22.37	133456	37872	33676
EAST_TIMOR	14.82	23853	32722	447
IRIAN_JAYA	16.59	277408	17491	18157
JAKARTA	84.55	4726209	561671	44818
JAMBI	22.72	39018	47892	904
LAMPUNG	21.37	68474	96326	658
MALUKU	16.96	98635	31066	24687
NORTH_SULAWESI	20.06	117658	25123	6814
NORTH_SUMATERA	21.01	569710	69862	74633
RIAU	30.39	226613	48885	23544
SOUTHEAST_SULAWE	16.47	27872	23608	47
SOUTH_KALIMANTAN	26.48	220949	43255	966
SOUTH_SULAWESI	17.99	279455	52740	15765
SOUTH_SUMATERA	19.41	374610	62065	1082
WEST_JAVA	26.10	154872	94581	72938
WEST_KALIMANTAN	22.43	184967	52938	21640
WEST_NUSA_TENGGA	14.29	138852	117877	67126
WEST_SUMATERA	23.47	137624	47839	33846
YOGYAKARTA	20.02	322973	90759	53876

Number of cases read: 27 Number of cases listed: 27

```
184  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
185   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
186   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
187   avertim2
188   starpct locpopdy tourdens mintime/sta=end/
189   dep=starpct/method=stepwise/res=durbin/save=pred(pred02) zresid(stres02).
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. STARPCT Percentage of star rooms/h

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.6451	.4161	17.818	.000	In:	TIMEIND	.6451

Variable(s) Entered on Step Number
1.. TIMEIND Updated Time Factor Index

Multiple R	.64509
R Square	.41614
Adjusted R Square	.39278
Standard Error	13.94959

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	3467.30810	3467.30810
Residual	25	4864.77749	194.59110

F = 17.81843 Signif F = .0003

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
TIMEIND	.428732	.101567	.645089	4.221	.0003
(Constant)	17.201461	4.288045		4.011	.0005

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. STARPCT Percentage of star rooms/h

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	.310992	.289131	.504661	1.480	.1520
TOURNSTR	.113750	.130344	.766636	.644	.5257
TOTALPOP	-.116102	-.143930	.897299	-.713	.4830
AREAKM2	-.204044	-.236897	.787007	-1.195	.2439
UNEDUC	-.124768	-.151487	.860704	-.751	.4601
SDSMTP	-.004045	-.005205	.966537	-.025	.9799
SMAGRAD	.292540	.331023	.747573	1.719	.0986
LABORSRV	-.104264	-.129048	.894422	-.638	.5298
TOTLABOR	-.146224	-.181022	.894822	-.902	.3762
PPI	.316412	.326549	.621871	1.693	.1035
LABS1991	.246839	.257654	.636144	1.306	.2038
RADIOTOT	.069764	.086163	.890615	.426	.6756
TVALL	.046962	.055122	.804364	.270	.7891
PAPERALL	.309146	.340248	.707250	1.773	.0890
GDPR9091	.017101	.022240	.987454	.109	.9141
GDPSS91	.001938	.002102	.687200	.010	.9919
GDPCP91	.141649	.174963	.890789	.871	.3926
TINVPMA	.339460	.323440	.530052	1.675	.1070
TINVPMON	.129878	.116115	.466676	.573	.5722
TINVNONP	.211607	.213523	.594480	1.071	.2949
MOB91	.316089	.312267	.569829	1.610	.1204
ARTCULT	-.209055	-.254692	.866597	-1.290	.2092
PRICEIND	-.036979	-.017486	.130550	-.086	.9324
DIRFLWK	.232561	.215383	.500790	1.081	.2907
TOTFLWK	.126735	.127189	.588047	.628	.5358
FLFREIND	-.338556	-.151343	.116673	-.750	.4605
AVETIME	-.168472	-.197992	.806398	-.990	.3323
LOSSTR	-.011740	-.014844	.933489	-.073	.9426
LOSNSTR	-.074296	-.096052	.975868	-.473	.6407
AVERTIM2	-.321628	-.324589	.594662	-1.681	.1057
LOCPOPDY	.280703	.309024	.707620	1.592	.1245
TOURDENS	.094558	.113862	.846591	.561	.5797
MINTIME	-.072698	-.075581	.631089	-.371	.7136

End Block Number 1 PIN = .050 Limits reached.

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. STARPCT Percentage of star rooms/h

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	17.2015	60.0747	31.3158	11.5481	27
*RESID	-24.6160	26.3001	.0000	13.6787	27
*ZPRED	-1.2222	2.4904	.0000	1.0000	27
*ZRESID	-1.7646	1.8854	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.66152

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED02	Predicted Value
STRES02	Standardized Residual

```
190  var label pred02'Predicted value of STARPCT'.
191  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
192   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
193   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
194   avertim2
195   growroom locpopdy tourdens mintime/sta=end/
196   dep=growroom/method=stepwise/res=durbin/save=pred(pred03) zresid(stres03)
        .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. GROWROOM Rate of growth : rooms

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.5924	.3509	13.515	.001	In:	SDSMTP	-.5924
2	.7106	.5050	12.240	.000	In:	GDPR9091	.4221
3	.7934	.6294	13.021	.000	In:	GDPCP91	.3734

Variable(s) Entered on Step Number
3.. GDPCP91

Multiple R	.79336
R Square	.62941
Adjusted R Square	.58108
Standard Error	4.76103

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	885.46903	295.15634
Residual	23	521.34926	22.66736

F = 13.02121 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
SDSMTP	-.636635	.162376	-.564736	-3.921	.0007
GDPR9091	1.329009	.448758	.404713	2.962	.0070
GDPCP91	8.72623E-06	3.1398E-06	.373397	2.779	.0107
(Constant)	23.612002	7.596005		3.108	.0049

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. GROWROOM Rate of growth : rooms

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	.021538	.028772	.604568	.135	.8938
TOURNSTR	.051186	.082865	.775998	.390	.7003
TOTALPOP	-.091565	-.148252	.754861	-.703	.4893
AREAKM2	.151727	.216636	.737579	1.041	.3093
UNEDUC	.266730	.118420	.073046	.559	.5816
SMAGRAD	-.134118	-.118420	.288909	-.559	.5816
LABORSRV	-.098145	-.159440	.760557	-.758	.4568
TOTLABOR	-.109072	-.177090	.758828	-.844	.4078
PPI	-.003744	-.005559	.751311	-.026	.9794
LABS1991	.003082	.004146	.631146	.019	.9847
RADIOTOT	-.013747	-.017908	.628899	-.084	.9338
TVALL	.103900	.112858	.637247	.533	.5995
PAPERALL	-.098205	-.089460	.307523	-.421	.6776
GDPSS91	-.108847	-.155707	.722020	-.739	.4675
TINVPMA	.044525	.059452	.616423	.279	.7826
TINVPMON	.002299	.003446	.772971	.016	.9873
TINVNONP	.052949	.056772	.412534	.267	.7922
MOB91	-.071794	-.067075	.305475	-.315	.7555
ARTCULT	-.129061	-.211198	.771623	-1.013	.3219
PRICEIND	-.093647	-.134776	.749763	-.638	.5301
DIRFLWK	-.140075	-.196285	.652922	-.939	.3580
TOTFLWK	-.051411	-.075240	.727845	-.354	.7268
FLFREIND	-.139442	-.196668	.737181	-.941	.3570
AVETIME	.167935	.229315	.599425	1.105	.2811
TIMEIND	-.128801	-.195300	.759216	-.934	.3604
LOSSTR	.049928	.079039	.747640	.372	.7135
LOSNSTR	-.160235	-.237148	.670522	-1.145	.2645
AVERTIM2	.056479	.083791	.709185	.394	.6971
LOCPOPDY	-.044577	-.047057	.385695	-.221	.8272
TOURDENS	.042463	.068642	.771965	.323	.7500
MINTIME	.199008	.289474	.682665	1.418	.1701

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. GROWROOM Rate of growth : rooms

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	2.0687	27.9634	9.6704	5.8358	27
*RESID	-9.5238	9.8129	.0000	4.4779	27
*ZPRED	-1.3026	3.1346	.0000	1.0000	27
*ZRESID	-2.0004	2.0611	.0000	.9405	27

Total Cases = 27

Durbin-Watson Test = 3.03014

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED03	Predicted Value
STRES03	Standardized Residual

```
197  var label pred03'Predicted value of GROWROOM'.
198  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
199   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
200   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
201   avertim2
202   expendit locpopdy tourdens mintime/sta=end/
203   dep=expendit/method=stepwise/res=durbin/save=pred(pred04) sresid(stres04)
        .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. EXPENDIT Total expenditure

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.9695	.9399	391.038	.000	In:	TINVPMA	.9695
2	.9790	.9584	276.671	.000	In:	TINVNONP	.1840
3	.9865	.9732	278.804	.000	In:	TOURNSTR	.3652

Variable(s) Entered on Step Number
3.. TOURNSTR TOTAL TOURISTS IN NON-STAR HOTELS ONLY

Multiple R	.98653
R Square	.97324
Adjusted R Square	.96975
Standard Error	264549839490

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	5.853767121794E+25	1.951255707E+25
Residual	23	1.609692204202E+24	6.998661757E+22

F = 278.80412 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
TOURNSTR	5534412.6757	1551430.956	.365174	3.567	.0016
TINVPMA	1466186.8641	529825.3870	.381813	2.767	.0110
TINVNONP	3542235.5257	696450.8986	.468114	5.086	.0000
(Constant)	26767400590	71680201591		.373	.7122

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. EXPENDIT Total expenditure

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.179383	-.197989	.023165	-.947	.3537
TOTALPOP	.011553	.057890	.043352	.272	.7882
AREAKM2	-.017018	-.100705	.060675	-.475	.6396
UNEDUC	-.043380	-.224354	.060836	-1.080	.2919
SDSMTP	.031376	.185351	.060665	.885	.3859
SMAGRAD	.059340	.227481	.054102	1.096	.2851
LABORSRV	.007553	.040346	.049491	.189	.8515
TOTLABOR	.007859	.040780	.045870	.191	.8499
PPI	.031435	.141753	.060579	.672	.5088
LABS1991	.027585	.113530	.060803	.536	.5974
RADIOTOT	.049849	.276728	.060742	1.351	.1905
TVALL	.015914	.083161	.060794	.391	.6993
PAPERALL	.042580	.171534	.059793	.817	.4229
GDPR9091	-.007921	-.047725	.060717	-.224	.8247
GDPSS91	.004279	.016793	.049609	.079	.9379
GDPCP91	-.013599	-.052540	.055804	-.247	.8074
TINVPMON	-.067848	-.158921	.054631	-.755	.4583
MOB91	-.006259	-.008634	.034161	-.041	.9681
ARTCULT	-.021325	-.112543	.047934	-.531	.6006
PRICEIND	-.082232	-.234207	.060162	-1.130	.2707
DIRFLWK	-.005646	-.020191	.061007	-.095	.9254
TOTFLWK	-.013601	-.058421	.059513	-.274	.7863
FLFREIND	-.055330	-.202773	.055396	-.971	.3420
AVETIME	-.040597	-.229587	.060995	-1.106	.2805
TIMEIND	-.027331	-.101515	.055752	-.479	.6369
LOSSTR	-.053665	-.297153	.054792	-1.460	.1585
LOSNSTR	3.107E-04	.001748	.054085	.008	.9935
AVERTIM2	-.070694	-.328519	.057505	-1.631	.1170
LOCPOPDY	.039054	.061230	.030529	.288	.7762
TOURDENS	-.300836	-.339038	.023674	-1.690	.1051
MINTIME	-.022690	-.129000	.059423	-.610	.5480

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. EXPENDIT Total expenditure

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	27027517440.0	5947205877760	743594135045	1500482886606	27
*RESID	-567992320000	524331384832	-.0001	248819690988	27
*ZPRED	-.4776	3.4680	.0000	1.0000	27
*ZRESID	-2.1470	1.9820	.0000	.9405	27

Total Cases = 27

Durbin-Watson Test = 1.74925

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED04	Predicted Value
STRES04	Standardized Residual

```
204  var label pred04'Predicted value of EXPENDIT'.
205  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
206   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
207   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
208   avertim2
209   incmulth locpopdy tourdens mintime/sta=end/
210   dep=incmulth/method=stepwise/res=durbin/save=pred(pred05) sresid(stres05)
        .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.8081	.6530	47.051	.000	In:	PRICEIND	.8081
2	.8650	.7482	35.655	.000	In:	LOSSTR	-.3195

Variable(s) Entered on Step Number
2.. LOSSTR Av. stay in star hotels

Multiple R	.86498
R Square	.74819
Adjusted R Square	.72721
Standard Error	.09094

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	.58969	.29484
Residual	24	.19846	.00827

F = 35.65532 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PRICEIND	.004909	7.1818E-04	.725033	6.835	.0000
LOSSTR	-.045758	.015193	-.319480	-3.012	.0060
(Constant)	.585371	.057529		10.175	.0000

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.110624	-.118941	.279008	-.574	.5712
TOURNSTR	.094509	.140984	.522721	.683	.5015
TOTALPOP	.100466	.180919	.816582	.882	.3868
AREAKM2	-.109638	-.198817	.774210	-.973	.3407
UNEDUC	.016370	.028544	.765631	.137	.8923
SDSMTP	.014790	.028145	.895059	.135	.8938
SMAGRAD	-.065991	-.105669	.640344	-.510	.6152
LABORSRV	.100966	.182387	.821692	.890	.3829
TOTLABOR	.101676	.181991	.806743	.888	.3839
PPI	.260754	.371293	.510551	1.918	.0676
LABS1991	.273999	.385687	.498933	2.005	.0569
RADIOTOT	.177198	.278956	.624057	1.393	.1769
TVALL	.202627	.295191	.534417	1.482	.1520
PAPERALL	-.034296	-.054977	.647073	-.264	.7941
GDPR9091	-.069938	-.138817	.924976	-.672	.5081
GDPSS91	.019660	.030966	.624692	.149	.8832
GDPCP91	-.073711	-.131689	.776663	-.637	.5303
TINVPMA	-.118097	-.125644	.269599	-.607	.5495
TINVPMON	.140392	.153666	.295830	.746	.4633
TINVNONP	-.055144	-.082362	.561733	-.396	.6955
MOB91	-.172354	-.237373	.476300	-1.172	.2532
ARTCULT	.057893	.104849	.825948	.506	.6179
DIRFLWK	.072008	.085075	.351493	.409	.6860
TOTFLWK	.103952	.136959	.437103	.663	.5139
FLFREIND	-.428290	-.298926	.122665	-1.502	.1466
AVETIME	-.126553	-.225734	.801159	-1.111	.2779
TIMEIND	.045734	.032898	.130141	.158	.8759
LOSNSTR	-.192347	-.331422	.736028	-1.685	.1056
AVERTIM2	-.251071	-.370604	.548655	-1.914	.0682
LOCPOPDY	-.133071	-.210213	.658785	-1.072	.2947
TOURDENS	-9.936E-04	-.001507	.552055	-.007	.9943
MINTIME	-.122007	-.208325	.700289	-1.022	.3176

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3828	.9341	.5614	.1506	27
*RESID	-.1523	.2280	.0000	.0874	27
*ZPRED	-1.1860	2.4746	.0000	1.0000	27
*ZRESID	-1.6751	2.5075	.0000	.9608	27

Total Cases = 27

Durbin-Watson Test = 2.03526

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED05	Predicted Value
STRES05	Standardized Residual

```
211  var label pred05'Predicted value of INCMULTH'.
212  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
213   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
214   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
215   avertim2
216   incmultb locpopdy tourdens mintime/sta=end/
217   dep=incmultb/method=stepwise/res=durbin/save=pred(pred06) zresid(stres06)
        .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTB Income multiplier : Bunga

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.8298	.6885	26.526	.000	In:	PRICEIND	.8298
2	.9101	.8283	26.533	.000	In:	LOSSTR	-.3778

Variable(s) Entered on Step Number
2.. LOSSTR Av. stay in star hotels

Multiple R	.91011
R Square	.82830
Adjusted R Square	.79709
Standard Error	.07684

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	.31335	.15667
Residual	11	.06495	.00590

F = 26.53322 Signif F = .0001

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PRICEIND	.005161	8.3972E-04	.775772	6.146	.0001
LOSSTR	-.050252	.016793	-.377754	-2.993	.0122
(Constant)	.607059	.065200		9.311	.0000

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. INCMULTB Income multiplier : Bunga

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	.135378	.185022	.315976	.595	.5648
TOURNSTR	.086500	.112579	.285217	.358	.7276
TOTALPOP	.081073	.187186	.900323	.603	.5602
AREAKM2	-.238749	-.458655	.621272	-1.632	.1337
UNEDUC	.082414	.189693	.901154	.611	.5549
SDSMTP	-.087365	-.210024	.973263	-.679	.5124
SMAGRAD	-.044928	-.089530	.681830	-.284	.7820
LABORSRV	.096948	.229538	.943358	.746	.4730
TOTLABOR	.086795	.199952	.893817	.645	.5332
PPI	.196999	.385831	.651309	1.323	.2154
LABS1991	.231037	.459285	.678520	1.635	.1331
RADIOTOT	.151588	.275131	.565603	.905	.3868
TVALL	.128029	.201179	.423942	.649	.5307
PAPERALL	-.072944	-.153198	.757333	-.490	.6345
GDPR9091	-.137325	-.294216	.772073	-.973	.3533
GDPSS91	.066504	.152911	.889406	.489	.6352
GDPCP91	-.084824	-.187192	.836175	-.603	.5602
TINVPMA	-.004060	-.005216	.277718	-.016	.9872
TINVPMON	.192298	.300284	.415462	.996	.3430
TINVNONP	-.051233	-.094021	.578251	-.299	.7713
MOB91	-.098354	-.129052	.295597	-.412	.6894
ARTCULT	.081067	.193405	.966513	.623	.5470
DIRFLWK	.190146	.339210	.546418	1.140	.2807
TOTFLWK	.141935	.269344	.618300	.884	.3972
FLFREIND	-.318962	-.337554	.192296	-1.134	.2832
AVETIME	-.121580	-.247613	.712173	-.808	.4378
TIMEIND	-.011028	-.010928	.168575	-.035	.9731
LOSNSTR	-.151785	-.278749	.567449	-.918	.3803
AVERTIM2	-.163050	-.336245	.730185	-1.129	.2852
LOCPOPDY	.214774	.447123	.744139	1.581	.1450
TOURDENS	.006232	.008328	.303117	.026	.9795
MINTIME	-.024199	-.048237	.682200	-.153	.8817

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. INCMULTB Income multiplier : Bunga

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3829	.9487	.5833	.1553	14
*RESID	-.0963	.1288	.0000	.0707	14
*ZPRED	-1.2908	2.3540	.0000	1.0000	14
*ZRESID	-1.2530	1.6764	.0000	.9199	14

Total Cases = 27

Durbin-Watson Test = 2.09059

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED06	Predicted Value
STRES06	Standardized Residual

```
218  var label pred06'Predicted value of INCMULTB'.
219  list var=province tourstr tournstr incmulth incmultb incmulto priceind los
       str.
```

PROVINCE	TOURSTR	TOURNSTR	INCMULTH	INCMULTB	INCMULTO	PRICEIND	LOSSTR
ACEH	37810	5508	.443	.438	.439	15.92	5.60
BALI	537264	528325	.926	.938	.935	100.00	3.47
BENGKULU	56871	99	.390	.000	.415	12.42	3.68
CENTRAL_JAVA	67884	12468	.688	.000	.682	25.52	1.76
CENTRAL_KALIMANT	46068	122	.361	.000	.365	12.18	3.61
CENTRAL_SULAWESI	27681	4562	.366	.365	.370	5.25	3.44
EAST_JAVA	97398	22534	.816	.000	.819	65.40	1.78
EAST_KALIMANTAN	37479	6619	.528	.000	.532	8.14	3.39
EAST_NUSA_TENGGA	37872	33676	.360	.337	.361	7.39	5.22
EAST_TIMOR	32722	447	.364	.000	.368	5.24	4.72
IRIAN_JAYA	17491	18157	.381	.000	.381	.00	2.26
JAKARTA	561671	44818	.841	.000	.844	91.27	2.17
JAMBI	47892	904	.424	.000	.386	9.25	1.19
LAMPUNG	96326	658	.600	.613	.625	18.26	2.75
MALUKU	31066	24687	.473	.481	.474	5.36	4.82
NORTH_SULAWESI	25123	6814	.630	.633	.632	57.91	3.99
NORTH_SUMATERA	69862	74633	.756	.765	.768	42.30	1.36
RIAU	48885	23544	.800	.000	.780	17.78	2.20
SOUTHEAST_SULAWE	23608	47	.377	.000	.379	5.36	4.28
SOUTH_KALIMANTAN	43255	966	.594	.000	.597	13.23	3.53
SOUTH_SULAWESI	52740	15765	.503	.503	.504	12.18	2.09
SOUTH_SUMATERA	62065	1082	.480	.479	.477	15.30	2.70
WEST_JAVA	94581	72938	.632	.636	.632	22.08	2.72
WEST_KALIMANTAN	52938	21640	.435	.000	.437	13.44	4.63
WEST_NUSA_TENGGA	117877	67126	.723	.729	.741	28.27	3.04
WEST_SUMATERA	47839	33846	.509	.499	.518	16.56	2.55
YOGYAKARTA	90759	53876	.758	.750	.756	30.72	1.64

Number of cases read: 27 Number of cases listed: 27

```
220  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
221   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
222   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
223   avertim2
224   incmulto     locpopdy tourdens mintime/sta=end/
225   dep=incmulto/method=stepwise/res=durbin/save=pred(pred07) zresid(stres07)
        .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTO Income multiplier : Other

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.8131	.6611	48.768	.000	In:	PRICEIND	.8131
2	.8623	.7436	34.808	.000	In:	LOSSTR	-.2975

Variable(s) Entered on Step Number
2.. LOSSTR Av. stay in star hotels

Multiple R	.86234
R Square	.74363
Adjusted R Square	.72227
Standard Error	.09233

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	.59352	.29676
Residual	24	.20462	.00853

F = 34.80770 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PRICEIND	.005012	7.2923E-04	.735724	6.874	.0000
LOSSTR	-.042882	.015427	-.297518	-2.780	.0104
(Constant)	.576019	.058414		9.861	.0000

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. INCMULTO Income multiplier : Other

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.109222	-.116384	.279008	-.562	.5796
TOURNSTR	.094716	.140029	.522721	.678	.5044
TOTALPOP	.100403	.179191	.816582	.874	.3914

AREAKM2	-.109537	-.196860	.774210	-.963	.3456
UNEDUC	.027161	.046938	.765631	.225	.8237
SDSMTP	.005604	.010568	.895059	.051	.9600
SMAGRAD	-.074431	-.118119	.640344	-.570	.5739
LABORSRV	.097798	.175087	.821692	.853	.4025
TOTLABOR	.101872	.180713	.806743	.881	.3873
PPI	.249184	.351648	.510551	1.802	.0847
LABS1991	.259236	.361647	.498933	1.860	.0757
RADIOTOT	.188128	.293517	.624057	1.473	.1544
TVALL	.203015	.293113	.534417	1.470	.1550
PAPERALL	-.037004	-.058789	.647073	-.282	.7801
GDPR9091	-.065062	-.127986	.924976	-.619	.5421
GDPSS91	.015414	.024062	.624692	.115	.9091
GDPCP91	-.079481	-.140730	.776663	-.682	.5022
TINVPMA	-.137842	-.145340	.269599	-.705	.4882
TINVPMON	.132014	.143205	.295830	.694	.4947
TINVNONP	-.068928	-.102030	.561733	-.492	.6275
MOB91	-.177624	-.242446	.476300	-1.198	.2429
ARTCULT	.054870	.098487	.825948	.475	.6395
DIRFLWK	.085971	.100665	.351493	.485	.6321
TOTFLWK	.133623	.176478	.437103	.850	.4042
FLFREIND	-.396463	-.274240	.122665	-1.368	.1846
AVETIME	-.133940	-.236776	.801159	-1.169	.2545
TIMEIND	.083376	.059439	.130141	.286	.7778
LOSNSTR	-.178017	-.303991	.736028	-1.530	.1396
AVERTIM2	-.238578	-.349018	.548655	-1.786	.0873
LOCPOPDY	-.137747	-.223861	.658785	-1.102	.2820
TOURDENS	-4.242E-04	-.000638	.552055	-.003	.9976
MINTIME	-.125389	-.212188	.700289	-1.041	.3085

End Block Number 1 PIN = .050 Limits reached.

