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DIGITIZATION, INTERNET AND THE ECONOMICS OF CREATIVE INDUSTRIES

Ruth Towse

The creative industries are increasingly understood to contribute significantly to National Income and economic growth. Made up of the performing, literary and visual arts, museums and heritage along with the music, film, video, broadcasting and advertising industries, they are at the confluence of two streams of change: one due to the widespread adoption of digital technologies and the Internet and the other in the economic theories needed to understand their effects. Economics of the arts and culture has long been concerned with the case for state support for the performing arts and heritage organisations; now, though, aspects of their work of their production have been changed by digitization as the Internet enables mass distribution. This calls for a new economic analysis of the creative industries.

In this chapter, I argue that industrial economics has adapted to these changes and I discuss them in terms of a paradigmatic shift. I conclude that while the Internet has transformed the distribution and consumption patterns of the arts and culture, the cost of creation of new work is essentially unchanged with mixed implications for arts organisations and artists. I consider the impact of the recent widespread adoption of digital technologies and the Internet on supply and demand in the creative industries. These industries have also been greatly affected by the lockdown measures due to the Covid-19 pandemic. In some cases, producers have switched to the Internet as a means of accessing audiences and other consumers. Whether that process will outlive the pandemic is a question that needs to be considered in cultural economics.

The chapter is organised as follows: Section 1 introduces deals with what I call the paradigms of the new economy, the reorientation towards the production and consumption of intangible, ephemeral goods produced and distributed electronically, which has ushered in the concepts of the knowledge and/or creative economy. These ideas apply especially to the

creative industries. Section 2 analyses change in the creative economy. Section 3 then discusses the use of 'old' economic theories in analysing the creative industries and 'new' business models; the old was concerned largely with the application of welfare economics to the performing arts and heritage sectors; the new business models, for example, subscriptions to large catalogues of music, film and broadcasts, are enabled by the Internet. Section 4, on supporting creativity in the digital era, focuses on labour markets for creators and performers, the primary producers of creative goods and services in the creative industries and the role of copyright. It is argued that although they have been able to use the Internet to access markets, technological solutions do not alter the cost of producing the original 'prototype'. Section 5 concludes with some final remarks, followed by Section 6 References.

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The 'new' economy signifies the shift to the production and consumption of intangible, ephemeral goods produced in digital form and distributed electronically via the Internet. It has ushered in the concepts of the knowledge and/or creative economy. This begs the question: do we need new economic analysis to understand these changes?

1 Paradigms of the 'new' economy

What constitutes a paradigm shift in the analysis of change has been hotly debated in economics as in science. In general, it is a break with that which went before, usually a body of thought or a dominant theory. Though the term is often over-used, it can be a useful way of thinking about change – change brought about by the introduction of new technologies, new market structures and players and new business models, as well as other types of change. But are such changes radical enough to cause a paradigm shift in the economic theories used to interpret them or has the theory simply evolved? I suggest that what has come to be called platform economics – the microeconomics of two- and multi-sided markets – calls for this kind of analysis as it is applied to digitization and use of the Internet in supply and demand for the products of the creative industries.

The creative industries (the arts and cultural industries) have been profoundly affected by the digital revolution. Moreover, they have been subject to the shock of the effect of Covid-19 and many working in these industries are using the Internet to carry them through the economic crisis it has caused. Digitization has altered the fortunes of some cultural organisations, such as museums and opera companies, that were previously viewed as inevitably sclerotic from the economic point of view (and therefore not viable without state support) and it has enabled new market-based industries to emerge, such as video games. The Internet has fundamentally altered participation as well as production techniques and especially distribution and sales methods. It has enabled the multitude to display their artistic contributions to the world online but it has not essentially altered the craft of professional creativeness and the time needed to produce it. So, the picture is mixed: there has been a shift in the distribution of creative work and in expanded opportunities for reaching the market but the economics of the initial creation of new works remains more-or-less unchanged.

A pioneering work on the 'Information Age', *Information Rules* (Shapiro and Varian, 1999), raised the question whether a new kind of economics is needed to understand the impact of the Internet. They argued we do not need a new economic approach - 'technology changes, economic laws do not': economics is general and powerful and can be applied to any form of economic activity. This has been spur to think about the way economics as a discipline is affected by technological change, in this case, the impact of the Internet in the creative industries

