On Money and Inflation

Mehdi Chowdhury

March 2023

Abstract

The paper states that there is a need to go beyond our usual understanding of money e.g. physically, electronically or virtually expressed in term of monetary units like dollar, pounds, gold coins, bitcoins etc. Rather money is best conceptualised *as the ability of a person to obtain goods and services from another person*. This ability may originate due the access of a person to the money in usual sense (e.g dollars, pounds) but also via force, social norms, mutual negotiation, altruism or just biological. As such anything with the ability to obtain goods and services from another person is money. In a transaction, it is not just one party but both parties possess money as the transactions takes place due to the ability of both parties. Money therefore always existed and will exist as long as human beings remain as a mutually dependent species, and consequently money is universal. However, money as the ability has no universal type or representation, and is dependent on the context creating that specific ability. Inflation accordingly is caused by various types of ability chasing goods and services including the ability acquired through the possession of usually regarded money as dollars, pounds etc. The article provides the explanation of the post covid price hike from this perspective and points that the demand on the time of individuals for creating ability for various consumption needs to be also taken into consideration when addressing the inflation and the cost of living crisis.

Keywords: Money, inflation, ability, purchasing power, cost of living crisis

Corresponding Author: Mehdi Chowdhury, Bournemouth University Business School, Bournemouth University, Dorset House, Talbot Campus, Fern Barrow, Poole, BH12 5BB, UK, E-mail:mchowdhury@bournemouth.ac.uk.

Acknowledgement: The act of writing of this paper started during June 2022. The author acknowledges the comments received from Peter Howard Jones and Dermot McCarthy. Specifically, to be acknowledged are the lengthy, insightful conversations with Abdullah Yusuf that helped to formulate the arguments of the author. Many helped the author by suggesting the names of books and article regarding money. Errors and shortcomings of the article are the sole responsibility of the author.

1. Introduction

This paper is on the issue of *money* and *inflation* as the title suggests. But already so many books, articles and blogs have been written on this subject. An article with such a title seems unnecessary and questionable in term of the contributions to be made for the advancement of knowledge and possible applications. Then why would someone be writing on a well addressed topic?

The reason is simple. The article arises from the need to contribute to the understanding of money and monetary matters like inflation, and from the realisation of our increasing inability to explain those matters within the existing body of literature. The question of money matters a lot in the 21st century, as it mattered in the past. It was probably the most important factor determining the course of human civilization, as it is currently doing. Monetary matters already resulted in ousting a number of governments in last 2 years. Many countries are now in serious debt and facing subsequent economic and political turmoil. The term inflation is now in headlines all around the globe. *Milton Friedman* said that high inflation is always caused by an unduly rapid growth of money relative to the availability of goods (Friedman 1968, page 18). This global inflation and the consequent cost of living crisis therefore are at least explained by the increase in the money. But what is this money that has increased in supply? Unless we know what money is, we will never be able to understand the causes of inflation and or the cost of living crisis, and the relevant public policies on monetary matters will always fall short.

Then the question is do we know what money is? The answer is no. The proof is that so many books and articles have been written on money, still most of them lacking in a single line of statement defining or explaining money. One example of such is the widely known believe that the banks' creation of loan creates money in the economy. But why is this the case? The loan becomes the same as the money, but no explanation for this is offered. The literature is muddled with complicated terms that makes it nearly impossible for general people even trained academics to understand what money is. This complications of describing monetary matter were raised by *Michael Innes*, who is one of the most influential theorists on the matter of money. He recognised the difficulties as can be seen by the paragraph

"As I shall have frequent occasion to use these two words, it is necessary that the reader should familiarize himself with this conception which, though simple enough to the banker or financial expert, is apt to be confusing to the ordinary reader owing to the many derivative meanings which are associated with…" . (Innes 1913)

Though Innes (1913) mentioned about the difficulties faced by general readers, it is truly also faced by academics. A recent book titled *where does money* come from states,

"Few Economists have time to do this research first-hand and most individual in the financial sector only have expertise in a small area of the system, meaning that there is a shortage of people who have a truly accurate and comprehensive understanding of modern banking and monetary system as a whole" (Ryan-Collins et al. 2012, page 11)

The paper therefore is an attempt to identify money in a manner can be communicated easily to the common people as well as academics. It will also be able to provide guidance on public policies. The article therefore is challenging and significantly ambitious.