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. INCMULTO Income multiplier : Other

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3892	.9405	.5636	.1511	27
*RESID	-.1854	.2092	.0000	.0887	27
*ZPRED	-1.1541	2.4943	.0000	1.0000	27
*ZRESID	-2.0074	2.2657	.0000	.9608	27

Total Cases = 27

Durbin-Watson Test = 2.00797

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED07	Predicted Value
STRES07	Standardized Residual

```
226  var label pred07'Predicted value of INCMULTO'.
227  list var=province tourstr tournstr incmulth incmultb incmulto priceind los
       str.
```

PROVINCE	TOURSTR	TOURNSTR	INCMULTH	INCMULTB	INCMULTO	PRICEIND	LOSSTR
ACEH	37810	5508	.443	.438	.439	15.92	5.60
BALI	537264	528325	.926	.938	.935	100.00	3.47
BENGKULU	56871	99	.390	.000	.415	12.42	3.68
CENTRAL_JAVA	67884	12468	.688	.000	.682	25.52	1.76
CENTRAL_KALIMANT	46068	122	.361	.000	.365	12.18	3.61
CENTRAL_SULAWESI	27681	4562	.366	.365	.370	5.25	3.44
EAST_JAVA	97398	22534	.816	.000	.819	65.40	1.78
EAST_KALIMANTAN	37479	6619	.528	.000	.532	8.14	3.39
EAST_NUSA_TENGGA	37872	33676	.360	.337	.361	7.39	5.22
EAST_TIMOR	32722	447	.364	.000	.368	5.24	4.72
IRIAN_JAYA	17491	18157	.381	.000	.381	.00	2.26
JAKARTA	561671	44818	.841	.000	.844	91.27	2.17
JAMBI	47892	904	.424	.000	.386	9.25	1.19
LAMPUNG	96326	658	.600	.613	.625	18.26	2.75
MALUKU	31066	24687	.473	.481	.474	5.36	4.82
NORTH_SULAWESI	25123	6814	.630	.633	.632	57.91	3.99
NORTH_SUMATERA	69862	74633	.756	.765	.768	42.30	1.36
RIAU	48885	23544	.800	.000	.780	17.78	2.20
SOUTHEAST_SULAWE	23608	47	.377	.000	.379	5.36	4.28
SOUTH_KALIMANTAN	43255	966	.594	.000	.597	13.23	3.53
SOUTH_SULAWESI	52740	15765	.503	.503	.504	12.18	2.09
SOUTH_SUMATERA	62065	1082	.480	.479	.477	15.30	2.70
WEST_JAVA	94581	72938	.632	.636	.632	22.08	2.72
WEST_KALIMANTAN	52938	21640	.435	.000	.437	13.44	4.63
WEST_NUSA_TENGGA	117877	67126	.723	.729	.741	28.27	3.04
WEST_SUMATERA	47839	33846	.509	.499	.518	16.56	2.55
YOGYAKARTA	90759	53876	.758	.750	.756	30.72	1.64

Number of cases read: 27 Number of cases listed: 27

```
228  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
229   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
230   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
231   avertim2
232   totalb    locpopdy tourdens mintime/sta=end/
233   dep=totalb/method=stepwise/res=durbin/save=pred(pred08) zresid(stres08).
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALB Total Employment Multiplier

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.3914	.1532	4.523	.043	In:	LOSSTR	-.3914

Variable(s) Entered on Step Number
1.. LOSSTR Av. stay in star hotels

Multiple R	.39141
R Square	.15321
Adjusted R Square	.11933
Standard Error	.33473

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.50679	.50679
Residual	25	2.80115	.11205

F = 4.52309 Signif F = .0435

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOSSTR	-.114851	.054003	-.391414	-2.127	.0435
(Constant)	.936125	.181039		5.171	.0000

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. TOTALN Total Employment Multiplier

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.141309	-.151456	.972780	-.751	.4602
TOURNSTR	-.042727	-.046420	.999511	-.228	.8218
TOTALPOP	.192422	.192246	.845250	.960	.3468
AREAKM2	-.117861	-.127903	.997226	-.632	.5335
UNEDUC	.076142	.079657	.926781	.391	.6989
SDSMTP	.051032	.054050	.949910	.265	.7931
SMAGRAD	-.216884	-.228523	.940117	-1.150	.2615
LABORSRV	.081192	.082227	.868505	.404	.6896
TOTLABOR	.205658	.204915	.840688	1.026	.3153
PPI	-.106641	-.111898	.932345	-.552	.5863
LABS1991	-.209901	-.215052	.888861	-1.079	.2914
RADIOTOT	-.120533	-.112748	.740935	-.556	.5834
TVALL	-.211099	-.198025	.745152	-.990	.3322
PAPERALL	-.161310	-.168126	.919858	-.836	.4117
GDPR9091	-.170437	-.185214	.999994	-.923	.3650
GDPSS91	.052768	.052059	.824204	.255	.8006
GDPCP91	-.273263	-.291696	.964889	-1.494	.1482
TINVPMA	-.191772	-.206905	.985720	-1.036	.3105
TINVPMON	-.114321	-.121140	.950826	-.598	.5555
TINVNONP	-.128723	-.133833	.915364	-.662	.5145
MOB91	-.143781	-.151084	.935003	-.749	.4613
ARTCULT	.177635	.183685	.905463	.915	.3691
PRICEIND	-.030454	-.031957	.932397	-.157	.8768
DIRFLWK	.018839	.018540	.820079	.091	.9284
TOTFLWK	.266527	.258629	.797355	1.312	.2020
FLFREIND	.107862	.111798	.909712	.551	.5866
AVETIME	-.131729	-.137520	.922876	-.680	.5029
TIMEIND	.108289	.113698	.933489	.561	.5802
LOSNSTR	-.074948	-.070949	.758844	-.348	.7305
AVERTIM2	.153346	.155336	.868914	.770	.4486
LOCPOPDY	-.159686	-.169878	.958333	-.845	.4067
TOURDENS	-.157956	-.169812	.978682	-.844	.4069
MINTIME	-.242124	-.260137	.977482	-1.320	.1993

End Block Number 1 PIN = .050 Limits reached.

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. TOTALN Total Employment Multiplier

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.2930	.7995	.5763	.1396	27
*RESID	-.4773	.8184	.0000	.3282	27
*ZPRED	-2.0295	1.5983	.0000	1.0000	27
*ZRESID	-1.4259	2.4449	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 2.46616

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED08	Predicted Value
STRES08	Standardized Residual

```
234  var label pred08'Predicted value of TOTALN'.
235  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
236   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
237   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
238   avertim2
239   totalb    locpopdy tourdens mintime/sta=end/
240   dep=totalb/method=stepwise/res=durbin/save=pred(pred09) zresid(stres09).
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALB Total Employment Multiplier

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED09	Predicted Value
STRES09	Standardized Residual

```
241  var label pred09'Predicted value of TOTALB'.
242  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
243   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
244   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
245   avertim2
246   totalo    locpopdy tourdens mintime/sta=end/
247   dep=totalo/method=stepwise/res=durbin/save=pred(pred10) zresid(stres10).
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALO Total Employment Multiplier

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.3990	.1592	4.734	.039	In:	TOTFLWK	.3990
2	.6498	.4222	8.768	.001	In:	TOURSTR	-.7331

Variable(s) Entered on Step Number
2.. TOURSTR TOTAL TOURISTS IN STAR HOTELS ONLY

Multiple R	.64976
R Square	.42218
Adjusted R Square	.37403

```
Standard Error       .28157

Analysis of Variance
                    DF        Sum of Squares      Mean Square
Regression           2               1.39026           .69513
Residual            24               1.90276           .07928

F =       8.76785       Signif F =  .0014

---------- Variables in the Equation ----------

Variable             B         SE B       Beta         T  Sig T

TOURSTR     -1.93858E-06  5.8656E-07   -.733139    -3.305  .0030
TOTFLWK         .005077     .001220    .922937     4.161  .0004
(Constant)      .215432     .111939                1.925  .0662

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1    Dependent Variable..   TOTALO   Total Employment Multiplier

---------- Variables not in the Equation ----------

Variable     Beta In  Partial  Min Toler         T  Sig T

TOURNSTR      .202207  .185748    .286401      .907  .3740
TOTALPOP     -.053235 -.058013    .337445     -.279  .7830
AREAKM2      -.048242 -.060112    .480756     -.289  .7753
UNEDUC       -.132831 -.158648    .426762     -.771  .4488
SDSMTP        .177869  .231658    .480774     1.142  .2652
SMAGRAD      -.018953 -.018840    .332664     -.090  .9288
LABORSRV     -.134821 -.152194    .365838     -.738  .4677
TOTLABOR     -.060802 -.064945    .323672     -.312  .7578
PPI          -.230046 -.213456    .422451    -1.048  .3056
LABS1991     -.406376 -.352453    .402387    -1.806  .0840
RADIOTOT     -.061288 -.067030    .433375     -.322  .7502
TVALL        -.123761 -.136087    .451707     -.659  .5166
PAPERALL     -.128244 -.136909    .428008     -.663  .5140
GDPR9091      .001172  .001486    .454901      .007  .9944
GDPSS91      -.135057 -.133539    .344578     -.646  .5245
GDPCP91      -.232215 -.249806    .393323    -1.237  .2285
TINVPMA      -.283055 -.058298    .019845     -.280  .7819
TINVPMON     -.073681 -.050571    .241305     -.243  .8103
TINVNONP     -.107849 -.099296    .374759     -.479  .6368
MOB91        -.170574 -.120248    .258594     -.581  .5670
ARTCULT      -.067174 -.074580    .351409     -.359  .7231
PRICEIND      .152577  .105305    .261630      .508  .6164
DIRFLWK      -.773332 -.335800    .108948    -1.710  .1008
FLFREIND      .284601  .260830    .390212     1.296  .2079
AVETIME       .085538  .084949    .344273      .409  .6864
TIMEIND       .264867  .237671    .387105     1.173  .2526
LOSSTR       -.115423 -.131251    .375795     -.635  .5317
LOSNSTR       .041249  .048519    .396114      .233  .8179
AVERTIM2      .040646  .044547    .431608      .214  .8325
LOCPOPDY     -.169313 -.152335    .345199     -.739  .4673
TOURDENS      .072157  .062653    .231692      .301  .7661
MINTIME      -.099602 -.112283    .408573     -.542  .5931

End Block Number   1   PIN =     .050 Limits reached.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1    Dependent Variable..   TOTALO   Total Employment Multiplier

Residuals Statistics:

             Min        Max       Mean    Std Dev   N

*PRED       .2147     1.0928      .5743      .2312  27
*RESID     -.3964      .8642      .0000      .2705  27
*ZPRED    -1.5552     2.2421      .0000     1.0000  27
*ZRESID   -1.4079     3.0693      .0000      .9608  27

Total Cases =       27

Durbin-Watson Test =   2.10512

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

From Equation   1:   2 new variables have been created.

  Name        Contents
  ----        --------

  PRED10      Predicted Value
  STRES10     Standardized Residual

 248  var label pred10'Predicted value of TOTALO'.
 249  list var=province tourstr tournstr totalh totalb totalo  priceind losstr.

PROVINCE        TOURSTR TOURNSTR TOTALH TOTALB TOTALO PRICEIND LOSSTR

ACEH              37810     5508    .861    .856    .854    15.92    5.60
BALI             537264   528325    .310    .303    .304   100.00    3.47
BENGKULU          56871       99    .352    .000    .364    12.42    3.68
CENTRAL_JAVA      67884    12468    .540    .000    .529    25.52    1.76
CENTRAL_KALIMANT  46068      122    .388    .000    .389    12.18    3.61
CENTRAL_SULAWESI  27681     4562    .485    .484    .491     5.25    3.44
EAST_JAVA         97398    22534   1.118    .000   1.130    65.40    1.78
EAST_KALIMANTAN   37479     6619    .159    .000    .156     8.14    3.39
EAST_NUSA_TENGGA  37872    33676    .907    .852    .903     7.39    5.22
EAST_TIMOR        32722      447    .200    .000    .201     5.24    4.72
IRIAN_JAYA        17491    18157    .455    .000    .454      .00    2.26
JAKARTA          561671    44818    .398    .000    .393    91.27    2.17
JAMBI             47892      904    .555    .000    .527     9.25    1.19
LAMPUNG           96326      658   1.169   1.194   1.224    18.26    2.75
MALUKU            31066    24687    .325    .331    .331     5.36    4.82
NORTH_SULAWESI    25123     6814    .033    .033    .032    57.91    3.99
NORTH_SUMATERA    69862    74633   1.598   1.508   1.543    42.30    1.36
RIAU              48885    23544    .603    .000    .555    17.78    2.20
SOUTHEAST_SULAWE  23608       47    .306    .000    .305     5.36    4.28
SOUTH_KALIMANTAN  43255      966    .053    .000    .055    13.23    3.53
SOUTH_SULAWESI    52740    15765    .731    .733    .736    12.18    2.09
SOUTH_SUMATERA    62065     1082    .607    .608    .599    15.30    2.70
WEST_JAVA         94581    72938    .580    .605    .579    22.08    2.72
WEST_KALIMANTAN   52938    21640    .457    .000    .447    13.44    4.63
WEST_NUSA_TENGGA 117877    67126    .685    .693    .690    28.27    3.04
WEST_SUMATERA     47839    33846    .826    .808    .850    16.56    2.55
YOGYAKARTA        90759    53876    .861    .884    .866    30.72    1.64

Number of cases read:  27    Number of cases listed:  27

 250  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
 251   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
 252   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind losstr lo
         snstr
 253   avertim2
 254   grmulth     locpopdy tourdens mintime/sta=end/
 255   dep=grmulth/method=stepwise/res=durbin/save=pred(pred11) zresid(stres11).

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   GRMULTH   Government Revenue Multipl

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000

End Block Number   1   PIN =     .050 Limits reached.
No variables entered/removed for this block.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   GRMULTB   Government Revenue Multipl

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000

Step   MultR     Rsq     F(Eqn)   SigF      Variable  BetaIn
   1   .8129   .6607     23.370   .000  In: PPI         .8129
   2   .9146   .8366     28.154   .000  In: LOSSTR     -.4213
   3   .9624   .9262     41.830   .000  In: MOB91       .3788
   4   .9791   .9586     52.064   .000  In: TOURDENS   -.5646
   5   .9738   .9482     61.017   .000 Out: LOSSTR
   6   .9902   .9806    113.513   .000  In: RADIOTOT    .2073

Variable(s) Entered on Step Number
   6..    RADIOTOT

Multiple R            .99023
R Square              .98056
Adjusted R Square     .97193
Standard Error  4.25167E-03

Analysis of Variance
                    DF        Sum of Squares      Mean Square
Regression           4               .00821           .00205
Residual             9               .00016           .00002

F =     113.51261       Signif F =  .0000

---------- Variables in the Equation ----------

Variable             B         SE B       Beta         T  Sig T

PPI             .004241  4.3592E-04    .612324     9.729  .0000
RADIOTOT    3.07993E-04  7.9561E-05    .207250     3.871  .0038
NOB91       7.25305E-08  7.6708E-09    .964699     9.455  .0000
TOURDENS       -.017923     .002716   -.693261    -6.598  .0001
(Constant)     -.029246     .004474               -6.537  .0001

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1    Dependent Variable..   GRMULTB   Government Revenue Multipl

---------- Variables not in the Equation ----------

Variable     Beta In  Partial  Min Toler         T  Sig T

TOURSTR      -.243037 -.262778    .022722     -.770  .4632
TOURNSTR     -.022287 -.017160    .011523     -.049  .9625
TOTALPOP     -.029548 -.139831    .140836     -.399  .7000
AREAKM2       .037752  .193869    .161122      .559  .5915
UNEDUC        .011225  .074304    .187940      .211  .8384
SDSMTP       -.028735 -.193957    .189905     -.559  .5913
SMAGRAD       .020759  .126006    .190053      .359  .7287
LABORSRV     -.037231 -.157774    .153787     -.452  .6633
TOTLABOR     -.036099 -.168546    .139725     -.484  .6416
LABS1991     -.126951 -.231005    .063141     -.672  .5208
TVALL        -.081610 -.351037    .181377    -1.063  .3188
PAPERALL     -.054107 -.315687    .153120     -.941  .3742
GDPR9091      .083669  .534291    .195640     1.788  .1116
GDPSS91      -.039844 -.189350    .135251     -.545  .6003
GDPCP91      -.021434 -.110969    .148208     -.316  .7602
TINVPMA      -.570491 -.188000    .002111     -.541  .6030
TINVPMON     -.126543 -.253875    .078231     -.742  .4791
TINVNONP     -.067760 -.396893    .172895    -1.223  .2561
ARTCULT      -.045080 -.191357    .176212     -.551  .5964
PRICEIND     -.072769 -.276954    .175193     -.815  .4385
DIRFLWK       .020843  .087763    .195573      .249  .8095
TOTFLWK      -.063110 -.340624    .195245    -1.025  .3355
FLFREIND     -.058663 -.272372    .130362     -.801  .4465
AVETIME       .036680  .204098    .187786      .590  .5717
TIMEIND      -.046171 -.248449    .173550     -.725  .4888
LOSSTR        .027983  .104910    .090406      .298  .7730
LOSNSTR       .033876  .194712    .141599      .561  .5899
AVERTIM2     -.093788 -.273378    .114200     -.804  .4447
LOCPOPDY     -.255860 -.473233    .066490    -1.519  .1671
MINTIME       .023517  .150707    .184791      .431  .6777

End Block Number   1   PIN =     .050 Limits reached.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1    Dependent Variable..   GRMULTB   Government Revenue Multipl

Residuals Statistics:

             Min        Max       Mean    Std Dev   N

*PRED       .0101      .0900      .0350      .0251  14
*RESID     -.0045      .0075      .0000      .0035  14
*ZPRED     -.9891     2.1909      .0000     1.0000  14
*ZRESID   -1.0490     1.7661      .0000      .8321  14

Total Cases =       27

Durbin-Watson Test =   1.92894

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

From Equation 1: 2 new variables have been created.

Name	Contents
PRED12	Predicted Value
STRES12	Standardized Residual

```
 263  var label pred12'Predicted value of GRMULTB'.
 264  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
 265   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
 266   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind losstr lo
         snstr
 267   avertim2
 268   grmulto     locpopdy tourdens mintime/sta=end/
 269   dep=grmulto/method=stepwise/res=durbin/save=pred(pred13) zresid(stres13).
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. GRMULTO Government Revenue Multipl

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

From Equation . 1: 2 new variables have been created.

Name	Contents
PRED13	Predicted Value
STRES13	Standardized Residual

```
 270  var label pred13'Predicted value of GRMULTO'.
 271  list var=province tourstr tournstr grmulth grmultb grmulto priceind losstr
        .
```

PROVINCE	TOURSTR	TOURNSTR	GRMULTH	GRMULTB	GRMULTO	PRICEIND	LOSSTR
ACEH	37810	5508	.0150	.0149	.0149	15.92	5.60
BALI	537264	528325	.0908	.0900	.0901	100.00	3.47
BENGKULU	56871	99	.0142	.0000	.0153	12.42	3.68
CENTRAL_JAVA	67884	12468	.0706	.0000	.0687	25.52	1.76
CENTRAL_KALIMANT	46068	122	.0152	.0000	.0152	12.18	3.61
CENTRAL_SULAWESI	27681	4562	.0175	.0175	.0177	5.25	3.44
EAST_JAVA	97398	22534	.0461	.0000	.0465	65.40	1.78
EAST_KALIMANTAN	37479	6619	.0046	.0000	.0045	8.14	3.39
EAST_NUSA_TENGGA	37872	33676	.0192	.0182	.0192	7.39	5.22
EAST_TIMOR	32722	447	.0196	.0000	.0199	5.24	4.72
IRIAN_JAYA	17491	18157	.0195	.0000	.0194	.00	2.26
JAKARTA	561671	44818	.0467	.0000	.0467	91.27	2.17
JAMBI	47892	904	.0082	.0000	.0073	9.25	1.19
LAMPUNG	96326	658	.0112	.0115	.0118	18.26	2.75
MALUKU	31066	24687	.0138	.0139	.0139	5.36	4.82
NORTH_SULAWESI	25123	6814	.0163	.0166	.0165	57.91	3.99
NORTH_SUMATERA	69862	74633	.0626	.0584	.0597	42.30	1.36
RIAU	48885	23544	.1098	.0000	.1203	17.78	2.20
SOUTHEAST_SULAWE	23608	47	.0095	.0000	.0097	5.36	4.28
SOUTH_KALIMANTAN	43255	966	.0102	.0000	.0105	13.23	3.53
SOUTH_SULAWESI	52740	15765	.0449	.0450	.0451	12.18	2.09
SOUTH_SUMATERA	62065	1082	.0288	.0288	.0283	15.30	2.70
WEST_JAVA	94581	72938	.0639	.0661	.0639	22.08	2.72
WEST_KALIMANTAN	52938	21640	1.1235	.0000	1.0960	13.44	4.63
WEST_NUSA_TENGGA	117877	67126	.0271	.0270	.0267	28.27	3.04
WEST_SUMATERA	47839	33846	.0164	.0161	.0169	16.56	2.55
YOGYAKARTA	90759	53876	.0648	.0657	.0654	30.72	1.64

Number of cases read: 27 Number of cases listed: 27

```
 272  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
 273   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
 274   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind losstr lo
         snstr
 275   avertim2
 276   outmulth     locpopdy tourdens mintime/sta=end/
 277   dep=outmulth/method=stepwise/res=durbin/save=pred(pred14) zresid(stres14)
         .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.5210	.2715	9.316	.005	In:	DIRFLWK	.5210

Variable(s) Entered on Step Number
1.. DIRFLWK Direct no. of flights per week

Multiple R	.52104
R Square	.27148
Adjusted R Square	.24234
Standard Error	.48861

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.22415	2.22415
Residual	25	5.96839	.23874

F = 9.31638 Signif F = .0053

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
DIRFLWK	.004533	.001485	.521042	3.052	.0053
(Constant)	2.104700	.129920		16.200	.0000

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.199348	-.142046	.369891	-.703	.4888
TOURNSTR	-.032359	-.034660	.835777	-.170	.8665
TOTALPOP	.114520	.118944	.785876	.587	.5628
AREAKM2	.114390	.126330	.888541	.624	.5386
UNEDUC	-.074597	-.082751	.896491	-.407	.6878
SDSMTP	.052797	.061712	.995314	.303	.7646
SMAGRAD	.091918	.089933	.697399	.442	.6622
LABORSRV	.022546	.022888	.750732	.112	.9116
TOTLABOR	.056454	.058457	.781114	.287	.7767
PPI	-.052107	-.037530	.377919	-.184	.8556
LABS1991	.112956	.072720	.301941	.357	.7241
RADIOTOT	.312737	.303453	.685904	1.560	.1318
TVALL	.253457	.251134	.715222	1.271	.2159
PAPERALL	.123100	.116015	.647065	.572	.5725
GDPR9091	-.057259	-.067085	.999979	-.329	.7447
GDPSS91	.019565	.015209	.440240	.075	.9412
GDPCP91	.041966	.042249	.738360	.207	.8376
TINVPMA	-.168238	-.134768	.467482	-.666	.5116
TINVPMON	.008858	.006712	.418228	.033	.9740
TINVNONP	-.135881	-.108630	.465605	-.535	.5973
MOB91	-.268918	-.187350	.353594	-.934	.3594
ARTCULT	-.090370	-.093656	.782445	-.461	.6491
PRICEIND	-.190916	-.142371	.405131	-.705	.4878
TOTFLWK	.160156	.071480	.145118	.351	.7286
FLFREIND	-.214409	-.186659	.552144	-.931	.3612
AVETIME	-.062157	-.057877	.631644	-.284	.7788
TIMEIND	-.157154	-.130297	.500790	-.644	.5258
LOSSTR	-.117573	-.124743	.820079	-.616	.5437
LOSNSTR	-.214319	-.237220	.892525	-1.196	.2433
AVERTIM2	.002367	.002053	.548312	.010	.9921
LOCPOPDY	-.219717	-.176817	.471801	-.880	.3875
TOURDENS	-.079185	-.088516	.910320	-.435	.6672
MINTIME	-.119315	-.124496	.793158	-.615	.5445

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	2.1364	3.3557	2.3783	.2925	27
*RESID	-.6053	1.0684	.0000	.4791	27
*ZPRED	-.8271	3.3417	.0000	1.0000	27
*ZRESID	-1.2388	2.1866	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.47331

```
 278  var label pred14'Predicted value of OUTMULTH'.
 279  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
 280   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
 281   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind losstr lo
         snstr
 282   avertim2
 283   outmultb     locpopdy tourdens mintime/sta=end/
 284   dep=outmultb/method=stepwise/res=durbin/save=pred(pred15) zresid(stres15)
         .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. OUTMULTB Output Multiplier : Bunga

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.6626	.4390	9.392	.010	In:	RADIOTOT	.6626

Variable(s) Entered on Step Number
1.. RADIOTOT

Multiple R	.66260
R Square	.43904
Adjusted R Square	.39229
Standard Error	.48210

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.18289	2.18289
Residual	12	2.78910	.23242

F = 9.39181 Signif F = .0098

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
RADIOTOT	.023999	.007831	.662599	3.065	.0098
(Constant)	1.180104	.450113		2.622	.0223

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. OUTMULTB Output Multiplier : Bunga

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.105305	-.126418	.808449	-.423	.6807
TOURNSTR	-.066759	-.083734	.882522	-.279	.7856
TOTALPOP	.158264	.196142	.861611	.663	.5207
AREAKM2	.220721	.283105	.922872	.979	.3486
UNEDUC	.055850	.071725	.925190	.239	.8159
SDSMTP	-.128668	-.171276	.993999	-.577	.5758
SMAGRAD	.082578	.099890	.820809	.333	.7454
LABORSRV	.114567	.141617	.857123	.474	.6444
TOTLABOR	.146238	.179792	.847919	.606	.5567
PPI	.051024	.062511	.841979	.208	.8392
LABS1991	.071189	.080807	.722784	.269	.7930
TVALL	-.201894	-.174652	.419793	-.588	.5682
PAPERALL	.046224	.056836	.848110	.189	.8537
GDPR9091	.173265	.230350	.991489	.785	.4490
GDPSS91	.163468	.199479	.835346	.675	.5135
GDPCP91	.197462	.245238	.865249	.839	.4193
TINVPMA	-.111423	-.138351	.864859	-.463	.6522
TINVPMON	-.030563	-.035376	.751516	-.117	.9087
TINVNONP	.001390	.001799	.940019	.006	.9953
MOB91	.042992	.052792	.845865	.175	.8640
ARTCULT	.073818	.090461	.842423	.301	.7688
PRICEIND	-.111762	-.140419	.885527	-.470	.6473

DIRFLWK	.199944	.215141	.649472	.731	.4803
TOTFLWK	-.015775	-.017689	.705341	-.059	.9543
FLFREIND	-.106434	-.140570	.978493	-.471	.6469
AVETIME	-.082509	-.094495	.735780	-.315	.7588
TIMEIND	-.107009	-.138874	.944804	-.465	.6509
LOSSTR	-.055565	-.058890	.630123	-.196	.8484
LOSNSTR	-.147587	-.192359	.952923	-.650	.5290
AVERTIM2	-.076732	-.096887	.894358	-.323	.7529
LOCPOPDY	.054763	.052569	.516909	.175	.8646
TOURDENS	-.115154	-.147780	.923862	-.496	.6299
MINTIME	-.104468	-.132390	.900898	-.443	.6664

End Block Number 1 PIN = .050 Limits reached.

*** * * * MULTIPLE REGRESSION * * * ***

Equation Number 1 Dependent Variable.. OUTMULTB Output Multiplier : Bunga

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	1.5991	3.0962	2.5018	.4098	14
*RESID	-.8313	.8960	.0000	.4632	14
*ZPRED	-2.2029	1.4505	.0000	1.0000	14
*ZRESID	-1.7243	1.8584	.0000	.9608	14

Total Cases = 27

Durbin-Watson Test = 1.66965

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED15	Predicted Value
STRES15	Standardized Residual

```
285  var label pred15'Predicted value of OUTMULTB'.
286  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
287   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
288   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind losstr lo
        snstr
289   avertim2
290   outmulto     locpopdy tourdens mintime/sta=end/
291   dep=outmulto/method=stepwise/res=durbin/save=pred(pred15) zresid(stres15)
        .
```

*** * * * MULTIPLE REGRESSION * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. OUTMULTO Output Multiplier : Other

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.5242	.2748	9.474	.005	In:	DIRFLWK	.5242

Variable(s) Entered on Step Number
1.. DIRFLWK Direct no. of flights per week

Multiple R	.52423
R Square	.27482
Adjusted R Square	.24581
Standard Error	.48368

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.21641	2.21641
Residual	25	5.84864	.23395

F = 9.47401 Signif F = .0050

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
DIRFLWK	.004525	.001470	.524229	3.078	.0050
(Constant)	2.107599	.128610		16.387	.0000

*** * * * MULTIPLE REGRESSION * * * ***

Equation Number 1 Dependent Variable.. OUTMULTO Output Multiplier : Other

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.200769	-.143387	.369891	-.710	.4847
TOURNSTR	.029293	.031448	.835777	.154	.8788
TOTALPOP	.109959	.114468	.785876	.564	.5777
AREAKM2	.107584	.119087	.888541	.588	.5623
UNEDUC	-.073033	-.081202	.896491	-.399	.6933
SDSMTP	.050679	.059373	.995314	.291	.7733
SMAGRAD	.091881	.090104	.697399	.443	.6616
LABORSRV	.016964	.017261	.750732	.085	.9333
TOTLABOR	.051589	.053542	.781114	.263	.7950
PPI	-.062931	-.045429	.377919	-.223	.8256
LABS1991	.101301	.065366	.301941	.321	.7511
RADIOTOT	.318084	.309349	.685904	1.594	.1241
TVALL	.249561	.247841	.715222	1.253	.2222
PAPERALL	.123253	.116426	.647065	.574	.5711
GDPR9091	-.053024	-.062265	.999979	-.306	.7625
GDPSS91	.011656	.009082	.440240	.044	.9649
GDPCP91	.037007	.037341	.738360	.183	.8563
TINVPMA	-.172069	-.138153	.467482	-.683	.5009
TINVPMON	.005023	.003814	.418228	.019	.9852
TINVNONP	-.135920	-.108910	.465605	-.537	.5964
MOB91	-.274839	-.191914	.353594	-.958	.3476
ARTCULT	-.092734	-.096326	.782445	-.474	.6397
PRICEIND	-.194682	-.145512	.405131	-.721	.4782
TOTFLWK	.170049	.076070	.145118	.374	.7119
FLFREIND	-.220716	-.192591	.552144	-.961	.3459
AVETIME	-.066480	-.062045	.631644	-.305	.7633
TIMEIND	-.154915	-.128735	.500790	-.636	.5308
LOSSTR	-.105697	-.112401	.820079	-.554	.5846
LOSNSTR	-.199568	-.221400	.892525	-1.112	.2771
AVERTIM2	.003072	.002672	.548312	.013	.9897
LOCPOPDY	-.220766	-.178069	.471801	-.887	.3841
TOURDENS	-.078920	-.088421	.910320	-.435	.6675
MINTIME	-.121685	-.127260	.793158	-.629	.5356

End Block Number 1 PIN = .050 Limits reached.

*** * * * MULTIPLE REGRESSION * * * ***

Equation Number 1 Dependent Variable.. OUTMULTO Output Multiplier : Other

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	2.1393	3.3564	2.3808	.2920	27
*RESID	-.6085	1.0692	.0000	.4743	27
*ZPRED	-.8271	3.3417	.0000	1.0000	27
*ZRESID	-1.2581	2.2106	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.47610

* *

From Equation 1: 2 new variables have been created.

Name	Contents
PRED16	Predicted Value
STRES16	Standardized Residual