There is a sense in which economics has always done the same thing – analysed supply and demand, the price mechanism and the market economy - certainly since Adam Smith and some historians of economic thought would go back to Aristotle. The *Wealth of Nations* was written on the cusp of the Industrial Revolution in Great Britain and much of it is as relevant and readable as when it was written but equally, most of it is not. It is obvious that the economy has changed over time and that change in technologies and business models alters the context in which economic theory operates. The switch from agrarianism to industrial production made huge changes to people's lives but the basic laws of economics still made sense: there was relative scarcity of resources whose uses were determined by relative costs and prices; some enterprises became large but there were intrinsic limits to expansion. Now

that we live in an information-rich digital economy dominated by the Internet is that still true? It seems that the underlying economic conditions of production fundamentally have indeed changed in some industries. For instance, we need to understand the tendency for the development of ever-larger, ever-growing dominant multi-national IT corporations. Although microeconomic concepts in industrial organisation have apparently shifted along with changes in technology, we need to ask whether the underlying economic laws are still relevant to the structural change wrought by the digital age and the Internet.

Another aspect is in macroeconomics: national income accounting requires that industries are defined and measured for their contribution to National Income and its growth. Consistency is required in National Income Accounting so that like may be compared with like but it is slow to adapt to structural change in the economy. New categories may be needed for new goods and processes in the online world, in which the boundary between goods, services and assets are blurred, but change weakens the ability to make 'before and after' comparisons. When the UK introduced the new category of creative industries and the new 'paradigm' of the creative economy, measuring growth before and after that shift in focus became difficult with the result that unrealistic claims could be made for their economic impact (Towse, 2011).

Such changes are basically a matter for government statistical offices but the outcome can be important for policy-making as data are used for lobbying and rent-seeking purposes, as well as for evaluating government policy. Creative industry lobbies have laid claim to attention from national governments and international organisations because the data they produced on their size and growth purported to show that they are significant sources of national income both in less developed economies with strong artistic and cultural traditions as well as in post-industrial economies unable to compete with newer manufacturing economies. Initially, at least, the data on which those claims were based were collected and presented in ways that did not conform to best practice National Income Accounting. That has now changed, however, as government statistical offices now produce the data.

In discussing these developments in relation to government policy and regulation, we need both microeconomic theories about the response of market economies to creativity and innovation and macroeconomic data on the outcome. In the creative industries copyright law

is a favoured form of regulation alongside cultural subsidies; can the law adapt to digitization and its accompanying economic change? Does it alter the rationale for subsidies? Is competition law effective in a dynamic multi-national economy of intangible products? These are questions the analysis raises and attempts to answer.

The chapter continues as follows: Section 2 discusses the use of 'old' economic theories in analysing the creative industries and 'new' business models. Section 3 turns to old and new industrial economics applied to the creative industries. In Section 4 the focus is on the role of the creator in the creative industries and the impact of digitization in the labour markets for creators and performers. Section 5 concludes with some final remarks on the impact of the coronavirus in the arts and creative industries followed by Section 6 References.

2 Economic change in the creative economy

By the end of the 20th century, reorientation to the terms 'Information Economy' and the 'Knowledge Economy' had taken place following the decline first of heavy industry and then of manufacturing in the 'post-industrial' economy with its strong reliance on the service economy. The shared characteristics of these terms relate to the production of goods that are intangible or based on a fundamental input that is intangible and they reflect the relative size of those sectors in the national income. OECD (Organisation of Economic Cooperation and Development) in particular espoused the Knowledge Economy and evolved its own research programme based on the prominence of human capital, acknowledging the increasing spread of computerization and the economic value of the data it generates.[i] Intangible output may be easily replicated and effectively becomes a public good, which with the Internet as the means of distribution, can be disseminated for a very low or zero marginal cost, often requiring protection through intellectual property law (patent, copyright and trademarks) for the appropriation of value.

Of course, neither public goods nor zero marginal cost were new ideas in economics: public goods have been traced back to Adam Smith, who applied them to defence, law-making and maintenance of the value of currency as collective goods, but applying them to a broad range of the private sector is novel. The problem of zero marginal cost had been highlighted by Dupuit (in the context of the optimum toll for crossing a bridge: see Blaug, 1986: 66). The

analogy in the digital world is the distinction between the creation of content and its delivery which is fundamental to understanding the creative economy - the focus of this chapter.

2.1 The creative economy

The UN, led by UNCTAD (UN Conference on Trade and Development), produced the first *Creative Economy Report 2008* that embraced artistic, cultural, scientific and technical creativity. The *Report* identified characteristics that underlie the creative industries. They are:

'the cycles of creation, production and distribution of goods and service that use creativity and intellectual capital as primary inputs; constitute a set of knowledge-based activities, focused but not limited to arts, potentially generating revenues from trade and intellectual property rights; comprise tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives' (UN, 2008; 13).[ii]

This definition was based on several prior ways of identifying the creative industries: the term 'cultural industries' (as distinct from 'the arts') had been introduced in France in the 1980s and soon entered the lexicon of UNESCO. Now 'Cultural and Creative Industries (CCI) is the tag. Then in 1998 the UK adopted a creative economy programme as a self-conscious means of promoting its perceived leading position in innovation and creativity in the arts and culture.