The challenge is overcome by gradually developing the concept of money. It starts with a discussion of literature and methodology in the second section. Then the concept of money is developed and explored, through offering examples. Finally, the developed concept of money is applied to explain inflation. This process may look lengthy, however is extraordinarily short compared to many long writings on this subject matter.

2. Literature review and methodological considerations

The article is about identifying money within the backdrop of the increasing cost of living observed all over the world. What method shall we use to identify money?

The development of methods usually follows from the readings of books and articles. This article however has not followed any specific one, but enriched from reading or browsing through many. Specifically, to be acknowledged are the works of well-known social scientists, works of whom have been cited in this paper. The book that specifically helped to start this journey was a book titled *Money: An Unauthorised Biography* written by *Felix Martin* (Martin 2013) but the most notable to be mentioned is the majestic history of debt titled *Debt: Last 5000 Years* by *David Graeber* (Graeber 2014). The authors also had conversation with many people including friends and family, which helped to form the views shared in this article. They also helped the author by referring them to new books and articles.

Methodologically, the article follows a structure may seem similar to the dialectical approach, something already a common knowledge due to the dialogues of *Socrates* by *Plato*. This approach is basically looking to find some fundamental truths through dialogues between parties. The dialogue may start from some commonly accepted incidences or facts. In the case of money, a commonly accepted incidence or fact is our experience of using money for the transaction of goods and services. The money is therefore revealing itself within those transactions. From the specifics of such examples, this article identifies the nature of money and then identifies existence of those in other transactions and proposes to identify money using only those natures.

One may here question the focus of the article on the issue of transactions of goods and services. This question can arise as money is known to have other functions such as the *unit of account* or a *store of value*. Graeber (2014) observed that in some communities, money had only the role of acting as the unit of account and were never paid in exchange. We can also find mentions of money as the unit of account in the *Iliad* of *Homer* such as the prize items of the sport event organised by Achilles would often be compared with Oxen,

Achilles displayed before the troops the prizes set for the third event, the gruelling wrestling-match. For the winner a large tripod made to stride a fire and worth a dozen of oxen, so the soldiers reckoned. For the loser he led a woman through their midst, worth four, they thought, and skilled at many crafts. (Homer 1990, page 581)

The fact is that money as the unit of account also reveals itself in transactions. In the above example from *Homer*, the unit of account becomes only relevant when it comes to a matter of a transaction i.e. the *Greek troops* performing a service for *Achilles* through participation and *Achilles* giving them the prizes. Hence transaction is the key event to be looked at. The same argument is also applicable when it comes to consider money as the store of value.

Methodologically, the paper also has similarity with the *follow the thing* approach advocated by some authors (Cook 2004; Christophers 2011; Hughes-McLure 2022). These papers helped to consolidate the methodological view of the author. Specifically, Cook's pioneering paper on following *papaya* that followed trade, production and consumption of papaya is an important influence. Papaya in that paper moved several hands from farms to consumers. We however are not following in that sense, instead looking at the event of the transaction of goods and services between parties. A justification of this the approach comes from the view that inflation is caused by too much money chasing too few goods, a view expressed by *Milton Friedman*. Surely money as we understand commonly as coins, notes and credit are used for transaction of goods and services from one person to another. But are there anything else also chasing those goods and services i.e. causing the transactions to take place? Then those factors are also money or at least equivalent to money for transactions. However, we cannot claim that the approach of the paper is entirely new. Lerner discussing Knapp's state theory of money defines money as, *Money, …………, is what we use to pay for things* (Lerner 1947). Similarly, in our paper also money is used to pay for things, though we regard what received in exchange as also money. Hart (2022) proposed the view of money as a memory which can take both personal and impersonal forms. In a similar fashion the paper looks at money on both personal and impersonal forms. Hence many may have discussed money in a similar manner shared in the article. Simmel (2004, page 186) had mention of a theorist (name not mentioned) who stated all money to be claims on exchangeable goods. Even Graeber (2014, Chapter 6) on honour and degradation is closely associated with the view shared in the article. Our paper differs significantly in providing clarity and clear statements on what should be regarded as money, that are verifiable and refutable and applicable such as in the matter of inflation. In addition, we are free from the influence of the representation of money in some forms, of which previous works are apparently not free from.