```
292  var label pred16'Predicted value of OUTMULTO'.
293  list var=province tourstr tournstr outmulth outmultb outmulto priceind los
       str.
```

PROVINCE	TOURSTR	TOURNSTR	OUTMULTH	OUTMULTB	OUTMULTO	PRICEIND	LOSSTR
ACEH	37810	5508	3.0608	3.0534	3.0618	15.92	5.60
BALI	537264	528325	2.7485	2.7423	2.7434	100.00	3.47
BENGKULU	56871	99	1.7828	.0000	1.8397	12.42	3.68
CENTRAL_JAVA	67884	12468	2.5697	.0000	2.5500	25.52	1.76
CENTRAL_KALIMANT	46068	122	1.8470	.0000	1.8557	12.18	3.61
CENTRAL_SULAWESI	27681	4562	1.7502	1.7484	1.7579	5.25	3.44
EAST_JAVA	97398	22534	2.3583	.0000	2.3676	65.40	1.78
EAST_KALIMANTAN	37479	6619	2.4445	.0000	2.4448	8.14	3.39
EAST_NUSA_TENGGA	37872	33676	1.6490	1.6099	1.6484	7.39	5.22
EAST_TIMOR	32722	447	1.9196	.0000	1.9344	5.24	4.72
IRIAN_JAYA	17491	18157	1.9828	.0000	1.9812	.00	2.26
JAKARTA	561671	44818	3.0290	.0000	3.0314	91.27	2.17
JAMBI	47892	904	1.7966	.0000	1.7262	9.25	1.19
LAMPUNG	96326	658	2.0589	2.0813	2.1044	18.26	2.75
MALUKU	31066	24687	2.0269	2.0460	2.0361	5.36	4.82
NORTH_SULAWESI	25123	6814	1.7861	1.7898	1.7881	57.91	3.99
NORTH_SUMATERA	69862	74633	2.7712	2.7281	2.7528	42.30	1.36
RIAU	48885	23544	2.9477	.0000	2.9517	17.78	2.20
SOUTHEAST_SULAWE	23608	47	1.7599	.0000	1.7677	5.36	4.28
SOUTH_KALIMANTAN	43255	966	1.8376	.0000	1.8472	13.23	3.53
SOUTH_SULAWESI	52740	15765	3.5765	3.5779	3.5795	12.18	2.09
SOUTH_SUMATERA	62065	1082	2.7617	2.7608	2.7438	15.30	2.70
WEST_JAVA	94581	72938	3.0827	3.1213	3.0809	22.08	2.72
WEST_KALIMANTAN	52938	21640	2.9118	.0000	2.8803	13.44	4.63
WEST_NUSA_TENGGA	117877	67126	2.5312	2.5465	2.5544	28.27	3.04
WEST_SUMATERA	47839	33846	2.0505	2.0310	2.0762	16.56	2.55
YOGYAKARTA	90759	53876	3.1736	3.1885	3.1749	30.72	1.64

Number of cases read: 27 Number of cases listed: 27

```
294  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
295   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
296   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind losstr lo
        snstr
297   avertim2
298   impmulth     locpopdy tourdens mintime/sta=end/
299   dep=impmulth/method=stepwise/res=durbin/save=pred(pred17) zresid(stres17)
        .
```

*** * * * MULTIPLE REGRESSION * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.6969	.4856	23.603	.000	In:	DIRFLWK	-.6969
2	.7939	.6303	20.458	.000	In:	LOCPOPDY	.5537
3	.8442	.7126	19.012	.000	In:	PAPERALL	-.4641
4	.8780	.7708	18.497	.000	In:	TINVNONP	-.6797

Variable(s) Entered on Step Number
4.. TINVNONP

Multiple R	.87795
R Square	.77080
Adjusted R Square	.72913
Standard Error	.08077

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	4	.48266	.12067
Residual	22	.14352	.00652

F = 18.49678 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PAPERALL	-.006377	.002374	-.444014	-2.686	.0135
TINVNONP	-5.24785E-07	2.2209E-07	-.679695	-2.363	.0274
DIRFLWK	-.002403	3.6639E-04	-.999317	-6.560	.0000
LOCPOPDY	8.81312E-05	1.8455E-05	1.462765	4.776	.0001
(Constant)	.870708	.050979		17.080	.0000

*** * * * MULTIPLE REGRESSION * * * ***

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.032736	-.038893	.106140	-.178	.8601
TOURNSTR	-.025880	-.045252	.106336	-.208	.8376
TOTALPOP	.102697	.171312	.096308	.797	.4345
AREAKM2	.092847	.180414	.110803	.841	.4101
UNEDUC	.017310	.020322	.104769	.093	.9267
SDSMTP	-.010314	-.016815	.100638	-.077	.9393
SMAGRAD	-.020247	-.015262	.108473	-.070	.9449
LABORSRV	.065663	.108523	.101047	.500	.6221
TOTLABOR	.097504	.156973	.094311	.728	.4744
PPI	-.106159	-.127999	.110143	-.591	.5605
LABS1991	-.006895	-.007205	.109790	-.033	.9740
RADIOTOT	.048741	.072812	.107052	.335	.7413
TVALL	.051061	.061334	.090368	.282	.7810
GDPR9091	-.105974	-.214070	.111037	-1.004	.3267
GDPSS91	.165362	.207100	.103283	.970	.3430
GDPCP91	.152696	.175308	.109544	.816	.4237
TINVPMA	-.062121	-.084315	.110264	-.388	.7021

TINVPMON	.021648	.028050	.102422	.129	.8989
MOB91	.251331	.120755	.052909	.557	.5831
ARTCULT	.077037	.111030	.078939	.512	.6140
PRICEIND	.025369	.030000	.093559	.138	.8919
TOTFLWK	.076445	.056832	.089855	.261	.7967
FLFREIND	.066685	.088038	.089415	.405	.6896
AVETIME	-.088124	-.139469	.110676	-.645	.5256
TIMEIND	.008433	.011169	.095826	.051	.9597
LOSSTR	-.069401	-.123975	.099662	-.573	.5730
LOSNSTR	-.002548	-.004672	.099376	-.021	.9831
AVERTIM2	.104592	.153471	.106244	.712	.4845
TOURDENS	-.049189	-.093814	.110848	-.432	.6703
MINTIME	-.136384	-.244332	.105125	-1.155	.2612

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.2619	.7980	.6040	.1362	27
*RESID	-.2002	.1211	.0000	.0743	27
*ZPRED	-2.5106	1.4242	.0000	1.0000	27
*ZRESID	-2.4783	1.4988	.0000	.9199	27

Total Cases = 27

Durbin-Watson Test = 1.88961

**** MULTIPLE REGRESSION ****

From Equation 1: 2 new variables have been created.

Name	Contents
PRED17	Predicted Value
STRES17	Standardized Residual

```
300  var label pred17'Predicted value of IMPMULTH'.
301  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
302   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
303   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
304   avertim2
305   impmultb     locpopdy tourdens mintime/sta=end/
306   dep=impmultb/method=stepwise/res=durbin/save=pred(pred18) zresid(stres18)
        .
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTB Import Multiplier : Bunga

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.7118	.5067	12.325	.004	In:	DIRFLWK	-.7118

Variable(s) Entered on Step Number
1.. DIRFLWK Direct no. of flights per week

Multiple R	.71182
R Square	.50668
Adjusted R Square	.46557
Standard Error	.11241

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.15574	.15574
Residual	12	.15163	.01264

F = 12.32505 Signif F = .0043

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
DIRFLWK	-.002326	6.6243E-04	-.711816	-3.511	.0043
(Constant)	.717345	.050771		14.129	.0000

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. IMPMULTB Import Multiplier : Bunga

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	-.033634	-.033283	.483073	-.110	.9140
TOURNSTR	-.073964	-.077254	.538184	-.257	.8019
TOTALPOP	.083647	.116452	.956152	.389	.7048
AREAKM2	.100672	.122918	.735426	.411	.6891
UNEDUC	.249355	.341849	.927174	1.206	.2529
SDSMTP	-.287514	-.333802	.664947	-1.174	.2650
SMAGRAD	-.205447	-.284121	.943480	-.983	.3468
LABORSRV	.071752	.097751	.915588	.326	.7507
TOTLABOR	.092911	.128435	.942669	.430	.6758
PPI	.105681	.107391	.509411	.358	.7269
LABS1991	.145336	.135120	.426406	.452	.6598
RADIOTOT	.011187	.012836	.649472	.043	.9668
TVALL	-.273122	-.358218	.848614	-1.273	.2294
PAPERALL	-.275805	-.390862	.990766	-1.408	.1867
GDPR9091	-.126475	-.177101	.967291	-.597	.5627
GDPSS91	.057165	.079010	.942397	.263	.7975
GDPCP91	-.136072	-.192811	.990495	-.652	.5280
TINVPMA	-.084796	-.093100	.594666	-.310	.7623
TINVPMON	-.042779	-.042107	.477939	-.140	.8914
TINVNONP	-.192363	-.258147	.888419	-.886	.3945
MOB91	.007229	.007913	.591230	.026	.9795
ARTCULT	.036349	.048162	.866080	.160	.8758
PRICEIND	-.164506	-.199951	.728801	-.677	.5125
TOTFLWK	-.131915	-.099506	.280700	-.332	.7464
FLFREIND	-.164654	-.226949	.937215	-.773	.4559
AVETIME	-.457180	-.388428	.356102	-1.398	.1897
TIMEIND	-.123976	-.163702	.860119	-.550	.5931
LOSSTR	.101454	.125333	.752871	.419	.6833
LOSNSTR	.225716	.318629	.983045	1.115	.2887
AVERTIM2	.050180	.060841	.725205	.202	.8435
LOCPOPDY	.129964	.142518	.593225	.478	.6423
TOURDENS	-.073577	-.084112	.644692	-.280	.7847
MINTIME	-.194366	-.240516	.755399	-.822	.4286

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. IMPMULTB Import Multiplier : Bunga

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3476	.7011	.5737	.1095	14
*RESID	-.2636	.1382	.0000	.1080	14
*ZPRED	-2.0655	1.1640	.0000	1.0000	14
*ZRESID	-2.3449	1.2294	.0000	.9608	14

Total Cases = 27

Durbin-Watson Test = 2.15333

**** ****

From Equation 1: 2 new variables have been created.

Name	Contents
PRED18	Predicted Value
STRES18	Standardized Residual

```
307  var label pred18'Predicted value of IMPMULTB'.
308  regression vars=tourstr tournstr totalpop areakm2 uneduc to ppi labs1991
309   radiotot tvall paperall gdpr9091 gdpss91 gdpcp91 tinvpma to tinvnonp
310   mob91 artcult priceind dirflwk totflwk flfreind avetime timeind lossstr lo
        snstr
311   avertim2
312   impmulto     locpopdy tourdens mintime/sta=end/
313   dep=impmulto/method=stepwise/res=durbin/save=pred(pred19) zresid(stres19)
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTO Import Multiplier : Other

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.6979	.4870	23.734	.000	In:	TOTFLWK	-.6979
2	.7644	.5844	16.872	.000	In:	AVERTIM2	.3518
3	.8203	.6728	15.765	.000	In:	LOCPOPDY	.3803

Variable(s) Entered on Step Number
3.. LOCPOPDY

Multiple R	.82025
R Square	.67281
Adjusted R Square	.63014
Standard Error	.09491

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	.42600	.14200
Residual	23	.20716	.00901

F = 15.76548 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
TOTFLWK	-.001716	3.6627E-04	-.711326	-4.684	.0001
AVERTIM2	.050848	.015857	.448902	3.207	.0039
LOCPOPDY	2.30385E-05	9.2394E-06	.380270	2.494	.0203
(Constant)	.535855	.092865		5.770	.0000

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. IMPMULTO Import Multiplier : Other

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
TOURSTR	.016949	.016908	.325581	.079	.9375
TOURNSTR	.022395	.032091	.513325	.151	.8817
TOTALPOP	.119275	.163746	.522571	.779	.4445
AREAKM2	-.008494	-.013252	.604708	-.062	.9510
UNEDUC	.159494	.226032	.502219	1.088	.2882
SDSMTP	-.093830	-.155495	.600526	-.738	.4681
SMAGRAD	-.276087	-.287417	.312093	-1.407	.1733
LABORSRV	.123948	.162867	.517565	.774	.4470
TOTLABOR	.109055	.146896	.502005	.697	.4934
PPI	.005723	.004449	.197744	.021	.9835
LABS1991	6.040E-04	.000434	.168838	.002	.9984
RADIOTOT	-.050823	-.071231	.523005	-.335	.7408
TVALL	-.156315	-.219863	.559162	-1.057	.3019
PAPERALL	-.296052	-.307249	.335401	-1.514	.1442
GDPR9091	-.117625	-.195956	.576137	-.937	.3588
GDPSS91	.059354	.065702	.400926	.309	.7603
GDPCP91	-.201920	-.225987	.305106	-1.088	.2883
TINVPMA	-.065410	-.074664	.426312	-.351	.7288
TINVPMON	.034803	.035193	.334557	.165	.8703
TINVNONP	-.588908	-.362872	.124224	-1.827	.0814
MOB91	-.403395	-.181077	.065927	-.864	.3971
ARTCULT	-.017497	-.023806	.495336	-.112	.9121
PRICEIND	-.167097	-.178936	.375192	-.853	.4028
DIRFLWK	-.289157	-.103865	.042215	-.490	.6291
FLFREIND	-.136647	-.171109	.513031	-.815	.4240
AVETIME	-.186068	-.239649	.398890	-1.158	.2594
TIMEIND	-.110562	-.126763	.430098	-.599	.5550
LOSSTR	-.022806	-.034572	.534777	-.162	.8726
LOSNSTR	.062494	.099080	.544627	.467	.6451
TOURDENS	-.003171	-.005118	.574149	-.024	.9811
MINTIME	-.109764	-.162024	.487612	-.770	.4494

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. IMPMULTO Import Multiplier : Other

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3272	.7796	.6032	.1280	27
*RESID	-.2463	.1372	.0000	.0893	27
*ZPRED	-2.1565	1.3778	.0000	1.0000	27
*ZRESID	-2.5952	1.4456	.0000	.9405	27

Total Cases = 27

Durbin-Watson Test = 2.13545

**** ****

From Equation 1: 2 new variables have been created.

Name	Contents
PRED19	Predicted Value
STRES19	Standardized Residual

From Equation 1: 2 new variables have been created.

Name	Contents
PRED20	Predicted Value
STRES20	Standardized Residual

```
314  var label pred18'Predicted value of IMPMULTO'.
315  list var=province tourstr tournstr impmulth impmultb impmulto priceind los
         str.
316
```

PROVINCE	TOURSTR	TOURNSTR	IMPMULTH	IMPMULTB	IMPMULTO	PRICEIND	LOSSTR
ACEH	37810	5508	.8033	.8051	.8049	15.92	5.60
BALI	537264	528325	.3142	.3150	.3149	100.00	3.47
BENGKULU	56871	99	.7857	.0000	.7739	12.42	3.68
CENTRAL_JAVA	67884	12468	.5170	.0000	.5210	25.52	1.76
CENTRAL_KALIMANT	46068	122	.7524	.0000	.7510	12.18	3.61
CENTRAL_SULAWESI	27681	4562	.7064	.7075	.7018	5.25	3.44
EAST_JAVA	97398	22534	.2780	.0000	.2744	65.40	1.78
EAST_KALIMANTAN	37479	6619	.6092	.0000	.6040	8.14	3.39
EAST_NUSA_TENGGA	37872	33676	.7626	.7788	.7628	7.39	5.22
EAST_TIMOR	32722	447	.7676	.0000	.7678	5.24	4.72
IRIAN_JAYA	17491	18157	.7693	.0000	.7693	.00	2.26
JAKARTA	561671	44818	.4588	.0000	.4585	91.27	2.17
JAMBI	47892	904	.8070	.0000	.8217	9.25	1.19
LAMPUNG	96326	658	.6062	.5960	.5864	18.26	2.75
MALUKU	31066	24687	.5990	.5915	.5965	5.36	4.82
NORTH_SULAWESI	25123	6814	.5598	.5589	.5601	57.91	3.99
NORTH_SUMATERA	69862	74633	.6667	.6686	.6639	42.30	1.36
RIAU	48885	23544	.5444	.0000	.5630	17.78	2.20
SOUTHEAST_SULAWE	23608	47	.6800	.0000	.6860	5.36	4.28
SOUTH_KALIMANTAN	43255	966	.5579	.0000	.5497	13.23	3.53
SOUTH_SULAWESI	52740	15765	.5398	.5393	.5387	12.18	2.09
SOUTH_SUMATERA	62065	1082	.6566	.6566	.6607	15.30	2.70
WEST_JAVA	94581	72938	.5238	.5158	.5241	22.08	2.72
WEST_KALIMANTAN	52938	21640	.7427	.0000	.7410	13.44	4.63
WEST_NUSA_TENGGA	117877	67126	.5305	.5315	.5286	28.27	3.04
WEST_SUMATERA	47839	33846	.2624	.2584	.2567	16.56	2.55
YOGYAKARTA	90759	53876	.5064	.5082	.5062	30.72	1.64

Number of cases read: 27 Number of cases listed: 27

```
317  set width=132.
318  0  corr avetime timeind avertim2 t2 with priceind/print=sig.
```

- - Correlation Coefficients - -

	PRICEIND
AVETIME	-.4091
	(27)
	P= .034
TIMEIND	.9324
	(27)
	P= .000
AVERTIM2	-.6406
	(27)
	P= .000
T2	.9541
	(27)
	P= .000

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

```
319  0  regression vars=t2 timeind priceind/dep=priceind/
320  0   method=stepwise/res=durbin/save=pred(pred20) zresid(stres20).
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. PRICEIND Price Factor Index

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Variable(s) Entered on Step Number 1.. T2

Multiple R	.95414	Analysis of Variance		
R Square	.91039		DF	Sum of Squares
Mean Square				
Adjusted R Square	.90680	Regression	1	15654.01917
15654.01917				
Standard Error	7.85092	Residual	25	1540.92443
61.63698				
		F = 253.97123	Signif F = .0000	

---------- Variables in the Equation ----------
---------- Variables not in the Equation ----------

Variable	B	SE B	Beta	T	Sig T	Variable
Beta In	Partial	Min Toler	T	Sig T		
T2	.009027	5.6645E-04	.954141	15.936	.0000	TIMEIND
.111907	.090243	.058277	.444	.6611		
(Constant)	8.232756	1.817219		4.530	.0001	

End Block Number 1 PIN = .050 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *

Equation Number 1 Dependent Variable.. PRICEIND Price Factor Index

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	8.2328	98.5053	24.3233	24.5373	27
*RESID	-12.5630	23.3771	.0000	7.6985	27
*ZPRED	-.6558	3.0232	.0000	1.0000	27
*ZRESID	-1.6002	2.9776	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.12196

* *

	INCMULTH	TOTALH	GRMULTH	OUTMULTH	IMPMULTH
INCMULTH	1.0000	.2498	-.0473	.5270	-.7456
	(27)	(27)	(27)	(27)	(27)
	P= .	P= .209	P= .815	P= .005	P= .000
TOTALH	.2498	1.0000	-.0336	.3077	-.1258
	(27)	(27)	(27)	(27)	(27)
	P= .209	P= .	P= .868	P= .118	P= .532
GRMULTH	-.0473	-.0336	1.0000	.2724	.1157
	(27)	(27)	(27)	(27)	(27)
	P= .815	P= .868	P= .	P= .169	P= .565
OUTMULTH	.5270	.3077	.2724	1.0000	-.3185
	(27)	(27)	(27)	(27)	(27)
	P= .005	P= .118	P= .169	P= .	P= .105
IMPMULTH	-.7456	-.1258	.1157	-.3185	1.0000
	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .532	P= .565	P= .105	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

117 corr incmultb totalb grmultb outmultb impmultb/print=sig.

- - Correlation Coefficients - -

	INCMULTB	TOTALB	GRMULTB	OUTMULTB	IMPMULTB
INCMULTB	1.0000	.0424	.7502	.3712	-.5548
	(14)	(14)	(14)	(14)	(14)
	P= .	P= .886	P= .002	P= .191	P= .039
TOTALB	.0424	1.0000	.0427	.2226	.2464
	(14)	(14)	(14)	(14)	(14)
	P= .886	P= .	P= .885	P= .444	P= .396
GRMULTB	.7502	.0427	1.0000	.6189	-.4228
	(14)	(14)	(14)	(14)	(14)
	P= .002	P= .885	P= .	P= .018	P= .132
OUTMULTB	.3712	.2226	.6189	1.0000	-.1243
	(14)	(14)	(14)	(14)	(14)
	P= .191	P= .444	P= .018	P= .	P= .672
IMPMULTB	-.5548	.2464	-.4228	-.1243	1.0000
	(14)	(14)	(14)	(14)	(14)
	P= .039	P= .396	P= .132	P= .672	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

118 corr incmulto totalo grmulto outmulto impmulto/print=sig.

- - Correlation Coefficients -

	INCMULTO	TOTALO	GRMULTO	OUTMULTO	IMPMULT
INCMULTO	1.0000	.2494	-.0450	.5221	-.7467
	(27)	(27)	(27)	(27)	(27)
	P= .	P= .210	P= .824	P= .005	P= .000
TOTALO	.2494	1.0000	-.0423	.2965	-.1453
	(27)	(27)	(27)	(27)	(27)
	P= .210	P= .	P= .834	P= .133	P= .470
GRMULTO	-.0450	-.0423	1.0000	.2647	.1141
	(27)	(27)	(27)	(27)	(27)
	P= .824	P= .834	P= .	P= .182	P= .571
OUTMULTO	.5221	.2965	.2647	1.0000	-.3184
	(27)	(27)	(27)	(27)	(27)
	P= .005	P= .133	P= .182	P= .	P= .106
IMPMULTO	-.7467	-.1453	.1141	-.3184	1.0000
	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .470	P= .571	P= .106	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

119 corr incmulth incmultb incmulto/print=sig.

- - Correlation Coefficients - -

	INCMULTH	INCMULTB	INCMULTO
INCMULTH	1.0000	.9989	.9976
	(27)	(14)	(27)
	P= .	P= .000	P= .000
INCMULTB	.9989	1.0000	.9987
	(14)	(14)	(14)
	P= .000	P= .	P= .000
INCMULTO	.9976	.9987	1.0000
	(27)	(14)	(27)
	P= .000	P= .000	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

120 corr directh indirech inducedh totalh spenfteh/print=sig.

- - Correlation Coefficients - -

	DIRECTH	INDIRECH	INDUCEDH	TOTALH	SPENFTEH
DIRECTH	1.0000	.4294	.6838	.7884	-.5024
	(27)	(27)	(27)	(27)	(27)
	P= .	P= .025	P= .000	P= .000	P= .008
INDIRECH	.4294	1.0000	.3582	.7787	-.3784
	(27)	(27)	(27)	(27)	(27)
	P= .025	P= .	P= .067	P= .000	P= .052
INDUCEDH	.6838	.3582	1.0000	.8465	-.4837
	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .067	P= .	P= .000	P= .011
TOTALH	.7884	.7787	.8465	1.0000	-.5497
	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .000	P= .000	P= .	P= .003
SPENFTEH	-.5024	-.3784	-.4837	-.5497	1.0000
	(27)	(27)	(27)	(27)	(27)
	P= .008	P= .052	P= .011	P= .003	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

121 corr directb indirecb inducedb totalb spenfteb/print=sig.

- - Correlation Coefficients - -

	DIRECTB	INDIRECB	INDUCEDB	TOTALB	SPENFTEB
DIRECTB	1.0000	.5019	.4816	.7276	-.5471
	(14)	(14)	(14)	(14)	(14)
	P= .	P= .067	P= .081	P= .003	P= .043
INDIRECB	.5019	1.0000	.3679	.8202	-.3774
	(14)	(14)	(14)	(14)	(14)
	P= .067	P= .	P= .196	P= .000	P= .183
INDUCEDB	.4816	.3679	1.0000	.8076	-.5373
	(14)	(14)	(14)	(14)	(14)
	P= .081	P= .196	P= .	P= .000	P= .048
TOTALB	.7276	.8202	.8076	1.0000	-.5914
	(14)	(14)	(14)	(14)	(14)
	P= .003	P= .000	P= .000	P= .	P= .026
SPENFTEB	-.5471	-.3774	-.5373	-.5914	1.0000
	(14)	(14)	(14)	(14)	(14)
	P= .043	P= .183	P= .048	P= .026	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

122 corr directo indireco inducedo totalo spenfteo/print=sig.

- - Correlation Coefficients - -

	DIRECTO	INDIRECO	INDUCEDO	TOTALO	SPENFTEO
DIRECTO	1.0000	.4206	.6919	.7906	-.4925
	(27)	(27)	(27)	(27)	(27)
	P= .	P= .029	P= .000	P= .000	P= .009
INDIRECO	.4206	1.0000	.3780	.7695	-.3892
	(27)	(27)	(27)	(27)	(27)
	P= .029	P= .	P= .052	P= .000	P= .045
INDUCEDO	.6919	.3780	1.0000	.8638	-.4782
	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .052	P= .	P= .000	P= .012
TOTALO	.7906	.7695	.8638	1.0000	-.5485
	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .000	P= .000	P= .	P= .003
SPENFTEO	-.4925	-.3892	-.4782	-.5485	1.0000
	(27)	(27)	(27)	(27)	(27)
	P= .009	P= .045	P= .012	P= .003	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

123 corr grmulth grmultb grmulto outmulth outmultb outmulto impmulth impmultb
124 impmulto/print=sig.