Before this somewhat unexpected change, the arts in the UK had been 'overseen' by the Office of Arts and Libraries, a very small government department with a very narrow scope, reflecting the UK's policy of 'arm's length' administration of state support via special bodies, such as the Arts Council, the Crafts Council and, in a different category again, the BBC (which is an independent corporation financed by a licence fee). The UK model of dealing with the cultural sector was very different from that in other European countries in which cultural organisations were (and often still are) typically state-owned (by central, regional and/or local government) and staffed by civil servants. The formation of the UK's Department of Culture, Media and Sport (DCMS) in 1998 involved marshalling together into one 'sector' oversight of these arm's length bodies and elements from other departments of the UK government, such as sound recording and film production which were previously in the domain of the Department of Industry and Trade. It also included taking over responsibility

for copyright from the old Patent Office, which, as discussed below, came to be seen as the lynchpin of the creative industries in the UK (as elsewhere). The motive for the transfer was almost entirely political but the realignment established the need for reorganisation of industrial classification in the national income accounts, therefore involving economics. These developments, however, pre-dated the widespread adoption of digitization in the creative sector and the new business models that accompanied it that now require realignment or maybe even revolutionary change (Coyle and Mitra-Kahn, 2017).

2.2 Creative industries in the UK

The *Creative Industries Mapping Document* published in 1998 by the DCMS used as its definition 'those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property'. This definition resulted in a list of industries which has been revised several times. Since 2017 it has comprised advertising and marketing, architecture, craft, product design, graphic design, fashion design, film, TV, video, radio and photography, IT, software, video games and computer services, publishing and translation, museums, galleries and libraries, music, performing arts, visual arts and cultural education, which together now identify the UK's Creative Economy.

The data DCMS produced in the first place, however, were not consistent with established National Income accounting criteria. There had been no previous category in the accounts that included all those industries and the industries themselves had typically produced their own data on their contribution to GDP (Gross Domestic Product) and its rate of growth, often in order to attract attention. They hyped up their 'economic importance' for rent-seeking purposes in support of the claim for reform of copyright law and to obtain government financial support. In the case of the 'high' arts, there is an added 'moral blackmail' element in the 'merit goods' appeal for greater subsidy. There is indeed an economic case for subsidy or other forms of state support for them but such data were not and are not convincing to those who understand National Income accounting. One way or another, the creative industries argued they should get preferential treatment: the adjective 'creative' is the key here.

Eventually the National Statistical Office in the UK stepped in and creative industry data are now routinely handled by it as part of their regular reporting. They show that the creative industries account for around five per cent of GDP (Gross Domestic Product), rather than the eight per cent previously claimed, and that the rate of growth (also at around five percent) has consistently exceeded that of all other sectors of the UK economy.[iii] In contrast to the arts, though, it is the IT, software, video games and computer services sub-sector that forms the largest grouping of industries and constitutes nearly two-thirds of total creative industry GVA (Gross Value-Added) in the UK. Copyright law is believed to have played a significant role in their development, raising the question about the economic importance of copyright.

2.3 Digitization and copyright in the creative industries

Although several of the creative industries were quick off the mark to adopt digital methods in their production process, they appear to have been taken by surprise by consumers' ability to gain access to their products without payment via the Internet. Copyright piracy led to a huge worldwide campaign following the Napster case in the USA[iv] to pressure national governments and international organisations to increase the scope, term, penalties and enforcement of copyright, which has been pursued successively over the last 20 or so years. In 2000, the World Intellectual Property Organisation (WIPO) instigated a world-wide programme of measuring the 'economic value' of copyright, adopting the underlying and unproven assumption that without copyright these industries would either not exist or would contribute much less to GDP.

The involvement of WIPO with the creative industries is another indication of their perceived value in national income creation in both less developed countries as well as developed ones. It also highlights the hype that goes with the creative economy and the supposedly crucial role of copyright in its size and growth. As new business models have developed, especially online, the level and impact of piracy has been muted at least in some countries. Overall, business models have proved more successful in displacing piracy than the technological protections measures (TPMs) that were brought in with much fanfare by WIPO at the end of the 1990s. Economics trumped technology![v]

These developments have underscored the role of economic theory in understanding the creative economy, questioning whether a paradigm shift has occurred due to the digital

nature of its products and production processes and the role of the Internet in providing access to producers and consumers.