One may argue that this method is presupposing the existence of money without providing a general definition. While previous authors would in general focus on the emergence of money in particular historical settings, we propose that money, as we identify in the paper, has always existed and will always be as long as the movement of goods and services from person to person will take place. The historical emergence of the coins, papers or bank credit etc. are important but not necessary in discussing money. A similar approach is observed in Simmel (2004), who focused on the money without focusing on the history. Moreover, the focus on the history of money may act as a distraction, as it is the current matter that needs to be focused on. We already know that money exists in some forms such as bank cards, coins or paper as we all have such experiences. Then the society already have the experience of a something called money, usefulness of which is only visible when it comes to transactions of goods and services. Then following the transactions, the existence of other forms of money can be proved. Cook mentioned about papaya,

"In the ''wild'', or in people's back yards, papayas are far from uniform. They can be monsters. *Ten pounders! There are male, female and hermaphrodite trees (big herbs, really)."* (Cook 2004)

Accordingly papayas can vary a lot, but there must be something common that allows the identification of those as papayas, for example the taste of papaya. Similarly for money, the transaction of goods and services is the key. Paper money, coins or bank cards all serve the primary purpose of facilitating the movement goods and services from person to person. Anything serving the same purpose therefore is potentially money and that is what we would like to identify. All of those, along with commonly known money like dollars, pounds, gold

coins, bitcoins etc. are chasing goods and services and contributing to the inflation or the cost of living crisis. Unless all are taken into consideration, the reason for inflation or the cost of living crisis can only be partially understood.

3. Finding money through some hypothetical transactions

Below, examples of some hypothetical transactions are provided. We start with a simple example to identify the general truth and then find the same in more complex examples. It will be shown that the fact observed in the simple example is present in complex examples.

Case 1:

A	B
1 British pound	1 British pound

The case 1 involves two persons ***A*** and ***B***. The transaction involves ***A*** giving ***B*** one pound and ***B*** giving ***A*** one pound. The case 1 illustrates a trivial transaction, but this example illustrates the simplest truth underling the movement of goods and services between two parties. Assuming no transaction cost, the two parties would agree to have this transaction. ***A*** gives one pound and receives one pound, as this involves no change of the material wealth. The same is true for ***B***. therefore after the transaction they both have no material change to their monetary endowment.

From the above, we can make the following statements:

Statement 1: One British Pound has the ability to obtain one British Pound

The above transactional case is trivial, but interestingly many have experienced in real life. The example comes from the supermarket shopping trolleys, where one-pound coins are needed in many supermarkets to release trolleys from parks. The use of coins also encourages shoppers to return trolleys to designated trolley parking areas. In supermarkets often two shoppers will come face to face where one wants to slot in the coin to release the trolley from the park, and the other one to slot in the trolley to release the coin from the trolley. They will time to time exchange the coin and trolley to avoid the trouble and time of slotting in and out. This is essentially an exchange of one-pound coins between two people, which surely many have already experienced.

Case 2:

A	B
1 British pound	2 British pounds

Consider the above case. Surely both are endowed with money in the traditional sense, but a transaction is unlikely. The British pound is indisputably one of the strongest currencies in the world. No one will object that one-pound or two-pound coins are money. However, just knowing that those coins are money do not serve the purpose of the transaction. Two pounds has the ability to obtain one pound but one pound does not have the ability obtain two pounds. Hence in a transaction, the abilities are compared and accordingly, the transactions may or may not takes place. Following this reasoning, this paper will identify the ability to obtain goods and services from others as money. In later sections, we will see that this ability is fundamental to all transactions including the non-market transactions, where the existence of usually known monetary units are not present.

These two examples already established it is the ability that requires to be focused on. In the next cases some other scenarios illustrate this concept further.

Case 3:

A	B
2 US dollars	1 British pound

In the case 3, ***A*** has two US dollars and ***B*** has one British pound. Assume that the exchange rate establishes that one pound is equivalent to two dollars. So ***A*** and ***B*** are likely to reach the agreement to transact. In a real-life situation, they can be real persons or banks. It is also possible that one is a money exchange and the other one is a person. But we can surely say that in this specific example the two dollars has the ability to obtain one pound and vice versa. Hence, we see the existence of the same fundamental characteristics in this relation though they are not the same currency.