- - Correlation Coefficients - -

	GRMULTH	GRMULTB	GRMULTO	OUTMULTH	OUTMULTB	OUTMULTO
GRMULTH	1.0000	.9985	.9999	.2724	.6079	.2615
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .	P= .000	P= .000	P= .169	P= .021	P= .188
GRMULTB	.9985	1.0000	.9995	.6221	.6189	.6148
	(14)	(14)	(14)	(14)	(14)	(14)
	P= .000	P= .	P= .000	P= .018	P= .018	P= .019
GRMULTO	.9999	.9995	1.0000	.2755	.6106	.2647
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .000	P= .000	P= .	P= .164	P= .020	P= .182
OUTMULTH	.2724	.6221	.2755	1.0000	.9994	.9992
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .169	P= .018	P= .164	P= .	P= .000	P= .000
OUTMULTB	.6079	.6189	.6106	.9994	1.0000	.9995
	(14)	(14)	(14)	(14)	(14)	(14)
	P= .021	P= .018	P= .020	P= .000	P= .	P= .000
OUTMULTO	.2615	.6148	.2647	.9992	.9995	1.0000
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .188	P= .019	P= .182	P= .000	P= .000	P= .
IMPMULTH	.1157	-.4305	.1131	-.3185	-.1200	-.3286
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .565	P= .124	P= .574	P= .105	P= .683	P= .094
IMPMULTB	-.4105	-.4228	-.4225	-.1176	-.1243	-.1260
	(14)	(14)	(14)	(14)	(14)	(14)
	P= .145	P= .132	P= .132	P= .689	P= .672	P= .668
IMPMULTO	.1164	-.4166	.1141	-.3072	-.1069	-.3184
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .563	P= .138	P= .571	P= .119	P= .716	P= .106

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	IMPMULTH	IMPMULTB	IMPMULTO
GRMULTH	.1157	-.4105	.1164
	(27)	(14)	(27)
	P= .565	P= .145	P= .563
GRMULTB	-.4305	-.4228	-.4166
	(14)	(14)	(14)
	P= .124	P= .132	P= .138
GRMULTO	.1131	-.4225	.1141
	(27)	(14)	(27)
	P= .574	P= .132	P= .571
OUTMULTH	-.3185	-.1176	-.3072
	(27)	(14)	(27)
	P= .105	P= .689	P= .119
OUTMULTB	-.1200	-.1243	-.1069
	(14)	(14)	(14)
	P= .683	P= .672	P= .716
OUTMULTO	-.3286	-.1260	-.3184
	(27)	(14)	(27)
	P= .094	P= .668	P= .106
IMPMULTH	1.0000	.9993	.9990
	(27)	(14)	(27)
	P= .	P= .000	P= .000
IMPMULTB	.9993	1.0000	.9993
	(14)	(14)	(14)
	P= .000	P= .	P= .000
IMPMULTO	.9990	.9993	1.0000

```
          (   27)     (   14)     (   27)
          P= .000     P= .000     P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed


 125  corr uneduc sdsmtp smagrad/print=sig.

                    - -  Correlation Coefficients  - -

              UNEDUC      SDSMTP      SMAGRAD

UNEDUC         1.0000      -.8963      -.8136
              (   27)     (   27)     (   27)
              P= .        P= .000     P= .000

SDSMTP         -.8963      1.0000       .4715
              (   27)     (   27)     (   27)
              P= .000     P= .        P= .013

SMAGRAD        -.8136       .4715      1.0000
              (   27)     (   27)     (   27)
              P= .000     P= .013     P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed


 126  corr laborsrv totlabor ppi/print=sig.

                    - -  Correlation Coefficients  - -

              LABORSRV    TOTLABOR    PPI

LABORSRV       1.0000       .9849       .6197
              (   27)     (   27)     (   27)
              P= .        P= .000     P= .001

TOTLABOR        .9849      1.0000       .5416
              (   27)     (   27)     (   27)
              P= .000     P= .        P= .004

PPI             .6197       .5416      1.0000
              (   27)     (   27)     (   27)
              P= .001     P= .004     P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed


 127  corr tinvpma tinvpmon tinvnonp/print=sig.

                    - -  Correlation Coefficients  - -

              TINVPMA     TINVPMON    TINVNONP

TINVPMA        1.0000       .8453       .6729
              (   27)     (   27)     (   27)
              P= .        P= .000     P= .000

TINVPMON        .8453      1.0000       .5422
              (   27)     (   27)     (   27)
              P= .000     P= .        P= .003

TINVNONP        .6729       .5422      1.0000
              (   27)     (   27)     (   27)
              P= .000     P= .003     P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed


 128  corr priceind dirflwk totflwk avetime mintime/print=sig.

                    - -  Correlation Coefficients  - -

              PRICEIND    DIRFLWK     TOTFLWK     AVETIME     MINTIME

PRICEIND       1.0000       .7713       .6966      -.4091      -.5153
              (   27)     (   27)     (   27)     (   27)     (   27)
              P= .        P= .000     P= .000     P= .034     P= .006

DIRFLWK         .7713      1.0000       .9246      -.6069      -.4548
              (   27)     (   27)     (   27)     (   27)     (   27)
              P= .000     P= .        P= .000     P= .001     P= .017

TOTFLWK         .6966       .9246      1.0000      -.6543      -.5146
              (   27)     (   27)     (   27)     (   27)     (   27)
              P= .000     P= .000     P= .        P= .000     P= .006

AVETIME        -.4091      -.6069      -.6543      1.0000       .8396
              (   27)     (   27)     (   27)     (   27)     (   27)
              P= .034     P= .001     P= .000     P= .        P= .000

MINTIME        -.5153      -.4548      -.5146       .8396      1.0000
              (   27)     (   27)     (   27)     (   27)     (   27)
              P= .006     P= .017     P= .006     P= .000     P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed
```

APPENDIX 3

PEARSON CORRELATION TABLES FOR:

LEVEL OF DEVELOPMENT

LEVEL OF ACCESSIBILITY

LEVEL OF DENSITY

And

VARIOUS TOURISM MULTIPLIER VALUES

CHARACTERISTICS OF TOURISM DEVELOPMENT

```
 328  0  corr avrooms starpct expendit growroom growhote
 329  0   incmulth totalh grmulth outmulth impmulth/print=sig.

PEARSON CORR problem requires 2,320 bytes of workspace.
```

- - Correlation Coefficients - -

	AVROOMS	STARPCT	EXPENDIT	GROWROOM	GROWHOTE	INCMULTH	TOTALH	GRMULTH	OUTMULTH	IMPMULTH
AVROOMS	1.0000	.6685	.8552	.1853	-.1714	.5554	-.0650	.0282	.3253	-.4143
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .	P= .000	P= .000	P= .355	P= .393	P= .003	P= .747	P= .889	P= .098	P= .032
STARPCT	.6685	1.0000	.6962	.1459	-.0852	.5398	.0470	-.1035	.3609	-.4749
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .	P= .000	P= .468	P= .672	P= .004	P= .816	P= .608	P= .064	P= .012
EXPENDIT	.8552	.6962	1.0000	.2017	-.0716	.6992	-.0160	-.0133	.4163	-.5071
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .000	P= .000	P= .	P= .313	P= .723	P= .000	P= .937	P= .947	P= .031	P= .007
GROWROOM	.1853	.1459	.2017	1.0000	.8528	.0408	-.2856	.1600	.0173	-.0003
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .355	P= .468	P= .313	P= .	P= .000	P= .840	P= .149	P= .425	P= .932	P= .999
GROWHOTE	-.1714	-.0852	-.0716	.8528	1.0000	-.1247	-.2328	.1301	-.0799	.1684
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .393	P= .672	P= .723	P= .000	P= .	P= .535	P= .243	P= .518	P= .692	P= .401
INCMULTH	.5554	.5398	.6992	.0408	-.1247	1.0000	.2498	-.0473	.5270	-.7456
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .003	P= .004	P= .000	P= .840	P= .535	P= .	P= .209	P= .815	P= .005	P= .000
TOTALH	-.0650	.0470	-.0160	-.2856	-.2328	.2498	1.0000	-.0336	.3077	-.1258
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .747	P= .816	P= .937	P= .149	P= .243	P= .209	P= .	P= .868	P= .118	P= .532
GRMULTH	.0282	-.1035	-.0133	.1600	.1301	-.0473	-.0336	1.0000	.2724	.1157
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .889	P= .608	P= .947	P= .425	P= .518	P= .815	P= .868	P= .	P= .169	P= .565
OUTMULTH	.3253	.3609	.4163	.0173	-.0799	.5270	.3077	.2724	1.0000	-.3185
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .098	P= .064	P= .031	P= .932	P= .692	P= .005	P= .118	P= .169	P= .	P= .105
IMPMULTH	-.4143	-.4749	-.5071	-.0003	.1684	-.7456	-.1258	.1157	-.3185	1.0000
	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)	(27)
	P= .032	P= .012	P= .007	P= .999	P= .401	P= .000	P= .532	P= .565	P= .105	P= .

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

```
 328  0  corr avrooms starpct expendit growroom growhote with
 329  0   incmulth totalh grmulth outmulth impmulth
 330  0   incmultb totalb grmultb outmultb impmultb
 331  0   incmulto totalo grmulto outmulto impmulto/print=sig.

PEARSON CORR problem requires 3,920 bytes of workspace.
```

- - Correlation Coefficients - -

	INCMULTH	TOTALH	GRMULTH	OUTMULTH	IMPMULTH	INCMULTB	TOTALB	GRMULTB	OUTMULTB	IMPMULTB	INCMULTO
AVROOMS	.5554	-.0650	.0282	.3253	-.4143	.5728	-.1104	.6633	.1583	-.5502	.5466
	(27)	(27)	(27)	(27)	(27)	(14)	(14)	(14)	(14)	(14)	(27)
	P= .003	P= .747	P= .889	P= .098	P= .032	P= .032	P= .707	P= .010	P= .589	P= .042	P= .003
STARPCT	.5398	.0470	-.1035	.3609	-.4749	.3781	.0027	.6042	.2720	-.3954	.5296
	(27)	(27)	(27)	(27)	(27)	(14)	(14)	(14)	(14)	(14)	(27)
	P= .004	P= .816	P= .608	P= .064	P= .012	P= .183	P= .993	P= .022	P= .347	P= .162	P= .004
EXPENDIT	.6992	-.0160	-.0133	.4163	-.5071	.6933	-.1750	.8053	.2583	-.4937	.6953
	(27)	(27)	(27)	(27)	(27)	(14)	(14)	(14)	(14)	(14)	(27)
	P= .000	P= .937	P= .947	P= .031	P= .007	P= .006	P= .550	P= .001	P= .373	P= .073	P= .000
GROWROOM	.0408	-.2856	.1600	.0173	-.0003	.1776	-.4352	.1859	-.2503	-.3420	.0458
	(27)	(27)	(27)	(27)	(27)	(14)	(14)	(14)	(14)	(14)	(27)
	P= .840	P= .149	P= .425	P= .932	P= .999	P= .544	P= .120	P= .525	P= .388	P= .231	P= .820
GROWHOTE	-.1247	-.2328	.1301	-.0799	.1684	.2135	-.2161	.1078	-.2139	-.1352	-.1125
	(27)	(27)	(27)	(27)	(27)	(14)	(14)	(14)	(14)	(14)	(27)
	P= .535	P= .243	P= .518	P= .692	P= .401	P= .464	P= .458	P= .714	P= .463	P= .645	P= .577

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

	TOTALO	GRMULTO	OUTMULTO	IMPMULTO
AVROOMS	-.0714	.0302	.3237	-.4075
	(27)	(27)	(27)	(27)
	P= .724	P= .881	P= .100	P= .035
STARPCT	.0376	-.1021	.3584	-.4673
	(27)	(27)	(27)	(27)
	P= .852	P= .612	P= .066	P= .014
EXPENDIT	-.0268	-.0104	.4166	-.4973
	(27)	(27)	(27)	(27)
	P= .895	P= .959	P= .031	P= .008
GROWROOM	-.2861	.1626	.0220	-.0017
	(27)	(27)	(27)	(27)
	P= .148	P= .418	P= .913	P= .993
GROWHOTE	-.2326	.1319	-.0721	.1643
	(27)	(27)	(27)	(27)
	P= .243	P= .512	P= .721	P= .413

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

```
 4  missing values incmulth to incmulto directh to spenfteo
 5   grmulth to grmulto outmulth to outmulto impmulth to impmulto(0).
 6  compute locpopdy=totalpop/areakm2.
 7  compute tourdens=1000*(tournstr*losnstr+tourstr*losstr)/(totalpop*365).
 8  compute mintime=min(dirtime1 to dirtime5).
 9  compute t2=timeind**2.
10  compute p2=priceind**2.
11  compute logimh=ln(impmulth).
12  compute logimh2=logimh**2.
13  compute incmulh2=incmulth**2.
14  compute totalh2=totalh**2.
15  compute grmulth2=grmulth**2.
16  compute outmh2=outmulth**2.
17  compute impmh2=impmulth**2.
18  compute logtour=ln(tourists).
19  compute logtour2=logtour**2.
20  compute pricind2=priceind**2.
21  compute avetime2=avetime**2.
22  compute lpopmils=ln(popmils).
23  compute lpopmil2=lpopmils**2.
24  compute lhvacap=ln(hvacap).
25  compute lhvacap2=lhvacap**2.
26  compute lgrdpcap=ln(grdpcap).
27  compute lgrdpcp2=lgrdpcap**2.
28  list var=province incmulth totalh grmulth outmulth impmulth popmils hvacap
29   grdpcap.
30
```

PROVINCE	INCMULTH	TOTALH	GRMULTH	OUTMULTH	IMPMULTH	POPMILS	HVACAP	GRDPCAP
ACEH	.443	.861	.0150	3.0608	.8033	3.69	4456	3479177
BALI	.926	.310	.0908	2.7485	.3142	2.86	325443	2594390
BENGKULU	.390	.352	.0142	1.7828	.7857	1.32	1670	1581481
CENTRAL_JAVA	.688	.540	.0706	2.5697	.5170	29.27	6565	1571317
CENTRAL_KALIMANT	.361	.388	.0152	1.8470	.7524	1.54	7260	2821562
CENTRAL_SULAWESI	.366	.485	.0175	1.7502	.7064	1.85	3326	1383022
EAST_JAVA	.816	1.118	.0461	2.3583	.2780	33.38	17640	1983576
EAST_KALIMANTAN	.528	.159	.0046	2.4445	.6092	2.14	45160	10150409
EAST_NUSA_TENGGA	.360	.907	.0192	1.6490	.7626	3.46	2207	831457
EAST_TIMOR	.364	.200	.0196	1.9196	.7676	.81	2050	843365
IRIAN_JAYA	.381	.455	.0195	1.9828	.7693	1.83	12303	3610098
JAKARTA	.841	.398	.0467	3.0290	.4588	8.80	71112	7940042
JAMBI	.424	.555	.0082	1.7966	.8070	2.24	3367	1543544
LAMPUNG	.600	1.169	.0112	2.0589	.6062	6.43	1609	1248027
MALUKU	.473	.325	.0138	2.0269	.5990	2.00	3854	1551023
NORTH_SULAWESI	.630	.033	.0163	1.7861	.5598	2.58	426	1467794
NORTH_SUMATERA	.756	1.598	.0626	2.7712	.6667	10.81	8390	2282948
RIAU	.800	.603	.1098	2.9477	.5444	3.67	20365	5806486
SOUTHEAST_SULAWE	.377	.306	.0095	1.7599	.6800	.75	884	2430239
SOUTH_KALIMANTAN	.594	.053	.0102	1.8376	.5579	2.78	4465	2207210
SOUTH_SULAWESI	.503	.731	.0449	3.5765	.5398	7.35	4401	1401272
SOUTH_SUMATERA	.480	.607	.0288	2.7617	.6566	6.88	1895	2118840
WEST_JAVA	.632	.580	.0639	3.0827	.5238	37.79	4442	1940478
WEST_KALIMANTAN	.435	.457	1.1235	2.9118	.7427	3.49	689	2045065
WEST_NUSA_TENGGA	.723	.685	.0271	2.5312	.5305	3.55	11166	976990
WEST_SUMATERA	.509	.826	.0164	2.0505	.2624	4.20	264	193822
YOGYAKARTA	.758	.861	.0648	3.1736	.5064	2.92	30694	1925314

Number of cases read: 27 Number of cases listed: 27

Preceding task required .03 seconds CPU time; .03 seconds elapsed.

```
31  corr lpopmils with incmulth incmultb incmulto outmulth outmultb outmulto
32   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
33   print=sig.
34
```

- - Correlation Coefficients - -

	INCMULTH	INCMULTB	INCMULTO	OUTMULTH	OUTMULTB	OUTMULTO
LPOPMILS	.5579	.1587	.5526	.5330	.4989	.5301
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .002	P= .588	P= .003	P= .004	P= .069	P= .004

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	TOTALH	TOTALB	TOTALO	GRMULTH	GRMULTB	GRMULTO
LPOPMILS	.5145	.4034	.5126	.0447	.3703	.0448
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .006	P= .153	P= .006	P= .825	P= .192	P= .824

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	IMPMULTH	IMPMULTB	IMPMULTO
LPOPMILS	-.5060	-.0385	-.5045
	(27)	(14)	(27)
	P= .007	P= .896	P= .007

(Coefficient / (Cases) / 2-tailed Significance)

Variable	B	SE B	Beta	T	Sig T
LPOPMILS	.181832	.060606	.514528	3.000	.0060
(Constant)	.330911	.101453		3.262	.0032

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
LPOPMIL2	-.690846	-.273295	.115065	-1.392	.1767

End Block Number 1 PIN = .050 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *
Equation Number 1 Dependent Variable.. TOTALH Total Employment Multiplier

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.2784	.9913	.5763	.1835	27
*RESID	-.4710	.8345	.0000	.3059	27
*ZPRED	-1.6234	2.2615	.0000	1.0000	27
*ZRESID	-1.5099	2.6754	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 2.28125

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
  39  regression vars=lpopmils lpopmil2 grmulth/sta=end/
  40   dep=grmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. GRMULTH Government Revenue Multipl

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
  41  regression vars=lpopmils lpopmil2 outmulth/sta=end/
  42   dep=outmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.5330	.2840	9.919	.004	In:	LPOPMILS	.5330

Variable(s) Entered on Step Number
1.. LPOPMILS

Multiple R	.53296
R Square	.28405
Adjusted R Square	.25541
Standard Error	.48437

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.32708	2.32708
Residual	25	5.86547	.23462

F = 9.91854 Signif F = .0042

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LPOPMILS	.296407	.094116	.532962	3.149	.0042
(Constant)	1.978325	.157550		12.557	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
LPOPMIL2	-.829316	-.332467	.115065	-1.727	.0970

End Block Number 1 PIN = .050 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *
Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	1.8927	3.0549	2.3783	.2992	27
*RESID	-.6976	1.0071	.0000	.4750	27
*ZPRED	-1.6234	2.2615	.0000	1.0000	27
*ZRESID	-1.4402	2.0791	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.76215

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
43  regression vars=lpopmils lpopmil2 impmulth/sta=end/
44    dep=impmulth/method=stepwise/res=durbin.
```

*** * * * MULTIPLE REGRESSION * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.5060	.2560	8.602	.007	In:	LPOPMILS	-.5060

Variable(s) Entered on Step Number
1.. LPOPMILS

Multiple R	.50597
R Square	.25601
Adjusted R Square	.22625
Standard Error	.13651

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.16031	.16031
Residual	25	.46587	.01863

F = 8.60245 Signif F = .0071

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LPOPMILS	-.077796	.026525	-.505971	-2.933	.0071
(Constant)	.708978	.044402		15.967	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
LPOPMIL2	.216333	.085076	.115065	.418	.6794

End Block Number 1 PIN = .050 Limits reached.

*** * * * MULTIPLE REGRESSION * * * ***

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.4264	.7315	.6040	.0785	27
*RESID	-.3349	.1959	.0000	.1339	27
*ZPRED	-2.2615	1.6234	.0000	1.0000	27
*ZRESID	-2.4531	1.4349	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.97339

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
45  regression vars=lpopmils lpopmil2 logtour/sta=end/
46    dep=logtour/method=stepwise/res=durbin.
47
48
```

*** * * * MULTIPLE REGRESSION * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOGTOUR

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.4700	.2209	7.088	.013	In:	LPOPMILS	.4700

Variable(s) Entered on Step Number
1.. LPOPMILS

Multiple R .47000

R Square .22090
Adjusted R Square .18973
Standard Error .77932

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	4.30494	4.30494
Residual	25	15.18335	.60733

F = 7.08826 Signif F = .0134

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LPOPMILS	.403150	.151425	.469999	2.662	.0134
(Constant)	10.710350	.253484		42.253	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
LPOPMIL2	-.764000	-.293608	.115065	-1.505	.1455

End Block Number 1 PIN = .050 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *

Equation Number 1 Dependent Variable.. LOGTOUR

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	10.5938	12.1746	11.2544	.4069	27
*RESID	-.7775	2.7456	.0000	.7642	27
*ZPRED	-1.6234	2.2615	.0000	1.0000	27
*ZRESID	-.9976	3.5231	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 2.10970

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
  49  corr lhvacap with incmulth incmultb incmulto outmulth outmultb outmulto
  50   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
  51   print=sig.
  52
```

- - Correlation Coefficients - -

	INCMULTH	INCMULTB	INCMULTO	OUTMULTH	OUTMULTB	OUTMULTO
LHVACAP	.6306	.6555	.6214	.4274	.4760	.4260
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .000	P= .011	P= .001	P= .026	P= .085	P= .027

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	TOTALH	TOTALB	TOTALO	GRMULTH	GRMULTB	GRMULTO
LHVACAP	.0134	.0009	-.0015	-.1805	.7822	-.1777
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .947	P= .998	P= .994	P= .368	P= .001	P= .375

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	IMPMULTH	IMPMULTB	IMPMULTO
LHVACAP	-.3201	-.1635	-.3109
	(27)	(14)	(27)
	P= .104	P= .577	P= .114

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Preceding task required .00 seconds CPU time; .00 seconds elapsed.

```
  53  regression vars=lhvacap lhvacap2 incmulth/sta=end/
  54   dep=incmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.6587	.4339	19.159	.000	In:	LHVACAP2	.6587

Variable(s) Entered on Step Number
1.. LHVACAP2

```
Multiple R              .65869
R Square                .43387
Adjusted R Square       .41122
Standard Error          .13360

Analysis of Variance
                    DF        Sum of Squares      Mean Square
Regression           1                .34195           .34195
Residual            25                .44620           .01785

F =      19.15917       Signif F =  .0002

---------- Variables in the Equation ----------

Variable                B         SE B       Beta          T  Sig T

LHVACAP2         .004025  9.1959E-04     .658685      4.377  .0002
(Constant)       .257648     .074007                  3.481  .0018

---------- Variables not in the Equation ----------

Variable     Beta In  Partial  Min Toler         T  Sig T

LHVACAP    -1.434551 -.240306     .015886    -1.213  .2370

End Block Number   1   PIN =      .050 Limits reached.

     * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Equation Number 1     Dependent Variable..    INCMULTH    Income multiplier : Hotel

Residuals Statistics:

             Min       Max      Mean   Std Dev   N

*PRED       .3827     .9061     .5614     .1147  27
*RESID     -.2336     .2248     .0000     .1310  27
*ZPRED    -1.5580   3.0060     .0000    1.0000  27
*ZRESID   -1.7489   1.6830     .0000     .9806  27

Total Cases =       27

Durbin-Watson Test =   1.88146

Preceding task required .01 seconds CPU time;   .01 seconds elapsed.

  55  regression vars=lhvacap lhvacap2 totalh/sta=end/
  56    dep=totalh/method=stepwise/res=durbin.

     * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Listwise Deletion of Missing Data

Equation Number 1     Dependent Variable..    TOTALH    Total Employment Multiplier

Block Number  1.  Method:  Stepwise      Criteria   PIN  .0500   POUT  .1000

End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .01 seconds CPU time;   .01 seconds elapsed.

  57  regression vars=lhvacap lhvacap2 grmulth/sta=end/
  58    dep=grmulth/method=stepwise/res=durbin.

     * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Listwise Deletion of Missing Data

Equation Number 1     Dependent Variable..    GRMULTH    Government Revenue Multipl

Block Number  1.  Method:  Stepwise      Criteria   PIN  .0500   POUT  .1000

End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .02 seconds CPU time;   .02 seconds elapsed.

  59  regression vars=lhvacap lhvacap2 outmulth/sta=end/
  60    dep=outmulth/method=stepwise/res=durbin.

     * * * *   M U L T I P L E   R E G R E S S I O N   * * * *

Listwise Deletion of Missing Data

Equation Number 1     Dependent Variable..    OUTMULTH    Output Multiplier : Hotel

Block Number  1.  Method:  Stepwise      Criteria   PIN  .0500   POUT  .1000

Step   MultR      Rsq     F(Eqn)  SigF       Variable  BetaIn
   1   .4274    .1827      5.588  .026  In:  LHVACAP     .4274
```

```
Variable(s) Entered on Step Number
   1..    LHVACAP


Multiple R              .42743
R Square                .18270
Adjusted R Square       .15001
Standard Error          .51752

Analysis of Variance
                    DF        Sum of Squares        Mean Square
Regression           1              1.49676             1.49676
Residual            25              6.69579              .26783

F =        5.58844       Signif F =  .0262

---------------------- Variables in the Equation -----------------

Variable                B         SE B        Beta           T  Sig T

LHVACAP          .151636      .064144     .427431       2.364  .0262
(Constant)      1.082281      .557223                   1.942  .0635

------------ Variables not in the Equation ------------

Variable     Beta In  Partial  Min Toler        T  Sig T

LHVACAP2    -.194079 -.027058    .015886     -.133  .8956

End Block Number   1   PIN =     .050 Limits reached.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1    Dependent Variable..   OUTMULTH   Output Multiplier : Hotel

Residuals Statistics:

             Min      Max      Mean  Std Dev   N

*PRED      1.9276   3.0070   2.3783    .2399  27
*RESID     -.6008   1.2221    .0000    .5075  27
*ZPRED    -1.8787   2.6201    .0000   1.0000  27
*ZRESID   -1.1609   2.3614    .0000    .9806  27

Total Cases =       27

Durbin-Watson Test =   1.30928

Preceding task required .02 seconds CPU time;   .02 seconds elapsed.

  61  regression vars=lhvacap lhvacap2 impmulth/sta=end/
  62    dep=impmulth/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   IMPMULTH   Import Multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =     .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;   .01 seconds elapsed.

  63  regression vars=lhvacap lhvacap2 logtour/sta=end/
  64    dep=logtour/method=stepwise/res=durbin.
  65
  66


          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   LOGTOUR

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000

Step   MultR      Rsq     F(Eqn)  SigF       Variable  BetaIn
   1   .6854    .4698     22.150  .000  In:  LHVACAP2   .6854
   2   .7507    .5636     15.497  .000  In:  LHVACAP  -2.4300


Variable(s) Entered on Step Number
   2..    LHVACAP


Multiple R              .75072
R Square                .56358
Adjusted R Square       .52722
Standard Error          .59529

Analysis of Variance
                    DF        Sum of Squares        Mean Square
Regression           2             10.98330             5.49165
Residual            24              8.50499              .35437

F =       15.49673       Signif F =  .0000
```

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LHVACAP	-1.329613	.585394	-2.430036	-2.271	.0324
LHVACAP2	.094080	.032511	3.096059	2.894	.0080
(Constant)	15.519075	2.590690		5.990	.0000

End Block Number 1 POUT = .100 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. LOGTOUR

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	10.8288	13.7997	11.2544	.6499	27
*RESID	-1.3816	1.0405	.0000	.5719	27
*ZPRED	-.6549	3.9161	.0000	1.0000	27
*ZRESID	-2.3209	1.7479	.0000	.9608	27

Total Cases = 27

Durbin-Watson Test = 2.07716

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
67  corr lgrdpcap with incmulth incmultb incmulto outmulth outmultb outmulto
68   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
69   print=sig.
70
```

- - Correlation Coefficients - -

	INCMULTH	INCMULTB	INCMULTO	OUTMULTH	OUTMULTB	OUTMULTO
LGRDPCAP	.2596	.2857	.2429	.3350	.4783	.3287
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .191	P= .322	P= .222	P= .088	P= .084	P= .094

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	TOTALH	TOTALB	TOTALO	GRMULTH	GRMULTB	GRMULTO
LGRDPCAP	-.2220	-.0401	-.2453	.0474	.4110	.0505
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .266	P= .892	P= .218	P= .814	P= .144	P= .803

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	IMPMULTH	IMPMULTB	INPMULTO
LGRDPCAP	.1495	.4511	.1602
	(27)	(14)	(27)
	P= .457	P= .105	P= .425

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
71  regression vars=lgrdpcap lgrdpcp2 incmulth/sta=end/
72   dep=incmulth/method=stepwise/res=durbin.
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
73  regression vars=lgrdpcap lgrdpcp2 totalh/sta=end/
74   dep=totalh/method=stepwise/res=durbin.
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALH Total Employment Multiplier

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

```
End Block Number   1   PIN =     .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  75  regression vars=lgrdpcap lgrdpcp2 grmulth/sta=end/
  76   dep=grmulth/method=stepwise/res=durbin.