3 Old and new industrial economics and the creative industries

In previous stages of the economy dominated by agriculture, heavy industries and manufacturing, industry size was tied to land, labour and capital as factors of production, in which the individual enterprise (the firm) reached natural limits through diminishing returns to a factor or to the scale of production, with the consequent effect on costs. Costs would initially fall with an increase in inputs and the scale of production but would eventually rise due to inherent bottlenecks as the enterprise got 'too big'. In this 'heavy' economy, producers both created their products and supplied them to the market. Rising costs and inevitable higher prices would eventually kill off demand and the industry would become less profitable, causing investors to switch their capital to other enterprises. Thus in principle, economic forces would allocate resources efficiently via supply demand and the price mechanism.

A long-recognised exception to this self-regulating scenario is natural monopoly, in which there are no decreasing returns to scale even over a very large output so that marginal costs never rise above average costs. Traditionally applied to utilities, such as electricity and telephones – industries with high fixed costs of production and an extensive distribution network; the model has now been applied to cultural goods and services, including theatrical performance and museum exhibition (Towse, 2020a). The problem for the profit-maximising producer is that marginal cost pricing (the ideal of free marketeers) would not cover long run average costs and so utility industries were typically state-owned or regulated if privatised. The 'classic' natural monopoly is, however preserved and regulated in order to maximise welfare: the consumer pays the marginal cost (the lowest possible price) and the sunk or fixed cost of the plant is financed by some formula set by regulators or (as in the case of arts organisations) by a subsidy. In that way, regulation works via the price mechanism. Regulation and privatisation of utilities have also split up the production of the good from the delivery system, for example, the production of electricity from its distribution network.

There are strong resonances of this model for production in the digital world in which it is important to distinguish the initial production of content (content creation) from distribution, for example by Internet platforms. Although for many goods and services fixed or sunk costs have not changed much in the production of the 'prototype', digital products are non-rival and non-excludable when they are made available online, hence the case for copyright to 'privatise' what are essentially public goods. On the distribution side, the use of digitization and the Internet has vastly reduced the costs of marketing and delivering content. Digital producers are natural monopolists due to ever increasing returns to scale in distribution. In the digital creative economy, though the model fits, there has been no such established mode of regulation of platforms such as that found in utilities, however. Only recently has regulation of FAANGs (Facebook, Amazon, Apple, Netflix, Google) begun to be on the political agenda. Another concern, for example on the part of OECD, has been the question of how to regulate multi-sided markets for 'intangible' goods and services (OECD, 2018).

While monopoly is universally regarded as a bad thing and competition as a good thing, regulated natural monopoly is an exception, as are copyright and other types of intellectual property monopolies: awarding exclusive control to the creator is justified in terms of their welfare-enhancing role in stimulating creativity and innovation (Landes, 2020). Schumpeter famously argued that as (temporary) monopoly enables charging a price greater than marginal cost, it provides the entrepreneur with the incentive to innovate and therefore monopoly is necessary for economic growth. He argued that monopoly offers the entrepreneur 'lead time' to capture the returns on her invention before competitors enter the market and compete down the price, coining the phrase 'creative destruction' for the process. Schumpeter's focus was on patents - he omitted to apply it to copyright (Blaug, 2005). It should be said, however, that copyright is a weaker form of monopoly than a patent as it is restricted to copying per se; 'independent' creation is a defence against the charge of unauthorised copying, something that often crops up, for example, in cases of apparent musical 'theft'.

The theory of creative destruction has been applied to the music industry: it has been argued that record labels were vulnerable to 'destruction' because they failed to adapt to digital downloads and streaming as use of the Internet spread (Handke, 2010). Creative destruction requires ever more technological innovation and alert entrepreneurs who have the funds to

invest. Those who already invested in earlier technology (incumbent firms) are likely to be stuck with it for a while, enabling new entrants to stake their claim in the market. Not every innovation is successfully adopted long term, however: in the creative industries there is some evidence, for instance, that e-publishing is declining while hard copy book sales are rising (Hviid, et al. 2019).