Case 4:

A	B
3 apples	1 pounds

In case 4, ***A*** is endowed with three apples and ***B*** with one pound. In a real life scenario, ***A*** can be a supermarket selling three apples for one pound. If ***B*** is happy with this exchange rate, the pound and apples can change hands. As the case is similar to the previous cases, it is acceptable to make the statement that three apples have the ability to obtain one pound. Then the apples are also acting as a form of currency in this specific example.

Case 5:

A	B
2 US Dollars	3 Apples

In case 5, assume that the event is taking place in the UK and in a supermarket. So ***B*** is the seller of apples and will only accept the payment in pounds. Hence the US dollar has no ability of obtaining apples and is not equivalent to two-dollar of case 3.

The case 5 is an important one for us. Instead of dollars, to illustrate the case, we may use any other currencies such as Bangladeshi Taka, Japanese yen or Euro. This example shows the limitation of our conventional analysis of money. Even if we know that the US dollar is the strongest currency in the world, its ability to obtain goods and services is dependent on the environment within which it operates. Therefore, a currency or any monetary unit does not have an automatic transactional power. They may have the ability in some places but cease to have the transactional power in some other places. For this reason, people would exchange their currencies when moving to a foreign country. The currency of a country ceases to be money when moves to another country. However, nothing changes in term of the commodity characterises of the currency. For example, if one takes a ten-pound note to Japan, nothing changes in term of the shape or design of that note. What it loses is only the ability to obtain goods and services from the Japanese markets and thereby plays no role as money in possible price hikes. However, the same ten-pound regains the ability once returns to the UK. Hence the essential nature of a money is the ability to obtain goods and services from another person and this fundamental should be utilised to illustrate money.

To take the example further, assume that someone has one million Euros available at disposal, however that Euro may not have any ability to chase goods and services in a supermarket in India unless it is converted to Indian Rupee. Hence, one million Euro is a lot of money in the European context but is not chasing the goods and services in a supermarket in India.

The preceding analysis demonstrates the need to free ourselves from the traditional view of money expressed in monetary units like dollars, pounds, gold coins or bitcoins as they along are not ensuring transactions. In addition, many real life transactions, which to be discussed in following sections, take place independent of the influence of the traditional monetary units. All transactions (using monetary units or not) take place due to the ability of obtaining goods and services from others and that ability may present itself in many forms. Hence money identified as the ability to obtain goods and services is most suitable for explaining transactions. In a market-based situation, instead of ability, the notion of purchasing power can also be used. However, the ability to obtain goods and services is more widely applicable as it can refer to both market and non-market contexts.

Further to be noted, for our identification of ability as the money, the money belongs to both parties in a transaction. Hence when the exchange take place between one pound and two dollars both are money. Similarly, both are money when the exchange takes place between three apples and one pound. But this ability to engage in an exchange is context dependent. For example, in a money exchange, an individual can exchange pounds for dollars, but not apples for dollars. However, in a supermarket in the UK dollars cannot be exchanged for apples, but can be exchanged for pounds. Hence the money , that is the ability to obtain goods and services is context dependent. In our example, dollar is no longer money in a supermarket in the UK and apples are not money in a money exchange. But both of can become money in other situations.

Here there is also a need to introduce the concept of *potential money*. Since, we are focusing on transactions, the potential to enter into a transaction also to be considered, without the approach for identification of money proposed will remain incomplete, where the role of money as the *store of value* becomes relevant. A type of money may not enter in one form of transaction but may still retain the potential to enter another one. Following from our example of the transaction between one British pound and 3 apples to be noted that the transaction can be performed by any combination of one coin and three apples. The remaining coins and apples though are not exchanging hands have the potential to enter such a transaction, therefore they are also money. In a similar fashion, 2 US dollars may not have any transactional power in a supermarket in the UK, but the same US dollars has the ability to contribute to the import of apples to the UK from another country. Hence the US dollars though can not be used in a supermarket, has the ability to obtain goods and services from another market and store the value when not used.

Intuitively therefore, money used in actual transaction and the money available for potential transactions both are important in determining the price level i.e. the exchange rate of the goods and services. This is therefore also explaining inflation. Assume a limited supply of apples and many people are willing to buy that apple with an exchange rate of three apples for one pound. The seller may see it as an opportunity and may increase the price to 2 apples for one pound. It shows a drop of the ability of pound and an increase of the ability of apples. Many may not be willing to enter in that exchange, but the presence of them with the willingness to accept a different price i.e. 3 apples=£1, allows the sellers to keep the price of apples at a higher level (2 apples=£1).