          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   GRMULTH   Government Revenue Multipl

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =     .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  77  regression vars=lgrdpcap lgrdpcp2 outmulth/sta=end/
  78   dep=outmulth/method=stepwise/res=durbin.



          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   OUTMULTH   Output Multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =     .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  79  regression vars=lgrdpcap lgrdpcp2 impmulth/sta=end/
  80   dep=impmulth/method=stepwise/res=durbin.



          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   IMPMULTH   Import Multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =     .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  81  regression vars=lgrdpcap lgrdpcp2 logtour/sta=end/
  82   dep=logtour/method=stepwise/res=durbin.
  83
  84
  85



          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   LOGTOUR

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =     .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .02 seconds CPU time;  .02 seconds elapsed.

  86  corr priceind with incmulth incmultb incmulto outmulth outmultb outmulto
  87   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
  88   print=sig.
  89


                    - -  Correlation Coefficients  - -

             INCMULTH     INCMULTB     INCMULTO     OUTMULTH     OUTMULTB     OUTMULTO

PRICEIND      .8081        .8298        .8131        .3245        .1252        .3255
             (  27)       (  14)       (  27)       (  27)       (  14)       (  27)
             P= .000      P= .000      P= .000      P= .099      P= .670      P= .098
```

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	TOTALH	TOTALB	TOTALO	GRMULTH	GRMULTB	GRMULTO
PRICEIND	.0734	-.2664	.0690	-.0188	.6468	-.0183
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .716	P= .357	P= .732	P= .926	P= .012	P= .928

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	IMPMULTH	IMPMULTB	IMPMULTO
PRICEIND	-.6343	-.4906	-.6309
	(27)	(14)	(27)
	P= .000	P= .075	P= .000

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
  90  regression vars=priceind pricind2 incmulth/sta=end/
  91   dep=incmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.8081	.6530	47.051	.000	In:	PRICEIND	.8081
2	.8584	.7369	33.614	.000	In:	PRICIND2	-1.0815

Variable(s) Entered on Step Number
2.. PRICIND2

Multiple R	.85844
R Square	.73692
Adjusted R Square	.71500
Standard Error	.09295

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	.58080	.29040
Residual	24	.20734	.00864

F = 33.61378 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PRICEIND	.012525	.002647	1.850051	4.733	.0001
PRICIND2	-7.49407E-05	2.7088E-05	-1.081463	-2.767	.0107
(Constant)	.348814	.037992		9.181	.0000

End Block Number 1 POUT = .100 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3488	.8677	.5614	.1495	27
*RESID	-.1928	.2522	.0000	.0893	27
*ZPRED	-1.4224	2.0495	.0000	1.0000	27
*ZRESID	-2.0746	2.7131	.0000	.9608	27

Total Cases = 27

Durbin-Watson Test = 2.55392

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
  92  regression vars=priceind pricind2 totalh/sta=end/
  93   dep=totalh/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALH Total Employment Multiplier

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
  94  regression vars=priceind pricind2 grmulth/sta=end/
  95   dep=grmulth/method=stepwise/res=durbin.
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. GRMULTH Government Revenue Multipl

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
  96  regression vars=priceind pricind2 outmulth/sta=end/
  97   dep=outmulth/method=stepwise/res=durbin.
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .01 seconds CPU time; .01 seconds elapsed

```
  98  regression vars=priceind pricind2 impmulth/sta=end/
  99   dep=impmulth/method=stepwise/res=durbin.
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.6343	.4023	16.827	.000	In:	PRICEIND	-.6343

Variable(s) Entered on Step Number
1.. PRICEIND Price Factor Index

Multiple R	.63427
R Square	.40230
Adjusted R Square	.37839
Standard Error	.12236

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.25191	.25191
Residual	25	.37427	.01497

F = 16.82685 Signif F = .0004

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PRICEIND	-.003828	9.3309E-04	-.634269	-4.102	.0004
(Constant)	.697088	.032704		21.315	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
PRICIND2	.626106	.216904	.071734	1.089	.2872

End Block Number 1 PIN = .050 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3143	.6971	.6040	.0984	27
*RESID	-.3713	.1671	.0000	.1200	27

*ZPRED	-2.9427	.9458	.0000	1.0000	27
*ZRESID	-3.0346	1.3661	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.62273

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
100  regression vars=priceind pricind2 logtour/sta=end/
101   dep=logtour/method=stepwise/res=durbin.
102
103
104
```

*** * * * MULTIPLE REGRESSION * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOGTOUR

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.7993	.6389	44.229	.000	In:	PRICEIND	.799

Variable(s) Entered on Step Number
1.. PRICEIND Price Factor Index

Multiple R	.79930
R Square	.63888
Adjusted R Square	.62443
Standard Error	.53057

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	12.45066	12.45066
Residual	25	7.03763	.28151

F = 44.22891 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PRICEIND	.026909	.004046	.799299	6.650	.0000
(Constant)	10.599901	.141816		74.744	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
PRICIND2	.261198	.116414	.071734	.574	.5712

End Block Number 1 PIN = .050 Limits reached.

*** * * * MULTIPLE REGRESSION * * * ***

Equation Number 1 Dependent Variable.. LOGTOUR

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	10.5999	13.2908	11.2544	.6920	27
*RESID	-1.7867	.8348	.0000	.5203	27
*ZPRED	-.9458	2.9427	.0000	1.0000	27
*ZRESID	-3.3675	1.5734	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.86164

Preceding task required .00 seconds CPU time; .02 seconds elapsed

```
105  corr avetime with incmulth incmultb incmulto outmulth outmultb outmulto
106   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
107   print=sig.
108
```

- - Correlation Coefficients - -

	INCMULTH	INCMULTB	INCMULTO	OUTMULTH	OUTMULTB	OUTMULTO
AVETIME	-.4867	-.4698	-.4909	-.3555	-.4013	-.3602
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .010	P= .090	P= .009	P= .069	P= .155	P= .065

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	TOTALH	TOTALB	TOTALO	GRMULTH	GRMULTB	GRMULTO
AVETIME	-.2303	-.3248	-.2355	-.0683	-.5747	-.0698
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .248	P= .257	P= .237	P= .735	P= .032	P= .729

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	IMPMULTH	IMPMULTB	IMPMULTO
AVETIME	.4268	.4084	.4268
	(27)	(14)	(27)
	P= .026	P= .147	P= .026

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
 109  regression vars=avetime avetime2 incmulth/sta=end/
 110    dep=incmulth/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Motel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.4867	.2369	7.761	.010	In:	AVETIME	-.486[illegible]

Variable(s) Entered on Step Number
1.. AVETIME Weighted (by airport visitors) average t

Multiple R	.48671
R Square	.23689
Adjusted R Square	.20637
Standard Error	.15511

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.18670	.18670
Residual	25	.60144	.02406

F = 7.76069 Signif F = .0100

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
AVETIME	-.064897	.023296	-.486714	-2.786	.0100
(Constant)	.714003	.062382		11.446	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
AVETIME2	1.015773	.314079	.072958	1.621	.1182

End Block Number 1 PIN = .050 Limits reached.

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Motel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.2897	.6595	.5614	.0847	27
*RESID	-.2519	.2784	.0000	.1521	27
*ZPRED	-3.2060	1.1573	.0000	1.0000	27
*ZRESID	-1.6240	1.7952	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 1.99162

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
 111  regression vars=avetime avetime2 totalh/sta=end/
 112    dep=totalh/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALH Total Employment Multiplier

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .01 seconds CPU time; .02 seconds elapsed.

```
 113  regression vars=avetime avetime2 grmulth/sta=end/
 114    dep=grmulth/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. GRMULTH Government Revenue Multipl

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
 115  regression vars=avetime avetime2 outmulth/sta=end/
 116   dep=outmulth/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .02 seconds CPU time; .02 seconds elapsed.

```
 117  regression vars=avetime avetime2 impmulth/sta=end/
 118   dep=impmulth/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hote.

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.4268	.1822	5.569	.026	In:	AVETIME	.4268

Variable(s) Entered on Step Number
1.. AVETIME Weighted (by airport visitors) average t

Multiple R	.42681
R Square	.18217
Adjusted R Square	.14945
Standard Error	.14312

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.11407	.11407
Residual	25	.51211	.02048

F = 5.56861 Signif F = .0264

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
AVETIME	.050726	.021496	.426811	2.360	.0264
(Constant)	.484714	.057563		8.421	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
AVETIME2	-.792834	-.236803	.072958	-1.194	.2441

End Block Number 1 PIN = .050 Limits reached.

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.5273	.8163	.6040	.0662	27
*RESID	-.3353	.2125	.0000	.1403	27
*ZPRED	-1.1573	3.2060	.0000	1.0000	27
*ZRESID	-2.3431	1.4849	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 2.12521

Preceding task required .01 seconds CPU time; .01 seconds elapsed.

```
 119  regression vars=avetime avetime2 logtour/sta=end/
```

```
  85  if (province='EAST_KALIMANTAN') lgrdpcap=ln(1950000).
  86  if (province='EAST_KALIMANTAN') lgrdpcp2=lgrdpcap**2.
  87  regression vars=lgrdpcap lgrdpcp2 incmulth/sta=end/
  88   dep=incmulth/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   INCMULTH   Income multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


  89  regression vars=lgrdpcap lgrdpcp2 totalh/sta=end/
  90   dep=totalh/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   TOTALH   Total Employment Multiplier

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


  91  regression vars=lgrdpcap lgrdpcp2 grmulth/sta=end/
  92   dep=grmulth/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   GRMULTH   Government Revenue Multipl

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


  93  regression vars=lgrdpcap lgrdpcp2 outmulth/sta=end/
  94   dep=outmulth/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   OUTMULTH   Output Multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  95  regression vars=lgrdpcap lgrdpcp2 impmulth/sta=end/
  96   dep=impmulth/method=stepwise/res=durbin.


          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   IMPMULTH   Import Multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  97  regression vars=lgrdpcap lgrdpcp2 logtour/sta=end/
  98   dep=logtour/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   LOGTOUR

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.
```

```
  85  if (province='EAST_KALIMANTAN') lgrdpcap=ln(1950000).
  86  if (province='EAST_KALIMANTAN') lgrdpcp2=lgrdpcap**2.
  87  regression vars=lgrdpcap lgrdpcp2 incmulth/sta=end/
  88   dep=incmulth/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   INCMULTH   Income multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


  89  regression vars=lgrdpcap lgrdpcp2 totalh/sta=end/
  90   dep=totalh/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   TOTALH   Total Employment Multiplier

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


  91  regression vars=lgrdpcap lgrdpcp2 grmulth/sta=end/
  92   dep=grmulth/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   GRMULTH   Government Revenue Multipl

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


  93  regression vars=lgrdpcap lgrdpcp2 outmulth/sta=end/
  94   dep=outmulth/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   OUTMULTH   Output Multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.


Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  95  regression vars=lgrdpcap lgrdpcp2 impmulth/sta=end/
  96   dep=impmulth/method=stepwise/res=durbin.


          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   IMPMULTH   Import Multiplier : Hotel

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.

Preceding task required .01 seconds CPU time;  .01 seconds elapsed.

  97  regression vars=lgrdpcap lgrdpcp2 logtour/sta=end/
  98   dep=logtour/method=stepwise/res=durbin.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable..   LOGTOUR

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000


End Block Number   1   PIN =      .050 Limits reached.
No variables entered/removed for this block.
```

```
   1  0  set width=80.
   2  title 'Analysis of Indonesian Tourist activity'.
   3  get file='wiendu.sav'.

File wiendu.sav
   Created:  25 SEP 98 14:54:34 - 129 variables and 27 cases

   4  missing values incmulth to incmulto directh to spenfteo
   5   grmulth to grmulto outmulth to outmulto impmulth to impmulto(0).
   6  compute losall=((tourstr*losstr)+(tournstr*losnstr))/(tourists).
   7  compute dailyexp=losall.
   8  recode dailyexp(1 thru 1.99999=388.39)(2 thru 2.99999=263.35)
   9   (3 thru 3.99999=209.36)(4 thru 4.99999=174.92)(5 thru 5.99999=153.27)
  10   (6 thru 6.99999=138.61)(7 thru 7.99999=125.01)(8 thru 8.99999=114.69)
  11   (9 thru 9.99999=109.72)(10 thru 10.99999=104.83)(11 thru 11.99999=99.05)
  12   (12 thru 12.99999=95.5)(13 thru 13.99999=93)(14 thru 14.99999=89.32)
  13   (15 thru 15.99999=87.18)
  14  compute estimexp=losall*dailyexp.
  15  compute esttotex=tourists*estimexp.
  16  format dailyexp(f6.2) estimexp(f7.2) esttotex(f16.2).
  17  list var=province losstr tourstr losnstr tournstr tourists losall dailyexp
```

PROVINCE	LOSSTR	TOURSTR	LOSNSTR	TOUFNSTR	TOURISTS	LOSALL	DAILYEXP
ACEH	5.60	37810	4.87	5508	43318	5.51	153.27
BALI	3.47	537264	4.04	528325	1065589	3.75	209.36
BENGKULU	3.68	56871	6.99	99	56970	3.69	209.36
CENTRAL_JAVA	1.76	67884	1.50	12468	80352	1.72	388.39
CENTRAL_KALIMANT	3.61	46068	10.43	122	46190	3.63	209.36
CENTRAL_SULAWESI	3.44	27681	3.54	4562	32243	3.45	209.36
EAST_JAVA	1.78	97398	1.99	22534	119932	1.82	388.39
EAST_KALIMANTAN	3.39	37479	3.38	6619	44098	3.39	209.36
EAST_NUSA_TENGGA	5.22	37872	5.97	33676	71548	5.57	153.27
EAST_TIMOR	4.72	32722	14.56	447	33169	4.85	174.92
IRIAN_JAYA	2.26	17491	3.65	18157	35648	2.97	263.35
JAKARTA	2.17	561671	2.07	44818	606489	2.16	263.35
JAMBI	1.19	47892	.93	904	48796	1.19	388.39
LAMPUNG	2.75	96326	3.73	658	96984	2.76	263.35
MALUKU	4.82	31066	1.91	24687	55753	3.53	209.36
NORTH_SULAWESI	3.99	25123	2.72	6814	31937	3.72	209.36
NORTH_SUMATERA	1.36	69862	1.40	74633	144495	1.38	388.39
RIAU	2.20	48885	2.08	23544	72429	2.16	263.35
SOUTHEAST_SULAWE	4.28	23608	4.53	47	23655	4.28	174.92
SOUTH_KALIMANTAN	3.53	43255	1.75	966	44221	3.49	209.36
SOUTH_SULAWESI	2.09	52740	2.30	15765	68505	2.14	263.35
SOUTH_SUMATERA	2.70	62065	1.96	1082	63147	2.69	263.35
WEST_JAVA	2.72	94581	3.03	72938	167519	2.85	263.35
WEST_KALIMANTAN	4.63	52938	1.84	21640	74578	3.82	209.36
WEST_NUSA_TENGGA	3.04	117877	1.70	67126	185003	2.55	263.35
WEST_SUMATERA	2.55	47839	2.69	33846	81685	2.61	263.35
YOGYAKARTA	1.64	90759	2.59	53876	144635	1.99	388.39

Number of cases read: 27   Number of cases listed: 27

```
  18  list var=province tourists losall estimexp esttotex expendit.
```

PROVINCE	TOURISTS	LOSALL	ESTIMEXP	ESTTOTEX	EXPENDIT
ACEH	43318	5.51	844.09	36564196.14	45472958459.32
BALI	1065589	3.75	785.65	837176241.76	5539659195216.00
BENGKULU	56970	3.69	771.65	43960786.93	5067095681.56
CENTRAL_JAVA	80352	1.72	667.90	53666557.30	4337972247.97.10
CENTRAL_KALIMANT	46190	3.63	759.56	35083970.02	37127502610.22
CENTRAL_SULAWESI	32243	3.45	723.16	23316635.37	14929849054.13
EAST_JAVA	119932	1.82	706.66	84750931.11	1187958436078.12
EAST_KALIMANTAN	44098	3.39	709.42	31283779.44	68237147516.22
EAST_NUSA_TENGGA	71548	5.57	854.17	61114428.89	440786596221.37
EAST_TIMOR	33169	4.85	848.82	28154094.90	18534655786.94
IRIAN_JAYA	35648	2.97	781.62	27863114.22	81632180550.34
JAKARTA	606489	2.16	569.52	345409505.05	8935727486655.15
JAMBI	48796	1.19	460.31	22461317.29	9028683261.61
LAMPUNG	96984	2.76	725.96	70407032.53	45071826776.02
MALUKU	55753	3.53	739.35	41220947.06	86737617357.25
NORTH_SULAWESI	31937	3.72	778.62	24866773.42	78694868195.24
NORTH_SUMATERA	144495	1.38	536.23	77483175.44	11211915956.68
RIAU	72429	2.16	569.10	41219333.46	1892433261872.02
SOUTHEAST_SULAWE	23655	4.28	748.74	17711353.56	11457399840.00
SOUTH_KALIMANTAN	44221	3.49	730.90	32321221.06	41061980649.14
SOUTH_SULAWESI	68505	2.14	561.13	38577376.20	982305009416.75
SOUTH_SUMATERA	63147	2.69	707.71	44689363.99	60785245753.77
WEST_JAVA	167519	2.85	751.86	125950506.15	990470954566.00
WEST_KALIMANTAN	74578	3.82	799.85	59651182.04	39194781569.71
WEST_NUSA_TENGGA	185003	2.55	672.54	124422177.88	67084030572.57
WEST_SUMATERA	81685	2.61	686.82	56103131.80	180340820276.53
YOGYAKARTA	144635	1.99	774.40	112005172.69	1062256619808.00

Number of cases read: 27   Number of cases listed: 27

```
  19  corr esttotex expendit/print=sig.

                    - - Correlation Coefficients - -

              ESTTOTEX    EXPENDIT

ESTTOTEX       1.0000       .8521
              (   27)     (   27)
              P= .        P= .000

EXPENDIT        .8521      .
              (   27)     (   27)
              P= .000     P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed


  20  compute logdexp=ln(dailyexp).
  21  compute logeexp=ln(estimexp).
  22  compute losall2=losall**2.
  23  regression vars=logdexp losall2 losall/dep=logdexp/method=stepwise/res=dur
        bin.


          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1     Dependent Variable..    LOGDEXP

Block Number  1.  Method:  Stepwise      Criteria   PIN  .0500   POUT  .1000

Variable(s) Entered on Step Number
   1..     LOSALL
```

```
Multiple R              .94454
R Square                .89216
Adjusted R Square       .88785
Standard Error          .09283

Analysis of Variance
                    DF        Sum of Squares        Mean Square
Regression           1              1.78227             1.78227
Residual            25               .21543              .00862

F =     206.82451       Signif F =  .0000

---------------------- Variables in the Equation -----------------

Variable                B         SE B        Beta           T  Sig T

LOSALL           -.229440      .015954   -.944542    -14.381  .0000
(Constant)       6.209596      .052570               118.120  .0000

------------- Variables not in the Equation -------------

Variable     Beta In  Partial  Min Toler        T  Sig T

LOSALL2      .811816  .503121    .041420    2.852  .0088

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1     Dependent Variable..   LOGDEXP

Variable(s) Entered on Step Number
   2..     LOSALL2


Multiple R              .95888
R Square                .91946
Adjusted R Square       .91275
Standard Error          .08188

Analysis of Variance
                    DF        Sum of Squares        Mean Square
Regression           2              1.83680              .91840
Residual            24               .16090              .00670

F =     136.98965       Signif F =  .0000

---------------------- Variables in the Equation -----------------

Variable                B         SE B        Beta           T  Sig T

LOSALL2          .028879      .010126    .811816     2.852  .0088
LOSALL           -.422512     .069143  -1.739368    -6.111  .0000
(Constant)       6.494372     .110091               58.991  .0000

End Block Number   1   POUT =      .100 Limits reached.

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1     Dependent Variable..   LOGDEXP

Residuals Statistics:

             Min        Max        Mean      Std Dev   N

*PRED       5.0366     6.0342     5.4986       .2658  27
*RESID      -.1495      .1953      .0000       .0787  27
*ZPRED     -1.7379    2.0152       .0000    1.0000  27
*ZRESID    -1.8254    2.3848       .0000       .9608  27

Total Cases =       27

Durbin-Watson Test =    1.75786


  24  regression vars=logeexp losall2 losall/dep=logeexp/method=stepwise/res=dur
      bin.
  25


          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Listwise Deletion of Missing Data

Equation Number 1     Dependent Variable..   LOGEEXP

Block Number  1.  Method:  Stepwise     Criteria   PIN  .0500   POUT  .1000

Variable(s) Entered on Step Number
   1..     LOSALL


Multiple R              .78984
R Square                .62384
Adjusted R Square       .60880
Standard Error          .09434

Analysis of Variance
                    DF        Sum of Squares        Mean Square
Regression           1               .36903              .36903
Residual            25               .22251              .00890

F =      41.46163       Signif F =  .0000

---------------------- Variables in the Equation -----------------

Variable                B         SE B        Beta           T  Sig T

LOSALL           .104403      .016214    .789817     6.439  .0000
(Constant)       6.236477     .053427               116.729  .0000

------------- Variables not in the Equation -------------

Variable     Beta In  Partial  Min Toler        T  Sig T

LOSALL2    -1.294489 - 429555    .041420    -2.330  .0285

          * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1     Dependent Variable..   LOGEEXP

Variable(s) Entered on Step Number
   2..     LOSALL2


Multiple R              .83262
R Square                .69325
Adjusted R Square       .66769
```

	IMPMULTH	IMPMULTB	IMPMULTC
LOSALL	.4171	.4287	.4072
	(27)	(14)	(27)
	P= .030	P= 126	P= .035

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

```
  55  regression vars=losall losall2 incmulth/sta=end/
  56   dep=incmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.5272	.2779	9.622	.005	In:	LOSALL	-.5272

Variable(s) Entered on Step Number
1.. LOSALL

Multiple R	.52717
R Square	.27791
Adjusted R Square	.24903
Standard Error	.15088

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.21903	.21903
Residual	25	.56911	.02276

F = 9.62170 Signif F = .0047

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOSALL	-.080434	.025931	-.527171	-3.102	.0047
(Constant)	.810674	.085445		9.488	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
LOSALL2	-.065836	-.015768	.041420	-.077	.9391

End Block Number 1 PIN = .050 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3624	.7153	.5614	.0918	27
*RESID	-.2913	.4172	.0000	.1479	27
*ZPRED	-2.1680	1.6772	.0000	1.0000	27
*ZRESID	-1.9310	2.7649	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 2.52764

```
  57  regression vars=losall losall2 totalh/sta=end/
  58   dep=totalh/method=stepwise/res=durbin
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALH Total Employment Multiplier

Block Number 1. Method. Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

```
  59  regression vars=losall losall2 grmulth/sta=end/
  60   dep=grmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. GRMULTH Government Revenue Multipl

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

```
  61  regression vars=losall losall2 outmulth/sta=end/
  62   dep=outmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. UTMULTH Output Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block

```
  63  regression vars=losall losall2 impmulth/sta=end/
  64   dep=impmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.4598	.2114	6.701	.016	In:	LOSALL2	.4598

Variable(s) Entered on Step Number
1.. LOSALL2

Multiple R	.45975
R Square	.21137
Adjusted R Square	.17983
Standard Error	.14055

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.13236	.13236
Residual	25	.49382	.01975

F = 6.70057 Signif F = .0158

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOSALL2	.009156	.003537	.459741	2.589	.0158
(Constant)	.504569	.046976		10.741	.0000

---------- Variables not in the Equation ----------

Variable	Beta In	Partial	Min Toler	T	Sig T
LOSALL	-.796698	-.182584	.041420	-.910	.3720

End Block Number 1 PIN = .050 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.5174	.7890	.6040	.0713	27
*RESID	-.3193	.2896	.0000	.1378	27
*ZPRED	-1.2132	2.5924	.0000	1.0000	27
*ZRESID	-2.2719	2.0603	.0000	.9806	27

Total Cases = 27

Durbin-Watson Test = 2.40929

```
  65  regression vars=losall losall2 logtour/sta=end/
  66   dep=logtour/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOGTOUR

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached
No variables entered/removed for this block

```
  67  corr losall with incmulth incmultb incmulto outmulth outmultb outmulto
  68   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
  69   print=sig.
  70
```

- - Correlation Coefficients - -

	INCMULTH	INCMULTB	INCMULTO	OUTMULTH	OUTMULTB	OUTMULTO
LOSALL	-.5272	-.4692	-.5077	-.3422	-.3829	-.3339
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .005	P= .091	P= .007	P= .081	P= .177	P= .090

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	TOTALH	TOTALB	TOTALO	GRMULTH	GRMULTB	GRMULTO
LOSALL	-.3622	-.3343	-.3508	.0709	-.3713	.0693
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .063	P= .243	P= .073	P= .725	P= .191	P= .731

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	IMPMULTH	IMPMULTB	IMPMULTO
LOSALL	.4171	.4287	.4072

```
Standard Error       .08695

Analysis of Variance
                    DF        Sum of Squares      Mean Square
Regression           2              .41008             .20504
Residual            24              .18145             .00756

F =      27.11989       Signif F =  .0000

---------------------- Variables in the Equation -----------------

Variable                B         SE B        Beta         T  Sig T

LOSALL2          -.025058      .010753  -1.294489    -2.330  .0285
LOSALL            .271930      .073427   2.057314     3.703  .0011
(Constant)       5.989379      .116912                51.230  .0000

End Block Number   1   POUT =      100 Limits reached.