Thus 'traditional' economic models have proved capable of overcoming the problems of financing public goods in these industries – still non-rival but now excludable – and re-establishing economic 'normalcy'. In fact, some industries with public goods characteristics prior to digitization have experienced the process in reverse, enabling the market to work. Over the air broadcasting is one example: the signal is accessible to all with equipment (radio and TV sets) that is readily available on the open market. In the past it was also non-excludable and was financed either by advertisements or by state funding. State broadcasters used to operate a licence fee but could enforce payment only by door-to-door monitoring. When TPMs were developed, enforcement costs were reduced but in many cases it has been deemed preferable to simply finance public service broadcasting through taxation rather than a licence fee (a route not yet adopted in the UK for the BBC, however). Now, though, digital technology has enabled splitting the signal (which is auctioned off to suppliers), enabling private competitors to enter the broadcasting market with use controlled by digital rights management (DRM) to enforce charging. Thus, what were previously public goods have been privatised via technology. The production of public goods may also be market-based through privately organised collective finance; the growth of crowd-funding, especially for start-ups in the cultural sector, is evidence of the possibility.

A similar story applies to the music industry. Believed post-Napster to be non-viable because of piracy, platforms subsequently reduced free-riding by offering a menu of payment options for streamed products, one being advertisement-based free supply of music to the consumer and another being a straightforward subscription, both for a huge bundle of titles (Towse, 2020a). Netflix offers the same for films and TV shows. In both cases, subscription fees are small and affordable by many consumers (who need to purchase the hardware to access the service, however).

The above economic theories and business models are well-established, some older than others, and they applyto the creative economy. Of course, they were novel in their day and supplanted or challenged 'incumbent' theories. The process of creative destruction also applies to innovation in economic theory! They have, however, come to be dominated by new economic theories that apply in particular to Internet-based platforms.

3.1 New economic theories and the creative industries

The paradigmatic shift in analysing the digital creative industries is the realisation that they are subject to both increasing returns to scale and to network effects, mostly but not only, in respect of the distribution of their products. This combination leads economists to predict that platform-based industries are likely to grow into even bigger natural monopolies.[vi] In digital format, there is no limit to the number of consumers or other users who can obtain a perfectly cloned copy of a digital good or join a social media platform and there are no barriers of entry to creating your own website. There is plenty not scarcity in digital output. The limit in the digital economy is the scarcity of time and attention on the part of consumers/users and their numbers, something understood by Herbert Simon with his notion of the 'attention economy', for which *inter alia* he won the Nobel Prize in economics in 1978 (Blaug, 1986).

Network effects are demand-side benefits emanating from the uses of online services, such as platforms and social media sites. Unlike 'traditional' external benefits of consumption, though, which are quasi-public goods, network effects can be captured commercially via online markets. The more people who buy the good or use the social media network, the greater the value to others using it, the greater the value derived from it resulting in a higher willingness to pay. Moreover, the greater the benefits from the network, the more valuable it becomes and so more people have the incentive to join the network, creating exponential growth. Furthermore, multi-homing – the practice of using several online platforms – amplifies these consumption network effects by spreading them across platforms. Thus, technological developments have largely overcome possible negative network effects, such as congestion. Only bandwidth restrictions would limit their scope on the supply side and users' time and attention on the demand side.

In addition, benefits can be captured by platforms during the process of consumers searching for and consuming digital goods. Information provided on people's websites provides online data that can be manipulated electronically to develop individual consumer profiles that have value to others besides the immediate seller (Belleflamme and Peitz, 2020). Discrete websites are amalgamated to produce user profiles and information that are sold to other companies for commercial, political and a range of other purposes.

These effects suggest that 'big' is likely to get ever 'bigger': there are no market-based checks to expansion, such as diseconomies of scale. Robots and AI are able to reproduce huge quantities of data at zero marginal cost. The market economy of the Internet therefore cannot self-regulate in the manner perceived in previous technological eras. That is a paradigm shift with strong economic and political implications.

3.2 Platform economics: Two-/multi-sided markets

The change in economic organisation that has evolved quickly in the digital economy is that of two or multi-sided markets, although, as with so many such developments, there are some precursors. One of the oldest two-sided market models in the creative economy was that of advertisement-based commercial radio (and later TV) with the broadcaster as the platform: the consumer tolerates the advertisements in order to receive free access to programmes. Advertisers buy slots according to the putative audience, thus financing the service. A similar business model exists for ad-financed 'free' digital music distribution via streaming services (Towse, 2020a). These models have evolved on the Internet as online platforms offer multiple products and experiences. The key change is complementarity and the fact that network effects produce demand-side externalities associated especially with online consumption. They are the source of positive benefits to both sellers and buyers of goods and services as well as to users of online services, such as e mail and social media sites. As argued above, there are no diminishing returns to scale or long run scale diseconomies to set an eventual limit to their size or number.

Multi-sided markets have several different groups of users on a platform, enabling the use of differential pricing. A classic example is a dating club, which typically attract more men than women; women are charged a lower subscription fee to encourage them to join. The same market form applies to video game console entrepreneurs in the games industry, who need

to appeal to both game developers and players. The platform adopts pricing and other strategies to keep multiple sides engaged, thereby internalising externalities across the various participants.