This explanation of the above paragraph is not extraordinary, as readers will see the clear alignment of the explanation with usual economics text books. However, our paper differs in identification of money at the hand of both parties not just one, and with its focus on the ability, our approach allows to capture the impact of non-market forces in determining the inflation. A thorough discussion on *what is money* will be useful before embarking on the explanation of inflation and this is attempted in the following sections.

4. Money as the ability vis-à-vis other concepts

The analysis of the previous section provided us with a comprehensive understanding of money, that is the ability to obtain goods as services from others should be regarded as money irrespective of the form taken by that ability. In a market-based situation we may also consider purchasing power as money. This section evaluates the link between our other understandings of money, and shows that concept of the ability to obtain encompassed all those understandings.

In any analysis of the history of Money, two concepts are featured prominently. They are the *Commodity Theory of Money* and the *Credit Theory of Money*. A short but useful essay is available via the Stanford Encyclopaedia of Philosophy (Stanford 2022) that readers may consult for a quicker understanding of these concepts. Many books and articles also provide

such discussion, though they are usually long. For the historical development of money, readers may consult for example, Davies (2002), Ferguson (2008), Martin (2013), Dodd (2014) and Kuroda (2020). Below these two ideas are discussed and then compared with the concept of money as the ability.

Commodity Theory of Money

The commodity theory of money views money as a commodity. Examples of such are cowrie shells, salt, gold etc. This view is not itself problematic as indeed money in the form of commodity is well observed all over the world. Even a bitcoin type cryptocurrency can be also considered a commodity, though virtual. However, the commodity theory of money proposes that the money has been invented for the purpose of facilitating exchanges, specifically to overcome the inconvenience of barter between people. With this aim, a commodity was coined as money sometime in the past, such as shells, iron, silver, gold etc., therefore, accordingly to the commodity theory, before this invention, money did not exist. The origin of this idea is traced back to *Aristotle*, though *Adam Smith* is the most renowned modern proponent. For *Aristotle*, money arose to avoid the complexity of barter. Money is a "thing" in Aristotle's *Politics* as stated, "*For the various necessaries of life are not easily carried about, and hence men agreed to employ in their dealings with each other something which was intrinsically useful and easily applicable to the purposes of life, for example, iron, silver, and the like. Of this the value was at first measured simply by size and weight, but in process of time they put a stamp upon it, to save the trouble of weighing and to mark the value*"(Aristotle 1908, page 42). *Joseph Schumpeter* said that *Aristotle*'s theory of money prevailed substantially until the end of the nineteenth century and even beyond (Meikle 1994). In a similar manner *Adam Smith* stated that the invention of money took place to avoid the inconvenience of barter. For example, traders like, butchers, brewer and bakers invented money by considering a commodity as the medium of exchange (Smith, 1776, chapter 4).

The butcher has more meat in his shop than he himself can consume, and the brewer and the baker would each of them be willing to purchase a part of it. But they have nothing to offer in exchange, except the different productions of their respective trades, and the butcher is already provided with all the bread and beer which he has immediate occasion for. No exchange can, in this case, be made between them (Smith 1776, Chapter 4).

The idea of commodity money is so influential that it dominated how the matter of money is discussed with general people. Even the great thinkers struggle to be free influence of commodification. *Marx*'s capital regarded money as a commodity and considered how that embodies the social value of labour,

"... the bodily form of this commodity becomes the form of socially organised universal equivalent. To be the universal equivalent becomes, by this social process, the specific function of the commodity thus excluded from the rest. Thus it becomes – money."

(Marx 1867, page 57)

The idea of money as the ability to obtain goods and services encompasses the idea of commodity money. Commodity money is a representation of the ability to obtain goods and

services from others Once a commodity is regarded as money through some form of mutual negotiation or by force, that commodity acquires the ability to obtain goods and services from others. Hence if salt is regarded as money, the salt provides the owner the ability. If salt somehow is striped of the ability, it ceases to be money.