           * * * *  M U L T I P L E  R E G R E S S I O N  * * * *

Equation Number 1    Dependent Variable..   LOGEEXP

Residuals Statistics:

             Min        Max       Mean    Std Dev    N

*PRED      6.2765     6.7270     6.5600      .1256   27
*RESID     -.1446      .2201      .0000      .0835   27
*ZPRED    -2.2578    1.3293      .0000    1.0000    27
*ZRESID   -1.6625    2.5317      .0000      .9608   27

Total Cases =       27

Durbin-Watson Test =   1.68810


  26  compute locpopdy=totalpop/areakm2.
  27  compute tourdens=1000*(tournstr*losnstr+tourstr*losstr)/(totalpop*365).
  28  compute mintime=min(dirtime1 to dirtime5).
  29  compute t2=timeind**2.
  30  compute logimh=ln(impmulth).
  31  compute logimh2=logimh**2.
  32  compute incmulh2=incmulth**2.
  33  compute totalh2=totalh**2.
  34  compute grmulth2=grmulth**2.
  35  compute outmh2=outmulth**2.
  36  compute impmh2=impmulth**2.
  37  compute logtour=ln(tourists).
  38  compute logtour2=logtour**2.
  39  *COMPUTE PRICEIND=1/PRICEIND.
  40  compute pricind2=priceind**2.
  41  compute avetime2=avetime**2.
  42  compute lpopmils=ln(popmils).
  43  compute lpopmil2=lpopmils**2.
  44  compute lhvacap=ln(hvacap).
  45  compute lhvacap2=lhvacap**2.
  46  compute lgrdpcap=ln(grdpcap).
  47  compute lgrdpcp2=lgrdpcap**2.
  48  list var=province priceind avetime incmulth outmulth impmulth
  49   popmils hvacap grdpcap.
  50

                                                                P
                                                                O
                                                                P
                                                                M
                                                                I
                                                                L
                                  R   A                         S
                                  I   V                         E
                                  C   E                         S
                                  E   T                         H
                                  I   I                         V
                                  N   M                         A
PROVINCE                          D   E  INCMULTH OUTMULTH INPMULTH    VACAP  GRDPCAP

ACEH                          15.92 3.88    .443   3.0608    .8033  3.69   4456  3470177
BALI                         100.00 1.02    .926   2.7485    .3142  2.86 325443  2594190
BENGKULU                      12.42 1.94    .390   1.7828    .7857  1.32   1670  1581481
CENTRAL_JAVA                  25.52 1.26    .688   2.5697    .5170 29.27   6565  1971317
CENTRAL_KALIMANT              12.18 2.37    .361   1.8470    .7524  1.54   7260  2821562
CENTRAL_SULAWESI               5.25 4.04    .366   1.7502    .7064  1.85   3336  1381022
EAST_JAVA                     65.40 1.09    .816   2.3583    .2780 33.38  17640  1961576
EAST_KALIMANTAN                8.14 2.73    .528   2.4445    .6092  2.14  45160 10150409
EAST_NUSA_TENGGA               7.39 1.74    .360   1.6490    .7626  3.46   2207   831457
EAST_TIMOR                     5.24 1.51    .364   1.9196    .7676   .81   2050   843365
IRIAN_JAYA                      .00 6.54    .381   1.9828    .7693  1.83  12303  3610098
JAKARTA                       91.27  .84    .841   3.0290    .4588  8.80  71112  7940042
JAMBI                          9.25 2.16    .424   1.7966    .8070  2.24   3367  1543544
LAMPUNG                       18.26 1.26    .600   2.0589    .6062  6.43   1609  1248027
MALUKU                         5.36 4.41    .473   2.0269    .5990  2.00   3854  1551023
NORTH_SULAWESI                57.91 4.04    .630   1.7861    .5598  2.58    426  1467794
NORTH_SUMATERA                42.30 2.64    .756   2.7712    .6667 10.81   8190  2282948
RIAU                          17.78 2.18    .800   2.9477    .5444  3.67  20365  5806486
SOUTHEAST_SULAWE               5.36 3.30    .377   1.7599    .6800   .75    884  2430239
SOUTH_KALIMANTAN              13.23 2.43    .594   1.8376    .5579  3.78   4465  2207210
SOUTH_SULAWESI                12.18 1.92    .503   3.5765    .5398  7.35   4401  1401272
SOUTH_SUMATERA                15.30 1.84    .480   2.7617    .6566  6.88   1895  2118840
WEST_JAVA                     22.08  .99    .632   3.0827    .5238 37.79   4442  1940478
WEST_KALIMANTAN               13.44 2.26    .435   2.9118    .7427  3.49    689  2045065
WEST_NUSA_TENGGA              28.27 1.59    .723   2.5312    .5305  3.55  11166   976990
WEST_SUMATERA                 16.56 2.23    .509   2.0505    .2624  4.20    264   191822
YOGYAKARTA                    30.72 1.26    .758   3.1736    .5064  2.92  30694  1925314

Number of cases read:  27    Number of cases listed:  27


  51  corr losall with incmulth incmultb incmulto outmulth outmultb outmulto
  52   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
  53   print=sig.
  54

                    - - Correlation Coefficients - -

          INCMULTH    INCMULTB    INCMULTO    OUTMULTH    OUTMULTB    OUTMULTO

LOSALL     -.5272      -.4692      -.5077      -.3422      -.3829      -.3329
           ( 27)       ( 14)       ( 27)       ( 27)       ( 14)       ( 27)
           P= .005     P= .091     P= .007     P= .081     P= .177     P= .090

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

          TOTALH      TOTALB      TOTALO      GRMULTH     GRMULTB     GRMULTO

LOSALL     -.3622      -.3343      -.3508       .0709      -.3713       .0693
           ( 27)       ( 14)       ( 27)       ( 27)       ( 14)       ( 27)
           P= .063     P= .243     P= .073     P= .725     P= .191     P= .731

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed
```

	(27)	(14)	(27)	(27)	(14)	(27)
	P= .003	P= .002	P= .003	P= .065	P= .185	P= .062

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	TOTALH	TOTALB	TOTALO	GRMULTH	GRMULTB	GRMULTO
PINDEX	.0052	.0415	.0088	-.0029	.6543	-.0025
	(27)	(14)	(27)	(27)	(14)	(27)
	P= .980	P= .888	P= .965	P= .989	P= .011	P= .990

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

	IMPMULTH	IMPMULTB	IMPMULTO
PINDEX	-.3826	-.5187	-.3831
	(27)	(14)	(27)
	P= .049	P= .057	P= .049

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

```
  80  regression vars=pindex pindex2 incmulth/sta=end/
  81   dep=incmulth/method=stepwise/res=durbin.
```

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel
Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.5441	.2961	10.515	.003	In:	PINDEX	.5441
2	.7318	.5355	13.835	.000	In:	PINDEX2	-1.8987

Variable(s) Entered on Step Number
2.. PINDEX2

Multiple R	.73179
R Square	.53551
Adjusted R Square	.49680
Standard Error	.12351

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	.42206	.21103
Residual	24	.36609	.01525

F = 13.83487 Signif F = .0001

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PINDEX	.710783	.161301	2.378675	4.407	.0002
PINDEX2	-.166803	.047423	-1.898692	-3.517	.0018
(Constant)	.290021	.062013		4.677	.0001

End Block Number 1 POUT = .100 Limits reached.

* * * * M U L T I P L E R E G R E S S I O N * * * *

Equation Number 1 Dependent Variable.. INCMULTH Income multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3837	.8624	.5614	.1274	27
*RESID	-.1799	.2842	.0000	.1187	27
*ZPRED	-1.3944	2.3626	.0000	1.0000	27
*ZRESID	-1.4569	2.3013	.0000	.9608	27

Total Cases = 27

Durbin-Watson Test = 1.41130

```
  72  corr tfall pindex with avetime avetime2/print=sig.
```

- - Correlation Coefficients - -

	AVETIME	AVETIME2
TFALL	.8951	.8441
	(27)	(27)
	P= .000	P= .000
PINDEX	-.4697	-.3480
	(27)	(27)
	P= .013	P= .075

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

```
  73  regression vars=avetime avetime2 pindex/sta=end/
  74   dep=pindex/method=stepwise/res=durbin.
  75
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. PINDEX

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.4697	.2206	7.076	.013	In:	AVETIME	-.4697
2	.6077	.3693	7.028	.004	In:	AVETIME2	1.4278

Variable(s) Entered on Step Number
2.. AVETIME2

Multiple R	.60773
R Square	.36934
Adjusted R Square	.31679
Standard Error	.48161

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	3.26010	1.63005
Residual	24	5.56671	.23195

F = 7.02771 Signif F = .0040

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
AVETIME	-.823033	.267797	-1.844448	-3.073	.0052
AVETIME2	.094105	.039554	1.427841	2.379	.0257
(Constant)	1.783070	.376327		4.738	.0001

End Block Number 1 POUT = .100 Limits reached.

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Equation Number 1 Dependent Variable.. PINDEX

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	-.0164	1.1580	.5226	.3541	27
*RESID	-.5015	2.0732	.0000	.4627	27
*ZPRED	-1.5221	1.7942	.0000	1.0000	27
*ZRESID	-1.0413	4.3047	.0000	.9608	27

Total Cases = 27

Durbin-Watson Test = 2.11359

```
  76  corr pindex with incmulth incmultb incmulto outmulth outmultb outmulto
  77   totalh totalb totalo grmulth grmultb grmulto impmulth impmultb impmulto/
  78   print=sig.
  79
```

- - Correlation Coefficients - -

	INCMULTH	INCMULTB	INCMULTO	OUTMULTH	OUTMULTB	OUTMULTO
PINDEX	.5441	.7510	.5482	.3600	.3765	.3644

F = 6.26844 Signif F = .0065

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PINDEX	-.544806	.170976	-2.045476	-3.186	.0040
PINDEX2	.134763	.050267	1.720972	2.681	.0131
(Constant)	.807857	.065733		12.290	.0000

End Block Number 1 POUT = .100 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	.3771	.7361	.6040	.0909	27
*RESID	-.3781	.1911	.0000	.1258	27
*ZPRED	-2.4954	1.4538	.0000	1.0000	27
*ZRESID	-2.8881	1.4594	.0000	.9608	27

Total Cases = 27

Durbin-Watson Test = 1.98611

```
 90  regression vars=pindex pindex2 logtour/sta=end/
 91   dep=logtour/method=stepwise/res=durbin.
 92
```

**** MULTIPLE REGRESSION ****

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOGTOUR

Block Number 1. Method: Stepwise Criteria PIN .0500 . POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.7300	.5330	28.530	.000	In:	PINDEX	.7300
2	.9009	.8116	51.699	.000	In:	PINDEX2	-2.0482

Variable(s) Entered on Step Number
2.. PINDEX2

Multiple R .90090
R Square .81161
Adjusted R Square .79591
Standard Error .39112

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	15.81696	7.90848
Residual	24	3.67133	.15297

F = 51.69883 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
PINDEX	4.025384	.510807	2.709084	7.880	.0000
PINDEX2	-.894770	.150178	-2.048226	-5.958	.0000
(Constant)	9.687531	.196384		49.330	.0000

End Block Number 1 POUT = .100 Limits reached.

**** MULTIPLE REGRESSION ****

Equation Number 1 Dependent Variable.. LOGTOUR

Residuals Statistics:

	Min	Max	Mean	Std Dev	N
*PRED	10.2192	13.3524	11.2544	.7800	27
*RESID	-.6969	.9689	.0000	.3758	27
*ZPRED	-1.3272	2.6899	.0000	1.0000	27
*ZRESID	-1.7817	2.4772	.0000	.9608	27

Total Cases = 27

```
  82  regression vars=pindex pindex2 totalh/sta=end/
  83   dep=totalh/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. TOTALH Total Employment Multiplier

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

```
  84  regression vars=pindex pindex2 grmulth/sta=end/
  85   dep=grmulth/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. GRMULTH Government Revenue Multipl

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

```
  86  regression vars=pindex pindex2 outmulth/sta=end/
  87   dep=outmulth/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. OUTMULTH Output Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

End Block Number 1 PIN = .050 Limits reached.
No variables entered/removed for this block.