Subscriptions to large, bundled repertoires of song, book and film titles have emerged from these market forms enabling consumers to pay to avoid the advertisements on ad-based sites. These aggregations are no longer in the hands of the 'original' industry, however, but are done by online providers, the Internet platforms. These changes buying and selling goods and services are novel in today's economy but they were not developed specifically for the digital economy, though the Internet, digitization and mass use of platforms has nurtured them.[vii]

Economists have incorporated platform economics and these business models into industrial economics: the methodological question is whether this is a revolutionary paradigm shift or an evolutionary change. I would opt for the latter interpretation even though there has been a paradigmatic shift in economic organisation.

4 Supporting creativity in the digital era: the creator and the creative industries

So far, the focus of this chapter has been on industrial organisation. The first step in the chain of production in the creative industries (as the DCMS quote above makes clear), however, is the creator - an artist, craftsperson, author or performer. The creative process involves skill and talent, long training, experimentation and time at the end of which a work is produced whose success on the market is uncertain. The greater the novelty, the higher the risk. The risk and cost of production of novel creative work – the time spent and materials utilised - is in the first instance borne by creators who then have to engage with cultural entrepreneurs (the 'industry') to get the work to market. Once established, the enterprise may finance further work by the creator, offering them a longer term contract with or without an upfront payment, thereby sharing risk to a greater or lesser extent.

Society has several ways of supporting creativity by state action or intervention in the market: publicly funded subsidies, usually to arts organisations, which then make a contract with the creator or performer; philanthropy, which ranges from gifts and sponsorship to

prizes, which attract tax remission; and intervention in the market via the law. Copyright law plays a significant role in reducing the risk of others free riding on the cost of creating original works. It protects creators and performers from unauthorised use of their work, thereby offering them an incentive to produce and offer it to the market. Contracts are negotiated between the author (creator/performer) and publisher (record label, film company *et al*) in a deal that exchanges the right to produce and market a good or service based in the underlying copyright work for a payment. That may be a flat fee or a royalty based on the success of the good embodying the copyright work (the book, the record) on the market. Generally speaking, the creator or performer, unless she is a superstar, has the weaker bargaining position, which is exacerbated by the extent of concentration in the industry: the fewer number of enterprises, the stronger the concentration, the weaker is the individual creator's bargaining power in relation to the enterprise. The result is that many authors and performers end up with poor deals, often signing away all rights to their work.

The implications of the economic organisation of creative enterprises and the relative weakness of the artist in striking the bargain are analysed in detail for various sectors of the creative industries by Caves (2000). He applies contract theory to the creative industries, building up a picture of contract complexity from the simple 'handshake' contract between an artist and art gallery to those in the film industry involving multiple skills and personnel. Caves' proposition is that the transfer of the rights to creators' and performers' works is required by the industry (rather than a licence to use them for a limited time) in order to protect the sunk investment ('sunkenness') from later hold-ups in a sequential chain of production.

All contracts offer terms governing the use of the work and the reward due, though they may take different forms. In some creative organisations the creator or performer has an employment contract, either permanent or temporary, which means the copyright of work done under that contract belong to the employer. Other contracts range from a transfer of all rights to a work for a single fee (a 'buy-out') to a royalty contract, in which rights may be split up and negotiated separately, for example, the film rights of a book title may be retained by the author in a publishing deal and contracted separately (famously as in the case of author JK Rowling for the Harry Potter books). Different types of contracts offer different incentives and rewards; they also influence or are influenced by the structure of the

industry. In some creative industries, employment contracts are the norm, for example, for players in an orchestra, while a pop group would have a royalty deal transferring the rights to their performance to a record label. There are many mixed examples as well, but the underlying economic principles are the same.

4.1 Impact of digitization on creators' labour markets

Contractual arrangements and contracts have changed over time in the arts and creative industries: royalty contracts are now the norm in musical and literary publishing, though only since the last century, before which flat fee payments which bought out all rights were common (for example, see Towse (2017) on practice in music publishing). The growth of state subsidy for the arts led to secure employment for performers in established orchestras and opera and dance companies, which in many European countries would be part of the state administration and even arms-length arts councils and the like, such as those in the UK, treat the large, national organisations as regular clients with regularly employed personnel.

For those outside the cosy world of this regular support, insecure funding leads to creators and performers having to face many temporary contracts and low incomes, as consistently reported in surveys of artists' labour markets – 'precarity' is the latest term adopted to identify a problem that is as old as the hills. It has been assumed by lawmakers that copyright and performers' rights can support these freelancers, though work in cultural economics has shown that artists in general earn well below the national average income. For most, a royalty deal did not (and does not) constitute a substantial part of their income (Di Cola, 2013; Kretschmer et al, 2019); the exceptions are the relatively few top-earning superstars.

Superstars are likely dominate artists' labour markets even more in the digital era due to the expanded markets the Internet offers. The greatest impact of digitization on artists' earnings, though, has been the transfer to rights to use creators' work to platforms by the publisher in a deal in which the creator has no say. There has been a great deal of attention on the very low rates of compensation from music streaming by platforms in this context (and similar practices occur in other industries, for example, journalism). The creator or performer has no say in the deal that the publisher or sound recording maker makes with the streaming platform since most would have transferred the rights to them in the initial contract. Though

ad hoc arrangements are made for paying the creator, for example, a streaming rate, these are not contractual arrangements between the creator and the platform (Towse, 2020a). Bearing in mind that many initial contracts were (and often still are) for the life of copyright (which varies for authors and performers but for both often extends well beyond their lifespan), many find themselves locked-in with only moral rights available to control subsequent use made of their work.[viii]

The digital economy has affected the economic organisation of creative labour markets as well as product markets in the creative industries; nevertheless, the cost of creation of the underlying content remains basically the same, regardless of the means by which it is delivered to the consumer. It still takes as long to write the book or the song. The presence of social media platforms, however, has opened up the possibility for creators to offer their work directly to the public and many do so, both professional and amateur; in fact, that distinction is increasingly becoming difficult to maintain. So far, distribution of creative work via digital technologies seems to encourage complementarity rather than substitution between goods in some industries (Bakshi and Throsby, 2014; De la Vega, 2020) but there has been little work on the demand side of the equation; adoption of AI might change that, however (Peukert, 2019). There has been some research showing that those self-publishers who succeed online are offered contracts with enterprises in the industries, such as publishing and games (Hviid et al, 2019) but the full extent for the practice is not known.

An 'unintended' outcome is that online publication by creators has reduced the search costs (A&R) of enterprises in the creative industries so that they are able to select the ones for promotion that have been proved successful, thus reducing their risk in marketing a work. There is an irony here in that the early perception of the Internet was that is enabled a 'long tail' of market participation by creators counteracting the superstar tendency.[ix] There is some suggestion that this has led to improved contractual arrangements for those who are approached this way as the publisher's risk is reduced. The topic requires further research. The Internet and digitization have therefore altered the status quo in creative labour markets in various ways.

Whatever the impact of these changes on the way artists' labour markets are organised, it does not seem to call for new economic theories to explain the underlying logic of

contracting in the creative industries. Moreover, copyright law, which has been adapted to the digital economy, is probably not as significant as an economic incentive as is claimed since the critical point lies in the contractual arrangements made rather than the law itself; and, indeed, for most, royalties make up only a small proportion of artists' earnings.

5 Final remarks

This chapter tries to address the extent to which the paradigmatic shift in the creative economy due to the adoption of digital technologies and access via the Internet has impacted on the economic theories we use to understand these changes. The question is discussed in the context of the creative industries, which have been considerably affected by these changes, especially during the Covid-19 pandemic. Is economic theory in fact so general and so robust that it can prevail over changes in economic organisation regardless of the technologies adopted as Shapiro and Varian suggested?

The switch to an economy of plentiful supply in which network effects produce data as a joint product has had significant impact on many parts of the creative economy. It has enabled sizeable external, even public goods, effects ('spillovers') to be internalised by private enterprise. These technological shifts have led to the growth of very large online platforms, which have quickly come to dominate markets in many of the creative industries. It seems that traditional industrial economics has been successfully extended to cope with the digital creative economy and that existing economic concepts have been adapted for analysing it. Economic theory has responded by evolution rather than by revolution. So, the answer is that Shapiro and Varian were, on balance, correct.

The creative economy consists of both the creation of content and its delivery – and the effects of the Internet and digitization on each have differed. While digital content can be disseminated to vastly expanded markets for virtually zero cost to the supplier, the cost of content creation remains more-or-less unchanged. Many of the activities of the older parts of the creative economy that are building-based, and therefore subject to the limitations of time and space visitors (such as the performing arts and museums) are now available to 'visitors' for online participation via the Internet or through other digital means. I can go to my local arts centre in a small town in the UK and pay to watch a narrowcast live performance ('event cinema') from the Metropolitan Opera from New York (for which there is

even excess demand) but the performance also can be replicated 'as though live' in various ways. I can 'view' an exhibition from the British Museum in the same way. With improved technology at home (surely only a step away) I could view these events without going out, thereby lifting restrictions of time and space. It remains to be seen what the long-term impact of the lockdown due to Covid-19 has on the taste for home consumption of creative goods – another possible paradigm shift.