```
  88  regression vars=pindex pindex2 impmulth/sta=end/
  89   dep=impmulth/method=stepwise/res=durbin.
```

*** * * * M U L T I P L E R E G R E S S I O N * * * ***

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. IMPMULTH Import Multiplier : Hotel

Block Number 1. Method: Stepwise Criteria PIN .0500 POUT .1000

Step	MultR	Rsq	F(Eqn)	SigF		Variable	BetaIn
1	.3826	.1464	4.288	.049	In:	PINDEX	-.3826
2	.5858	.3431	6.268	.006	In:	PINDEX2	1.7210

Variable(s) Entered on Step Number
2.. PINDEX2

Multiple R	.58577
R Square	.34313
Adjusted R Square	.28839
Standard Error	.13091

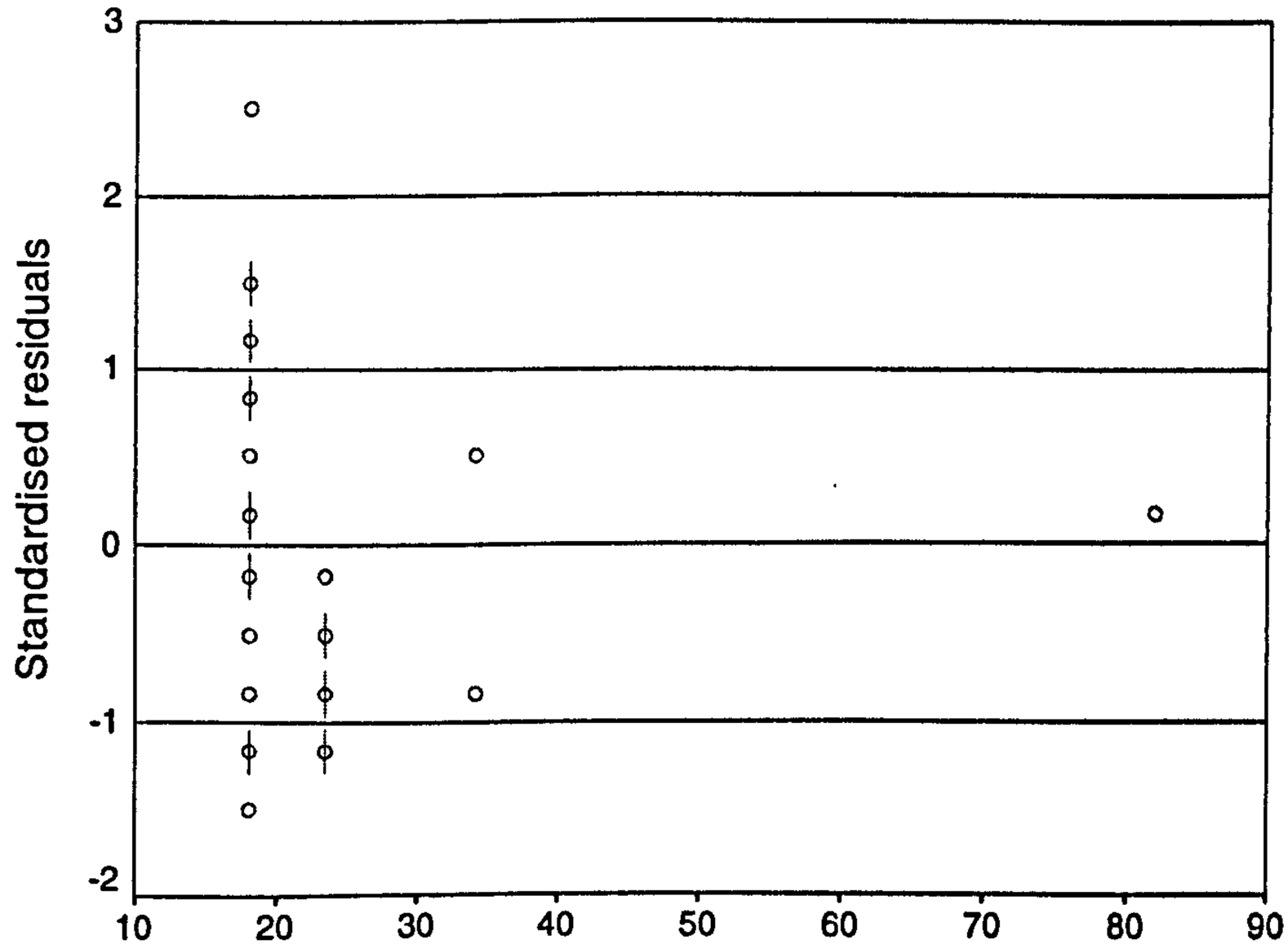
Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	2	.21486	.10743
Residual	24	.41132	.01714

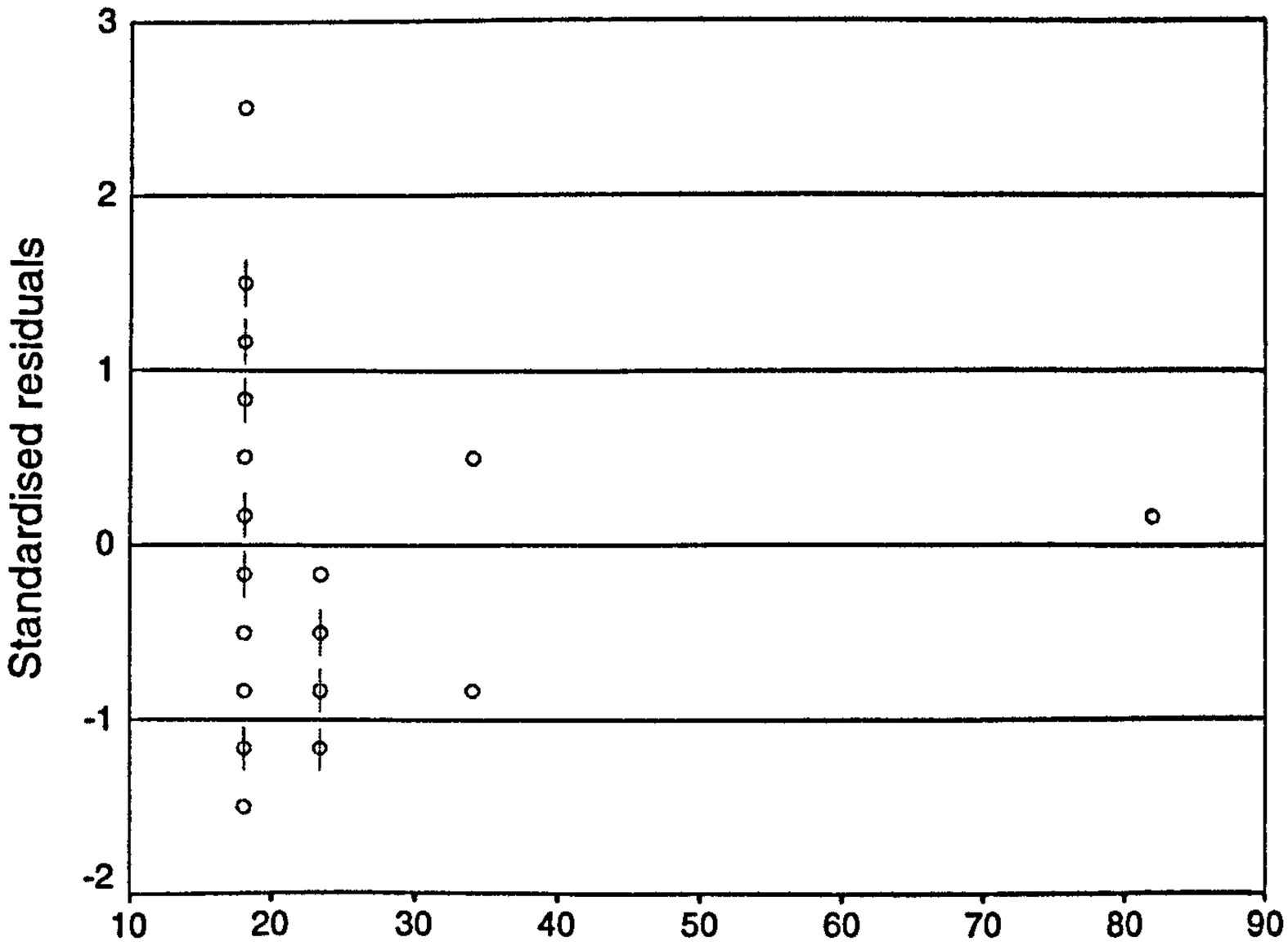
APPENDIX 4

STANDARDISED RESIDUAL VALIDITY TESTS FOR THE MODELS

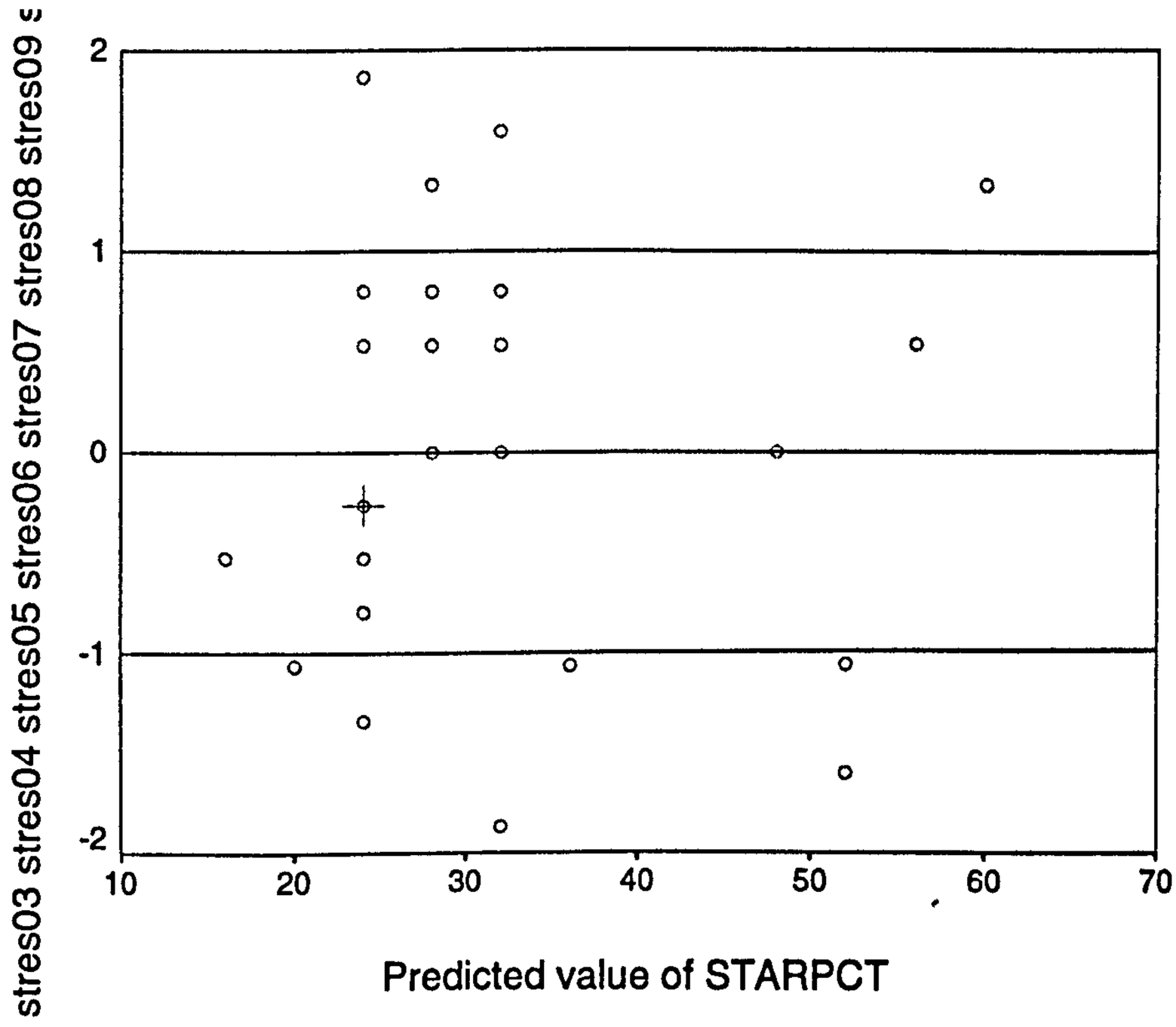
Graph



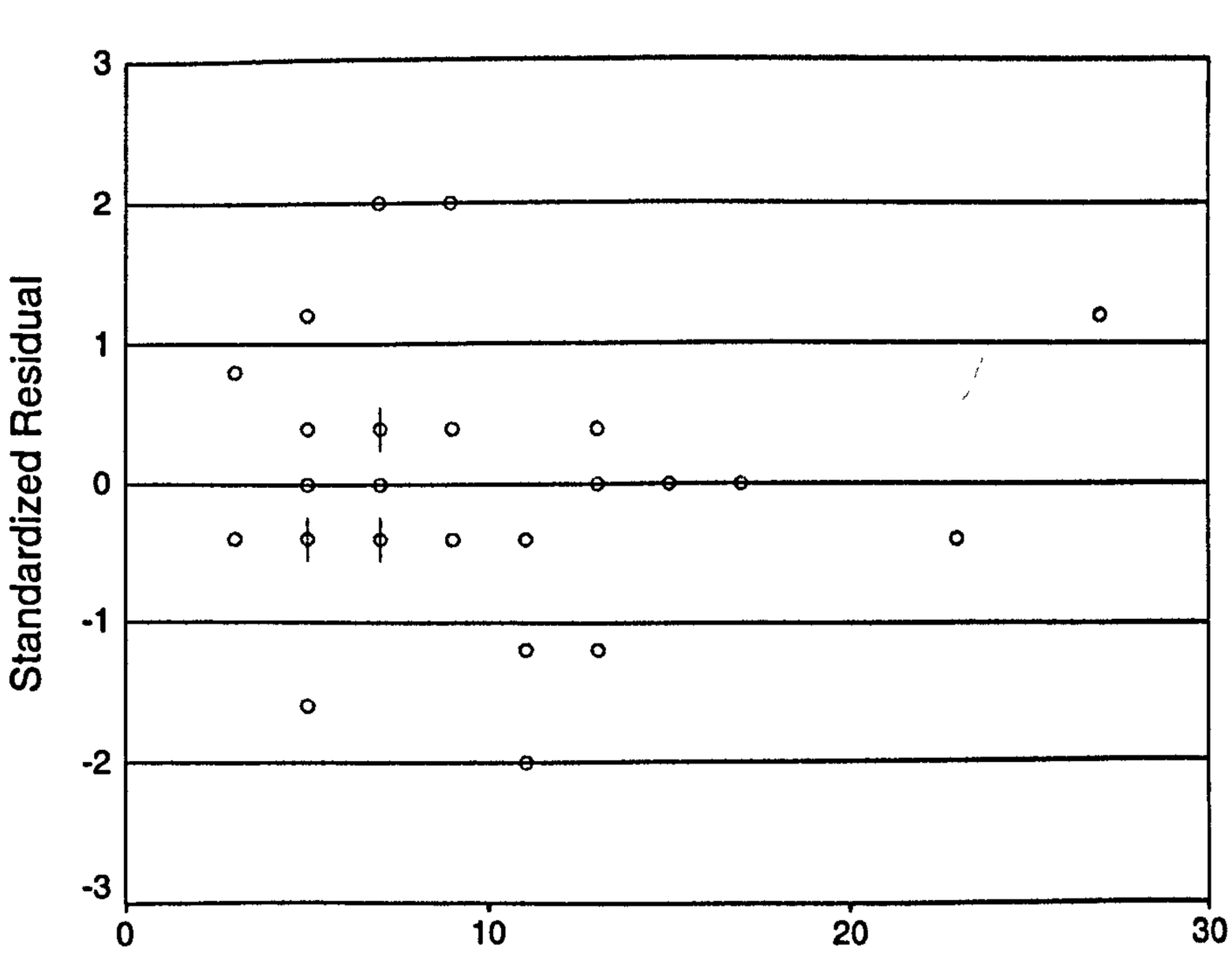
Graph



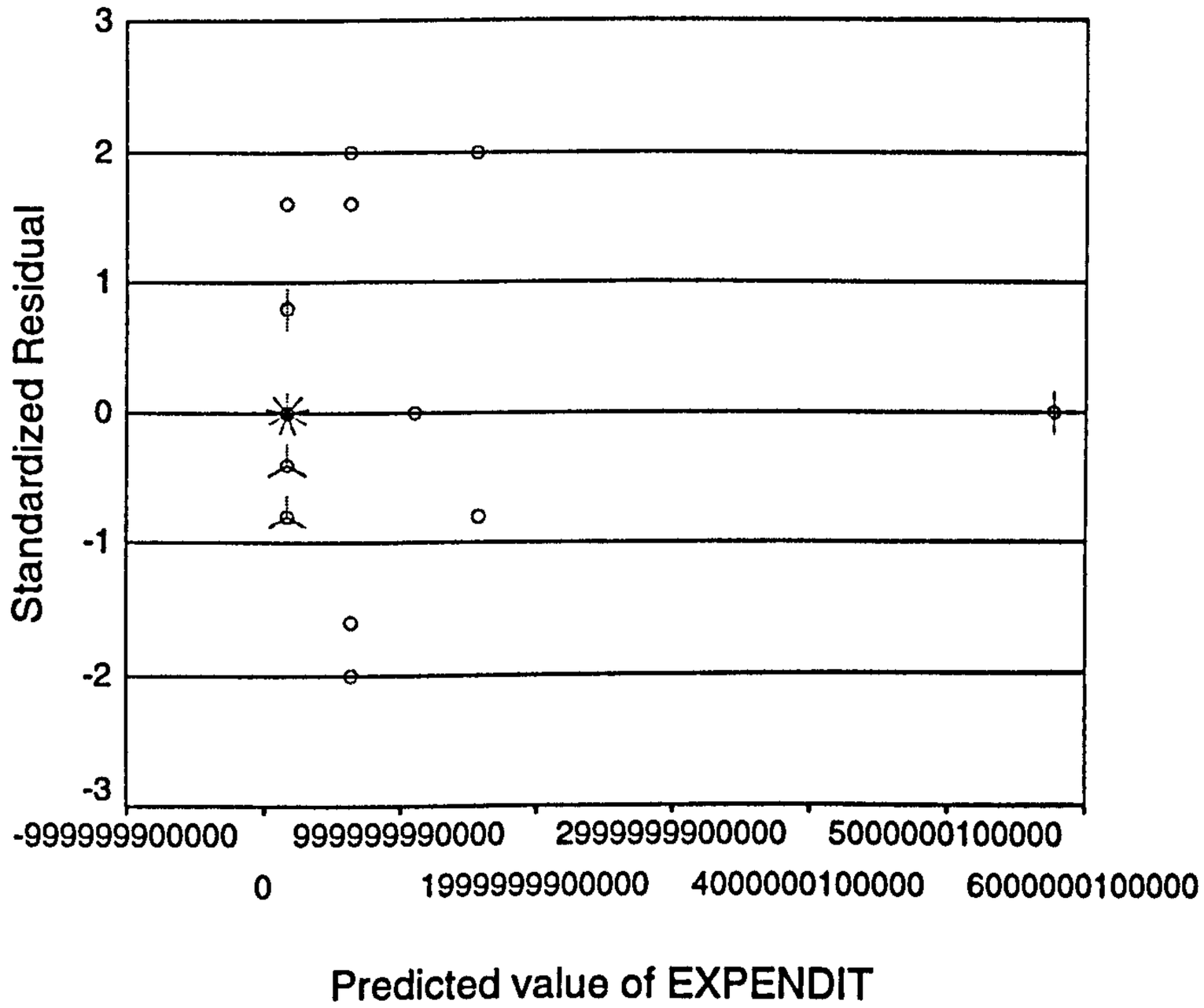
Graph


stres03 stres04 stres05 stres06 stres07 stres08 stres09 s
2
1
0
-1
-2
10
20
30
40
50
60
70
Predicted value of STARPCT

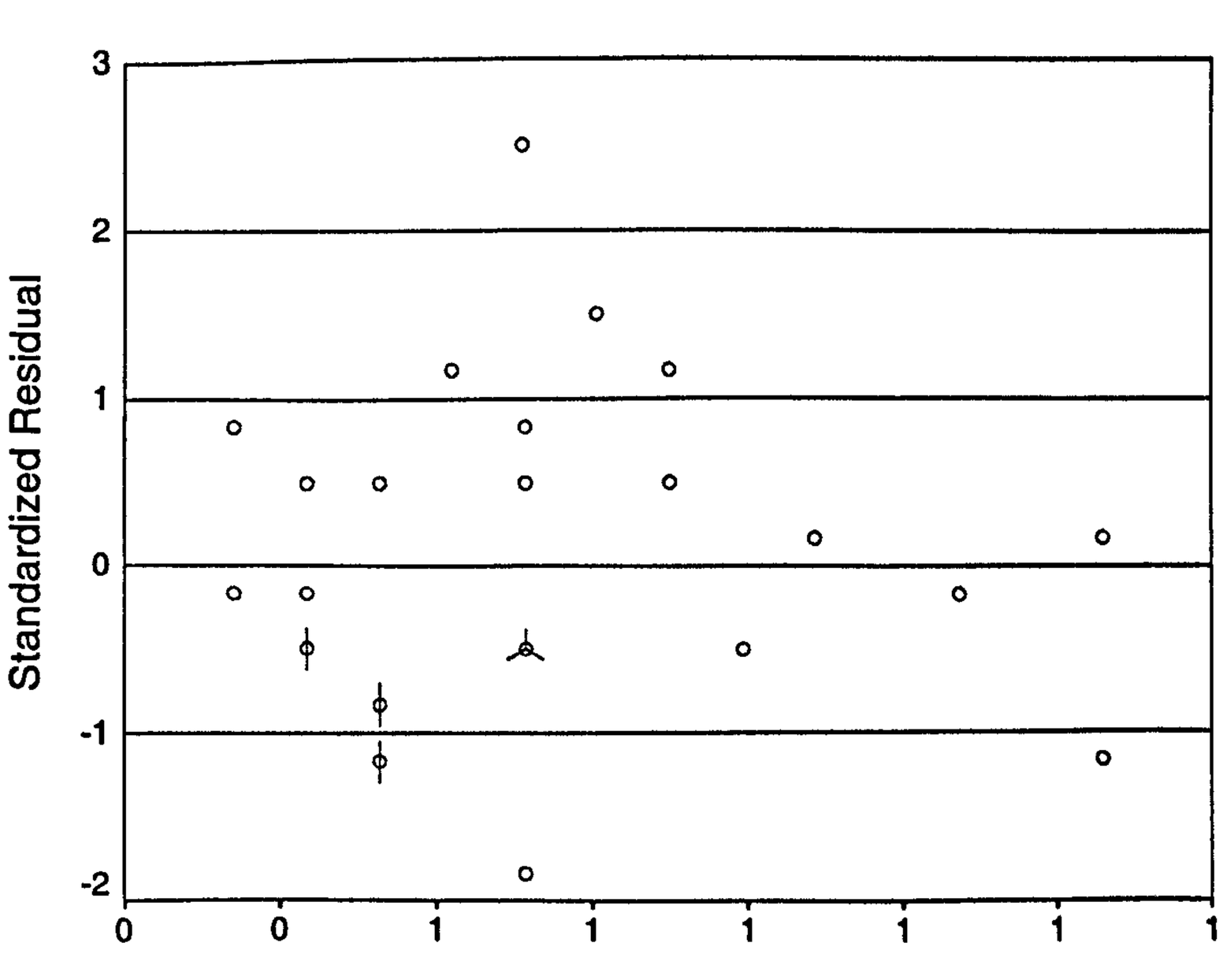
Graph


Standardized Residual
3
2
1
0
-1
-2
-3
0
10
20
30
Predicted value of GROWROOM

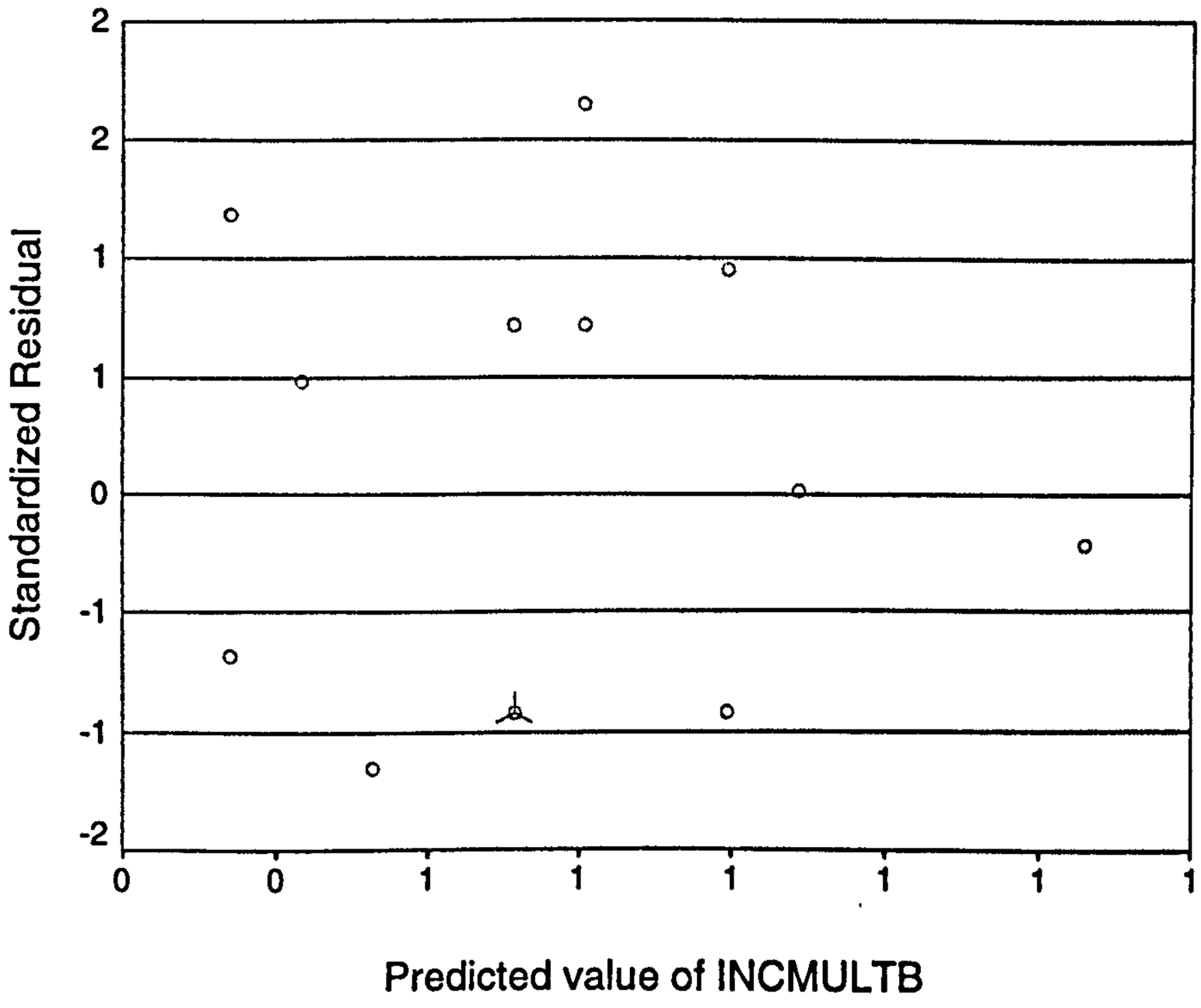
Graph


Standardized Residual
3
2
1
0
-1
-2
-3
-999999900000
0
999999990000
1999999900000
2999999900000
4000000100000
5000000100000
6000000100000
Predicted value of EXPENDIT

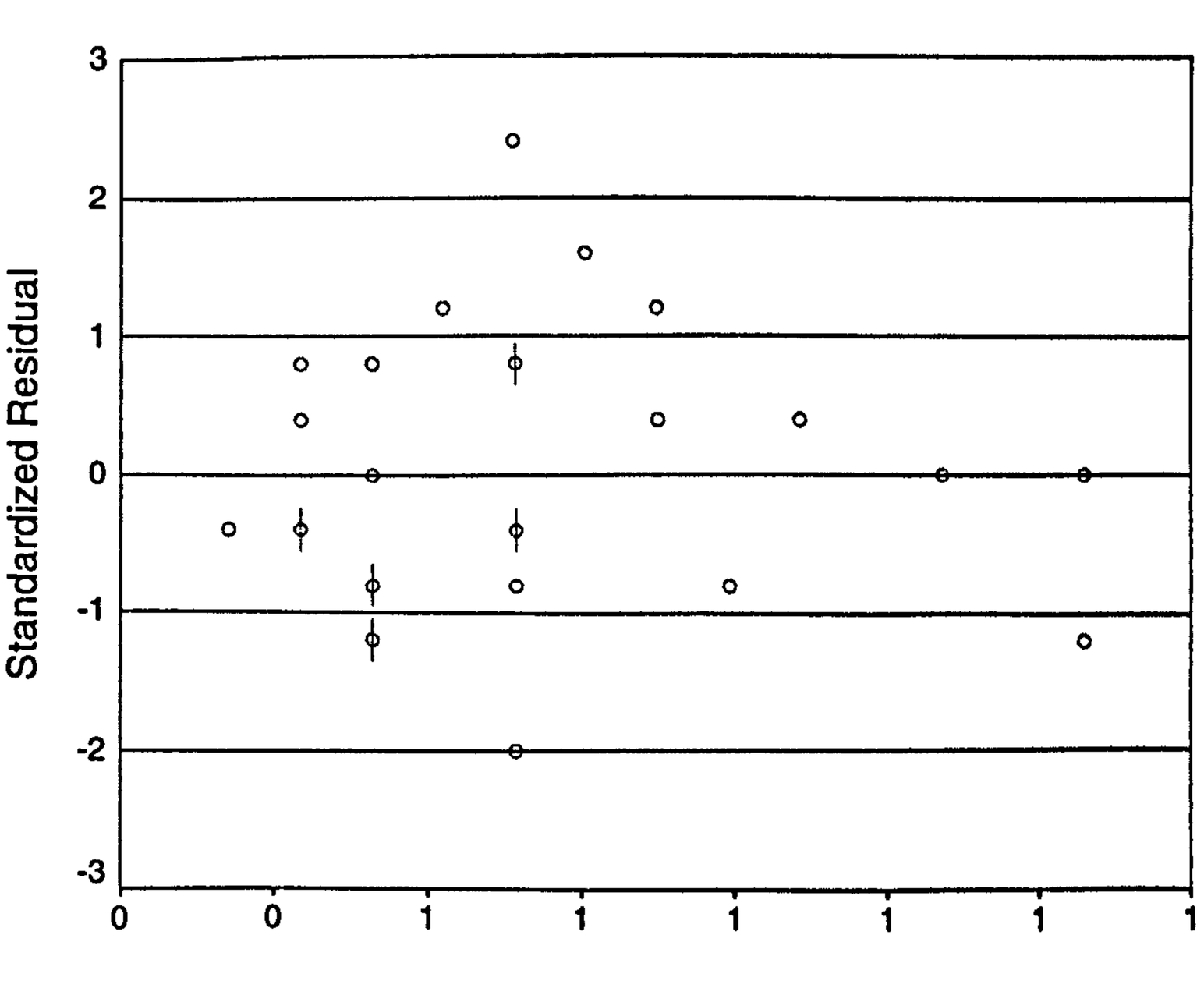
Graph


Standardized Residual
3
2
1
0
-1
-2
0
0
1
1
1
1
1
1
Predicted value of INCMULTH

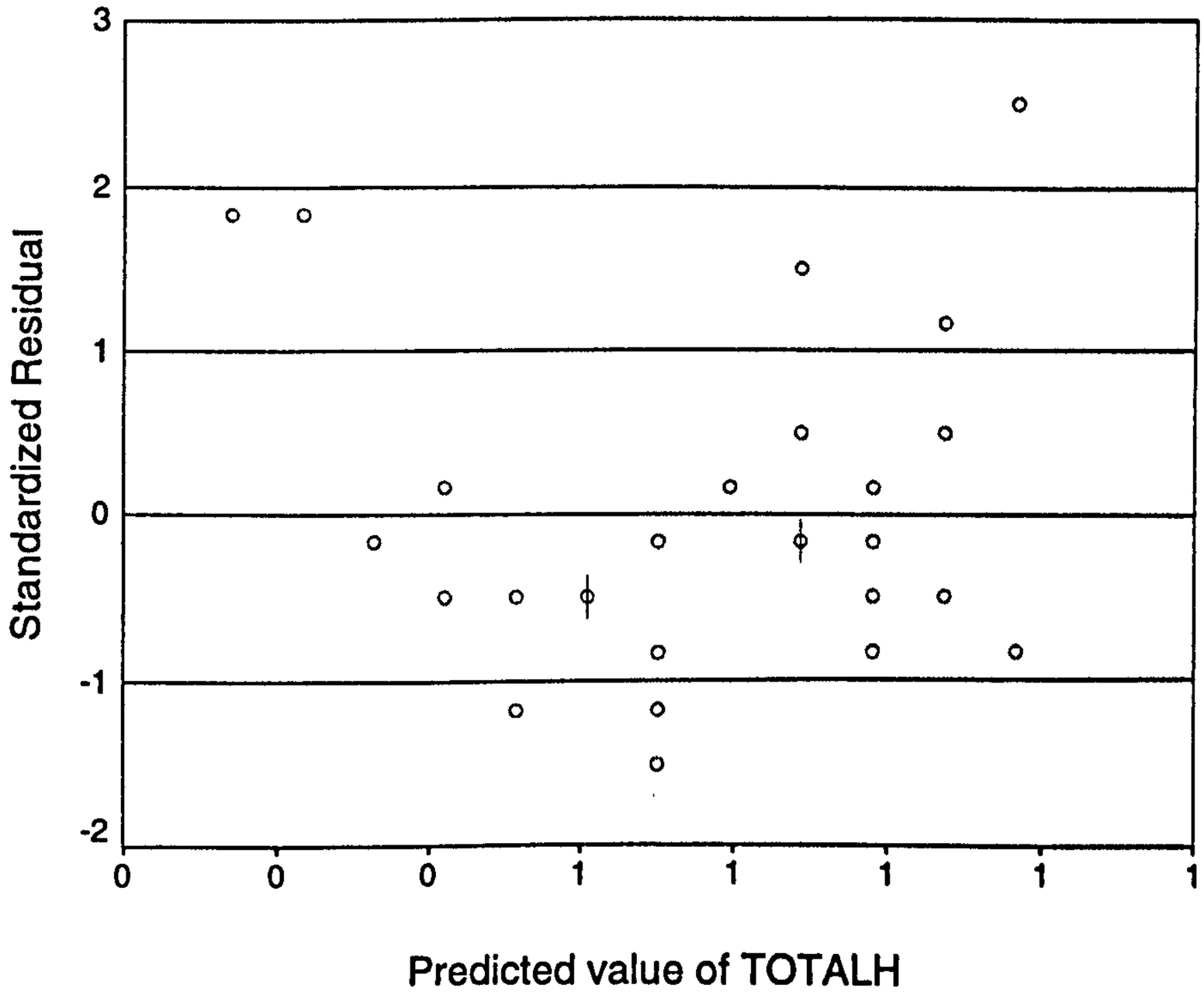
Graph


Standardized Residual
2
2
1
1
0
-1
-1
-2
0
0
1
1
1
1
1
1
Predicted value of INCMULTB

Graph


Standardized Residual
3
2
1
0
-1
-2
-3
0
0
1
1
1
1
1
1
Predicted value of INCMULTO

Graph

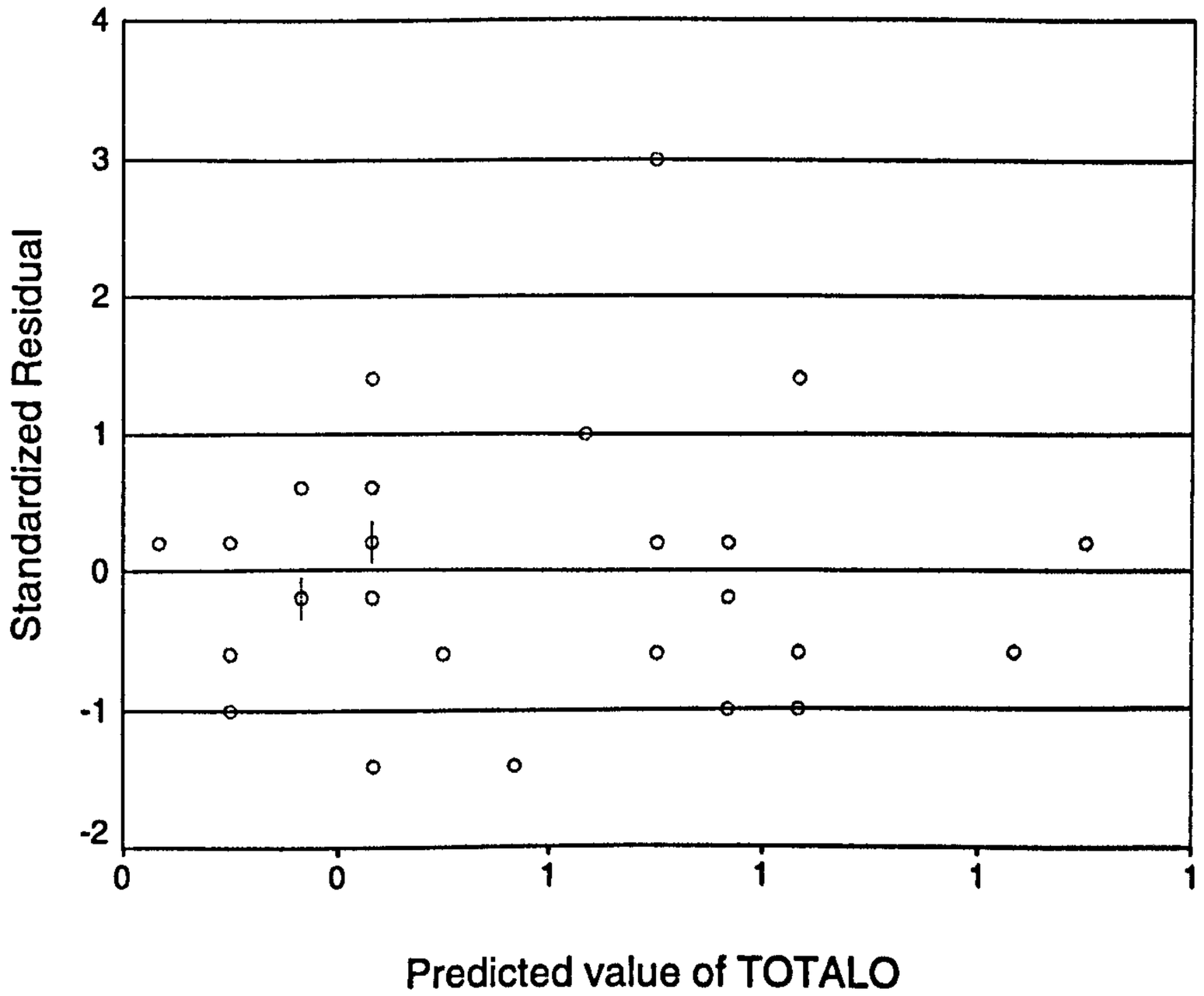


Graph

```
>Error # 17862
>There are not enough cases with valid values available for GRAPH to
>process.
>This command not executed.

>Chart not produced:  Scatter of stres09 pred09
```

Graph

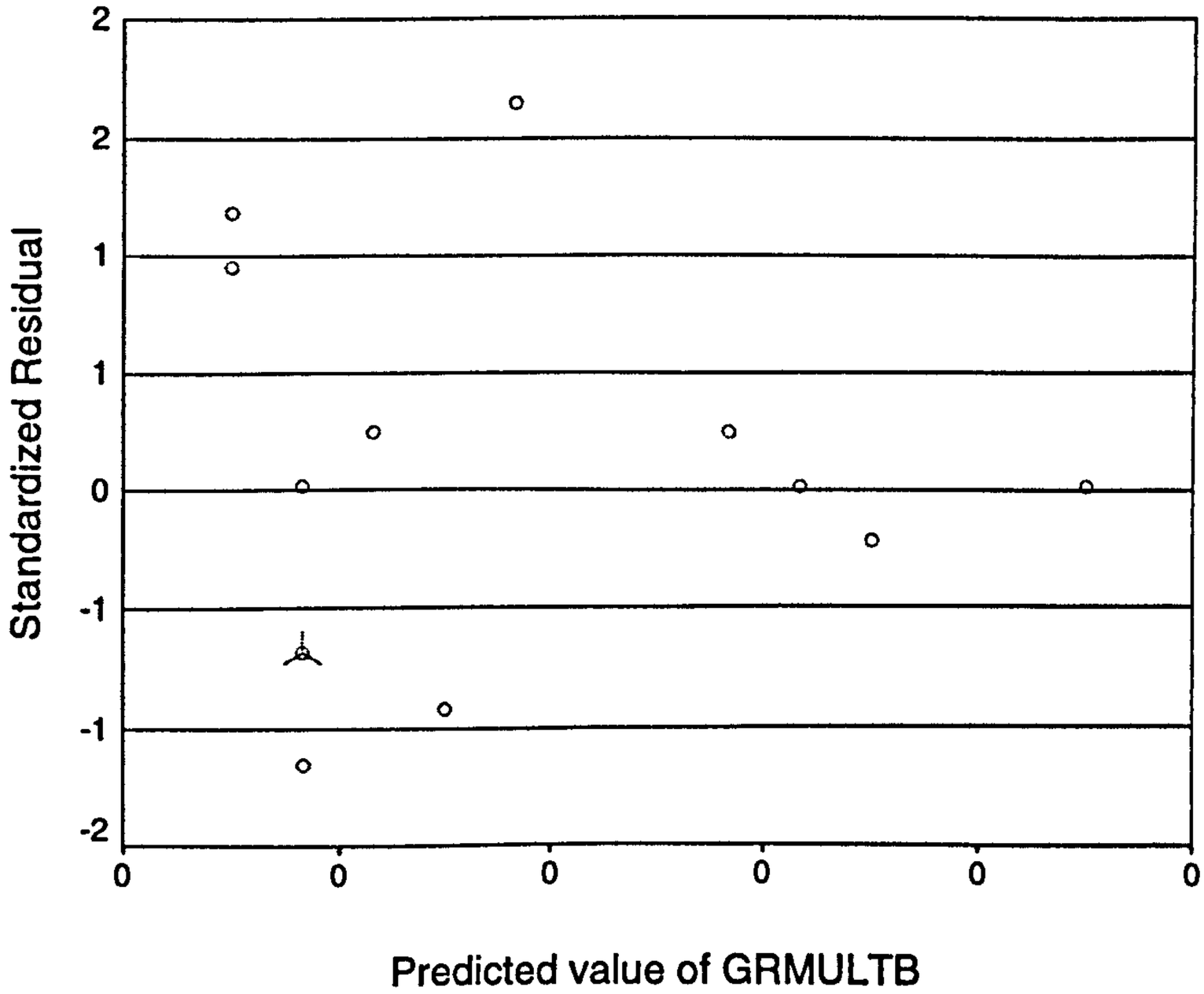


Graph

```
>Error # 17862
>There are not enough cases with valid values available for GRAPH to
>process.
>This command not executed.