The initial creation of creative goods and services, however, remains fundamentally unchanged with high fixed costs due to the skill and time required to create them in the first place, regardless of the means whereby they reach the audience. Though digital technologies may be used to assist the creative process, they have not been a substitute for the human effort involved. Artificial intelligence may change that: some music has been generated that way and 'played' electronically (raising awkward questions for copyright law). Digitization has so far not really altered the cost of professional content creation, though it has increased overall supply by others and, perhaps more significantly (though this is rarely discussed), has enabled the resurrection of masses of older content that now competes directly for consumers' attention, the commodity that is ultimately in short supply.

As stated earlier, the limitations of time and attention on the part of consumers may be more significant factors than cost on the production side, even though people are more accustomed to multi-tasking – listening to music while travelling, working or reading and engaging with social media etc. The market repeatedly demands more content, both new and old. The most serious competition for new work, therefore, probably comes from the repeated reuse of earlier work. By contrast to online consumption in the home, though, games enthusiasts, at least prior to the Covid-19 lockdown, were flocking to large venues and paying entrance fees to observe professional gamers playing video games remotely, with the potential for scarcity of places in the space. Diminishing returns to home consumption may eventually set in, something cultural economists should be considering. The closure of live performance venues and live activities due to the measures taken to control Covid-19 provides a natural experiment presents itself: having had to participate only online for several months, will consumers return to live events?

All this suggests that we currently live in a dual creative economy, in which the time and skill needed for creativity is more or less unchanged while the uses to which creative work are put have changed fundamentally with digitization and the Internet. At bottom, people still want to experience the arts and be entertained and there are many talented creators and performers ready to offer their services, despite the relatively low average reward. Those services are supplied in both traditional and new modes of delivery.

Some institutional arrangements require root and branch change, however. Given the positive feedback of internalised externalities on the digital economy, regulation of monopoly requires rethinking: for instance, which side of a multi-sided market should be regulated? Governments failed to grasp the changed nature of the information economy, taking a laissez-faire stance waiting to see how things evolved; by the time it was clear that there are few (if any) limits to the expansion of platforms, it was too late to apply national law and taxation measures to control their unwanted effects, which have to be tackled at the supra- national level. A question also hangs over whether copyright law is capable of adaptation with some legal scholars believing the change required is so radical as to make it infeasible. Digitization and the Internet have made copyright excessively complicated as it struggles to adapt, so much so that many individual creators for whom its protection is designed fail to either understand or apply it to their work. These types of regulation, however, can only work on an international basis, requiring extensive trade negotiations, which are slow and expensive.

Economics has the means to explain these trends: platform economics is firmly established in the economics agenda. It is unfortunately not always adopted in the solution of problems thrown up by new technologies and business models, however (Towse, 2020c).

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[i] See www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD%2896%29102&docLanguage=En. For recent OECD publications in this area, see www.oecd.org/going-digital/measuring-the-digital-transformation-9789264311992-en.htm.

[ii] These developments are discussed more fully in Towse (2019).

[iii] There are considerable lags in these data and what is reported here is a 'round figure'. The arts have been especially badly affected by Covid-19, causing a huge drop in their level of activity; however, other creative industries, such as books and games have increased their revenues.

[iv] A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004 (9th Cir. 2001).

[v] Empirical estimates by Waldfogel (2018) have shown that overall the effect of piracy on output is probably neutral.

[vi] 'Scalability' to use one of the four 's's of the intangible economy according to Haskel and Westlake (2018): the others are sunkenness, spillovers and synergies. See Towse (2020b) for details in a review of the book.

[vii] Readers of Jane Austen will remember that in England in the 18th century the local Assembly Room acted as a platform, offering dances, concerts a library and other facilities for a subscription. The more the 'right sort' of people took part, the greater the value to other members.

[viii] Some EU countries, notably Germany, and the USA have 'use it or lose it' rules whereby the creator can reclaim the work and possibly renegotiate terms (see Kretschmer https://musicbusinessresearch.files.wordpress.com/2012/04/ijmbr_april_2012_martin_kretschmer_final.pdf).

[ix] There has been some confusion in the use of the long tail concept: some use it to mean that in a statistical distribution of incomes in an occupation, there are more individuals to be found in the middle range. Others use it in the sense of the superstar effect introduced by Rosen (1981), who showed that increasing market size favoured a few top earners.