>Chart not produced:  Scatter of stres11 pred11
```

Graph

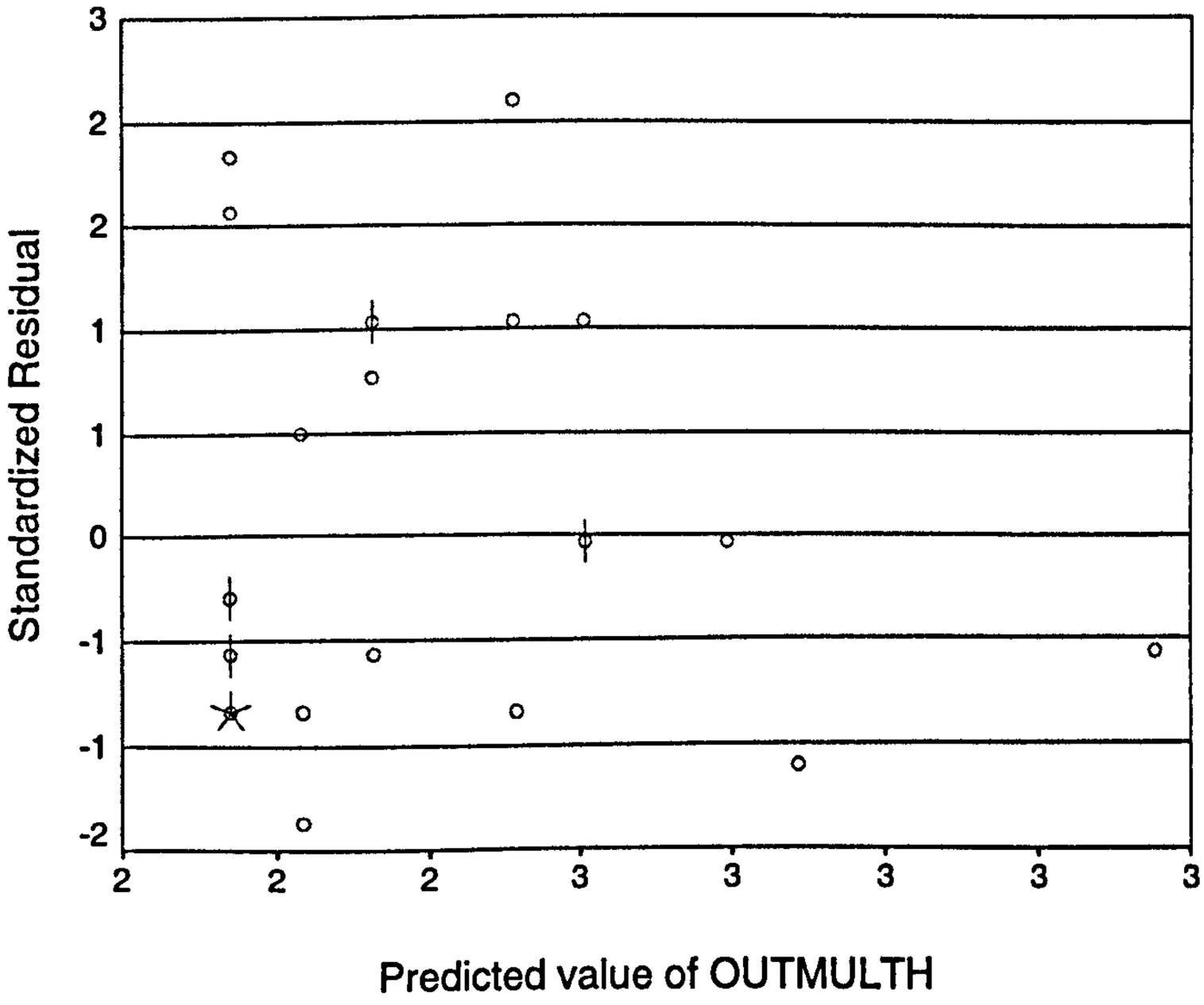


Graph

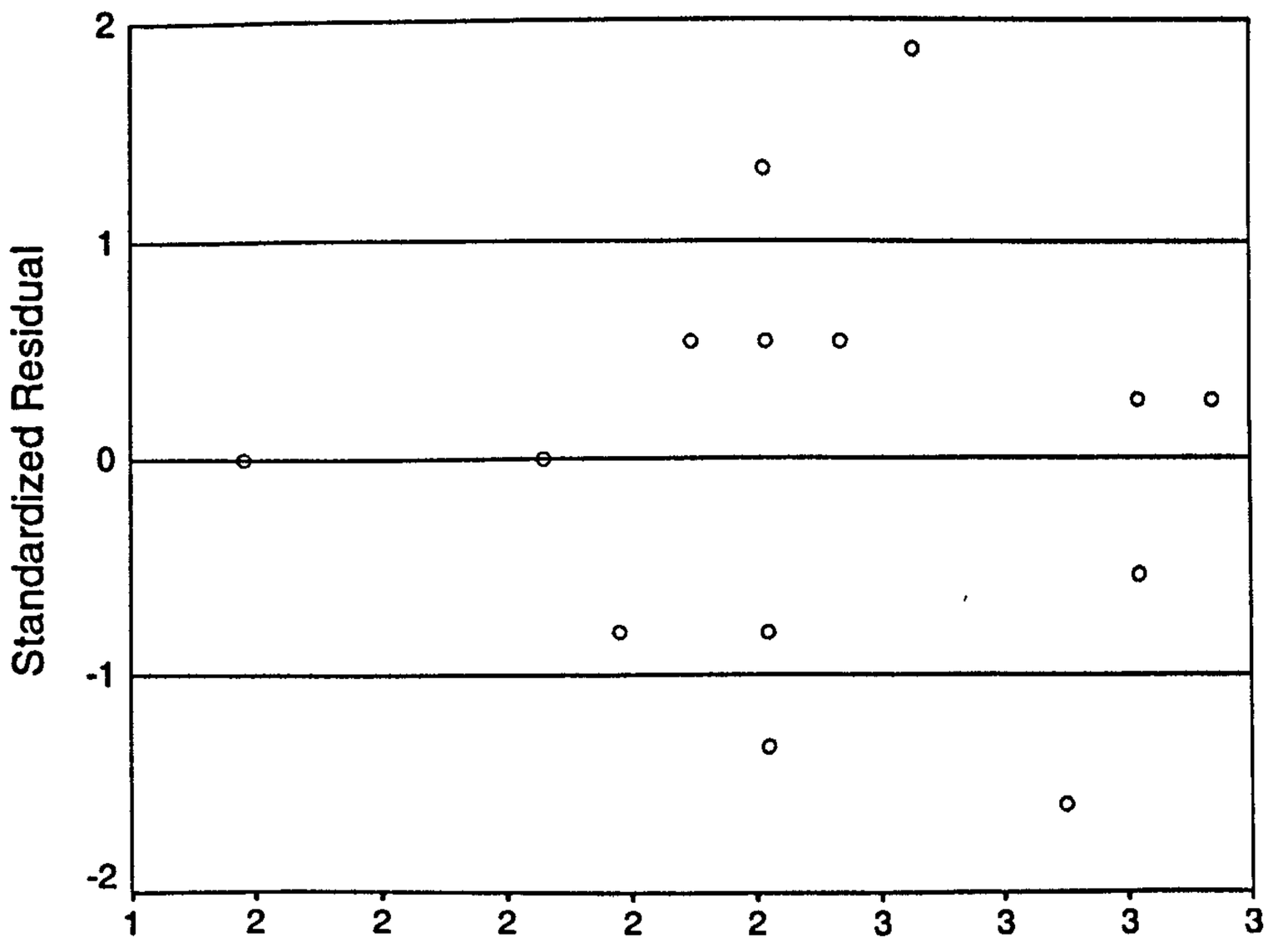
```
>Error # 17862
>There are not enough cases with valid values available for GRAPH to
>process.
>This command not executed.

>Chart not produced:  Scatter of stres13 pred13
```

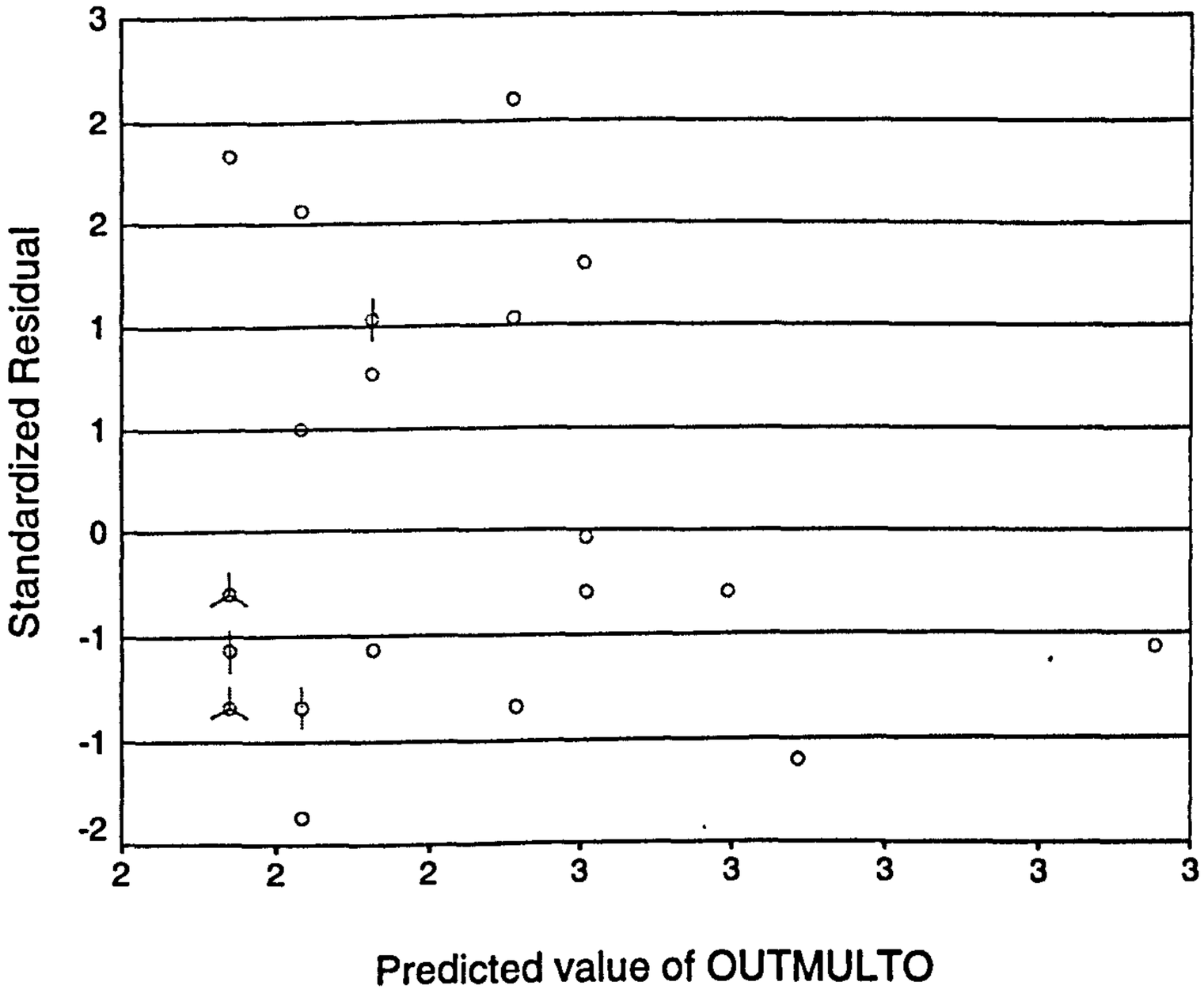
Graph


Standardized Residual
3
2
2
1
1
0
-1
-1
-2
2
2
2
3
3
3
3
3
Predicted value of OUTMULTH

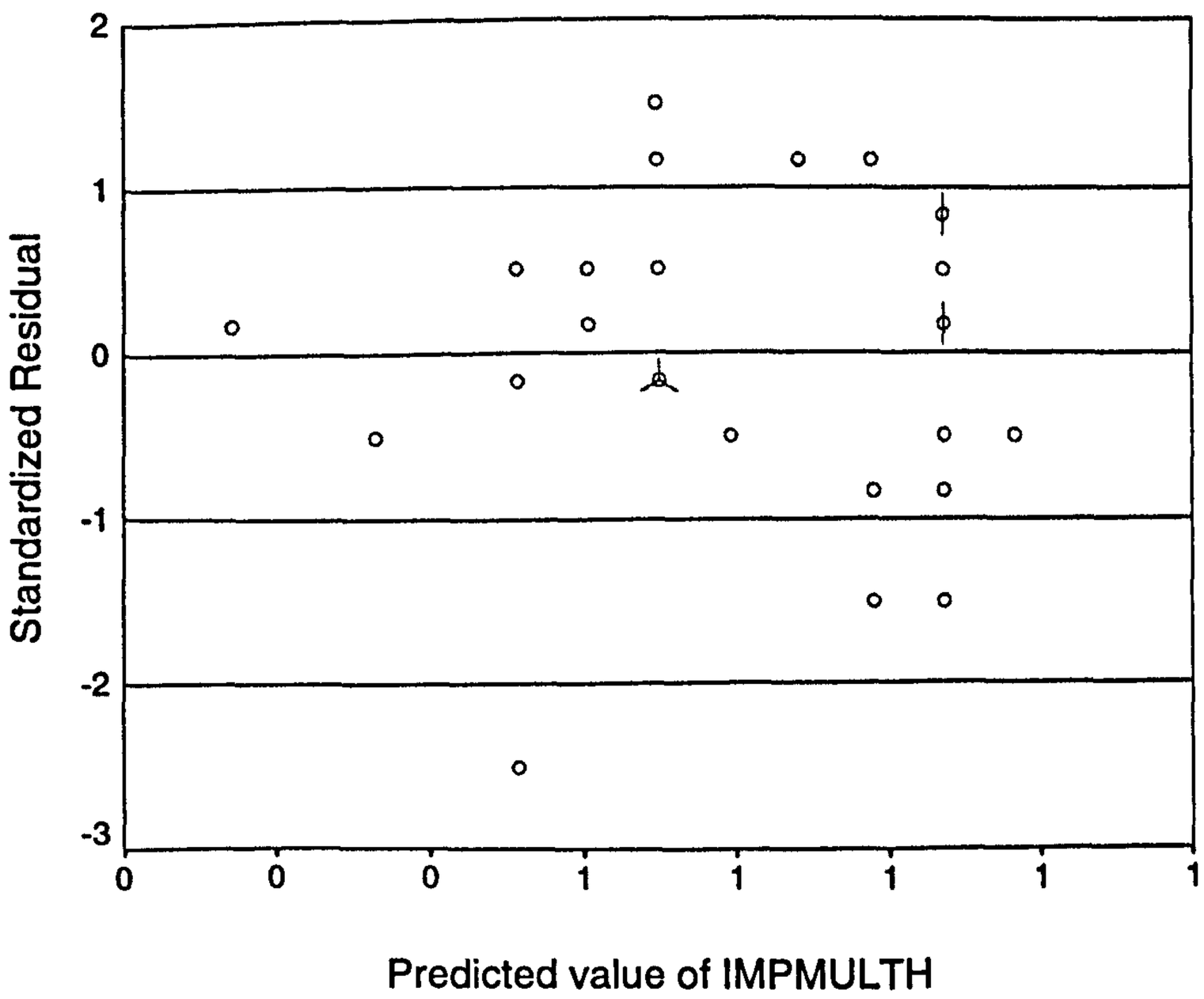
Graph


Standardized Residual
2
1
0
-1
-2
1
2
2
2
2
2
3
3
3
3
Predicted value of OUTMULTB

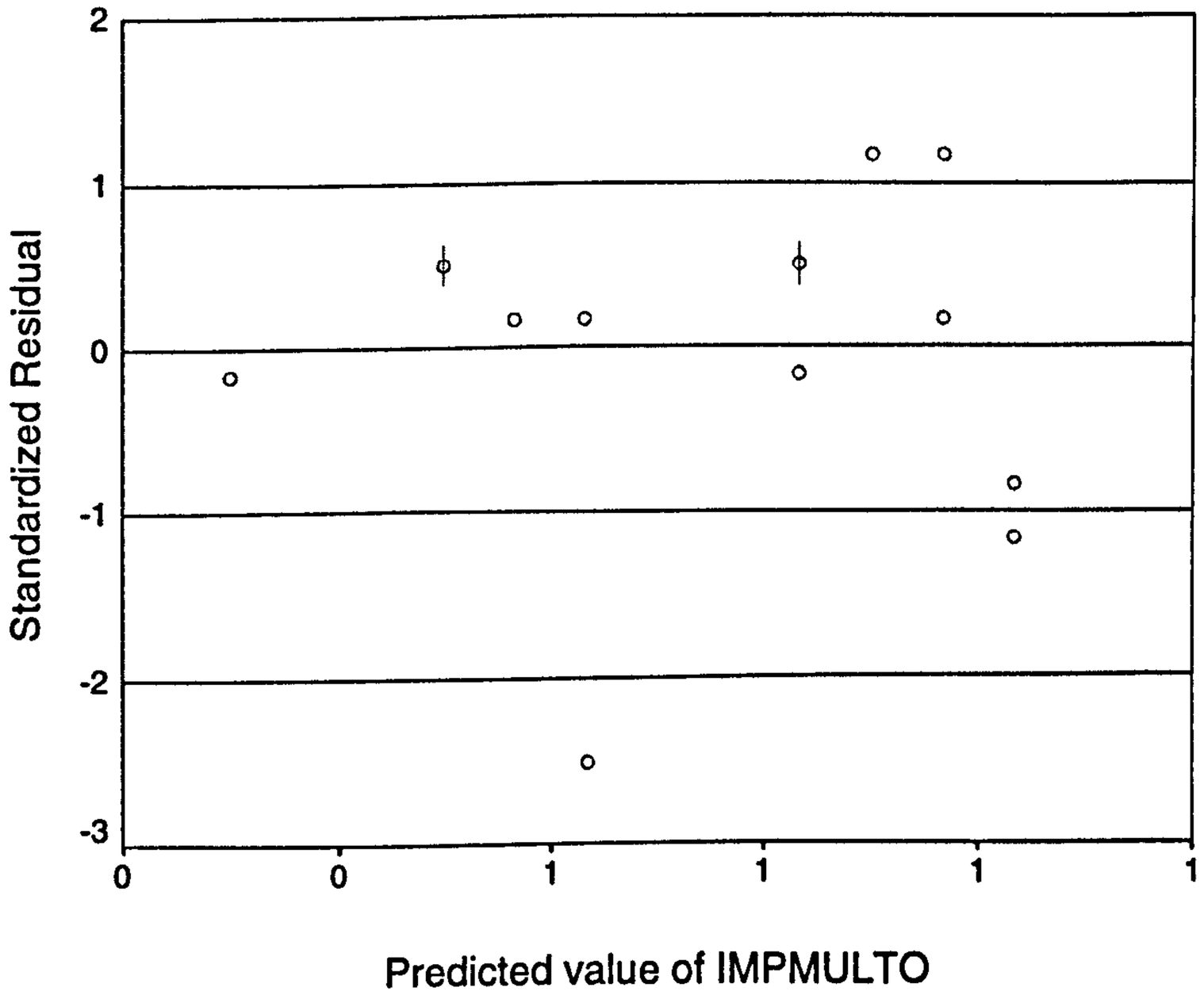
Graph


Standardized Residual
3
2
2
1
1
0
-1
-1
-2
2
2
2
3
3
3
3
3
Predicted value of OUTMULTO

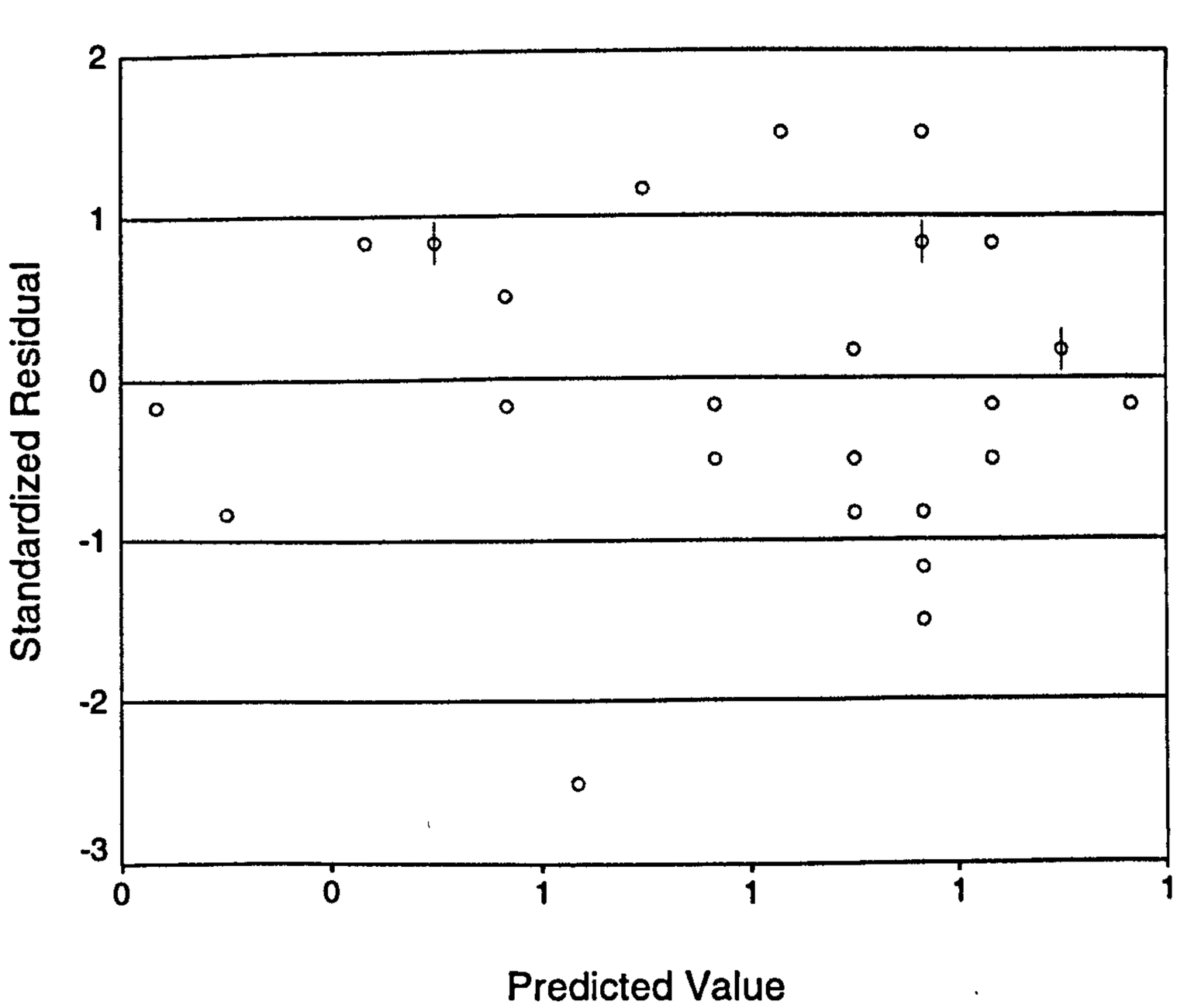
Graph


Standardized Residual
2
1
0
-1
-2
-3
0
0
0
1
1
1
1
1
Predicted value of IMPMULTH

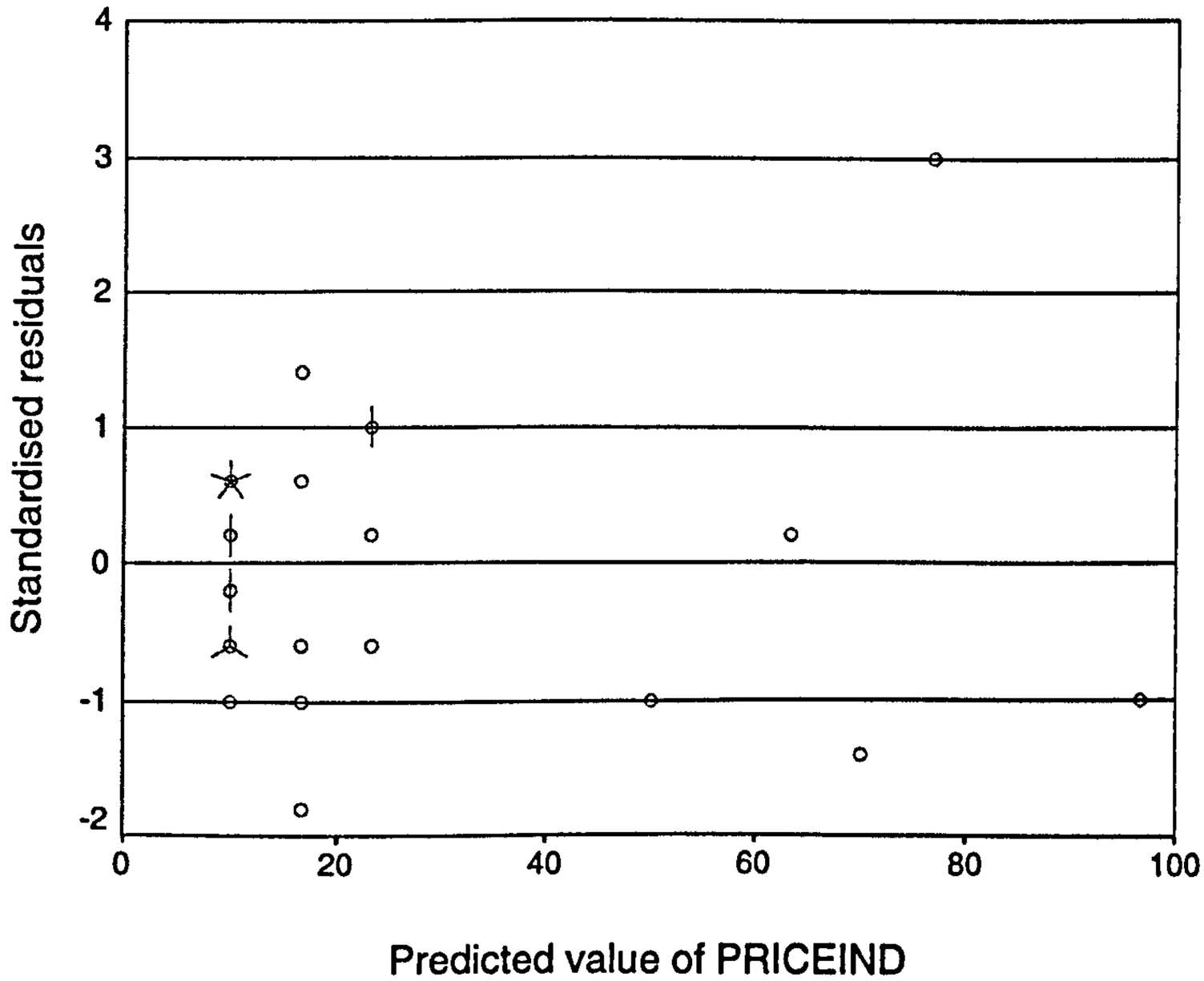
Graph


Standardized Residual
2
1
0
-1
-2
-3
0
0
1
1
1
1
Predicted value of IMPMULTO

Graph


Standardized Residual
2
1
0
-1
-2
-3
0
0
1
1
1
1
Predicted Value

Graph


Standardised residuals
4
3
2
1
0
-1
-2
0
20
40
60
80
100
Predicted value of PRICEIND