To be noted that, according to our discussion, in a transaction between salt and apple, both are money, as they both have the ability to acquire the good belonging to someone else. The same is true for a transaction involving salt and oranges. Hence salt is only a commonly accepted commodity, but it does not preclude other commodities to become money.

The above arguments are also applicable to virtual commodity money known as cryptocurrency, for example, Bitcoin and Ethereum. They trade like any other commodities on online trading platforms. In some places they are traded for real commodities (e.g. to buy coffee) treated similarly as tradition money like dollars, pounds etc. Having more cryptocurrencies in those markets demonstrates higher ability to purchase goods and services. However, in other markets they are not directly accepted and needs to be converted to dollars, pounds etc. to conduct transactions involving real commodities. This is similar to the case we discussed previously that money of a country ceases to be money (loses the ability) in another country and requires to be converted.

The proceeding discussion shows that money in any commodity form must also have the basic nature of being a money, i.e. the ability to obtain goods and services. Otherwise, that commodity cease to perform any role in transactions.

Credit Theory of Money

Many objected to the idea that money originated as a commodity to overcome the inconvenience of barter (See Davies 2002, Martin 2013, Dodd 2014) and it is reasonable to say that it has comprehensively dismantled by Graeber (2014) while covering the history of debt of the last 5000 years. In Graeber's language "*The story of money for economists always begins with a fantasy world of barter. The problem is where to locate this fantasy in time and space..?*" (Graeber 2014, page 23). Hence money may take the commodity form, but it is not the barter that initiated that historical process.

The alternative view regards the money to be arising out of the relationship between the creditors and debtors. It arises due to a credit relationship, a promise to repay a grant a favour (product or service) to the holder of the token. A famous example often used is the stone money of Yap island, which attracted attention of many (Martin 2013) including notable figures like *John Maynard Keynes* and *Milton Friedman* (Keynes 1915; Friedman 1991). This stone money does not need any actual exchange of the token. Rather only the ownership is required which arises from a previous occurrence of the exchange of the ownership. In the stone money of Yap, the token is visible, but for credit money it does not have to be the case, as only the promise to pay is required, which is transferable from mouth to mouth. The credit theory of money states, in *Inness*'s description, who is one of the earliest proponent of this theory, "*Shortly, the Credit Theory is this: that a sale and purchase is the exchange of a commodity for credit…………… that the value of credit or money does not depend on the value of any metal or metals, but on the right which the creditor acquires to "payment,"………………………..and on the obligation of the debtor to "pay" his debt…….*" (Innes 1913).

The above description does not refer to any commodity form as that is not the essential condition. However it may take that form of a document stating in some manner *I Owe You* (IOU). This view has received such an acceptance that the *Bank of England*'s description of money used the explanation offered by the credit theory where money get manifested in a form of IOU. This IOU can be passed to a third party and so forth, causing the IOU i.e the money to circulate from one person to another. This is what we see often in the real life. Nonetheless, it seems that still there are issues in digesting the argument against the barter. Such as the *Bank of England* comes up with an inconsistent explanation that money today is a type of IOU, but for past, the Bank goes back to the usual explanation of barter (McLeay et. al 2014a; McLeay et al. 2014b).

The money explained by the credit theory forms a part of our conception of money as the ability to obtain goods and services from others. The transfers of the IOU from one to another is synonymous to the transfer of the ability from one to another and can play the role is subsequent transactions. Hence the money creation in the credit theory is also the creation of the ability goods and services from others.

Why are both commodity and credit theories inadequate?

Both commodity and credit theories are inadequate in explaining transactions of goods and services. Both theories are about the creation of money. The preceding analysis already demonstrated that we can easily ignore the barter origin of money as it is rather historically unfounded (See Graeber 2014). However, the credit theory still poses a problem as one may be tempted to explain all remaining money with reference to the relationship between creditors and debtors. But we show below that such can only explain a fraction of money, that is resulting in the transaction of goods and services between parties. It implies that money cannot be explained only using creditors and debtors relation, and thereby requiring an extended explanation, which money as the ability can offer.

The credit theory of money states that money arises from the relationship between debtors and creditors. Then there must be an exchange of such between them proceeding that relation. What if nothing like that has happened? Take for example, someone has purchased a lottery ticket with £2 and won 1 million. The person is suddenly endowed with a substantial sum. But, this is not an equal exchange. The person now has more money just by luck. One may argue that the money won by the person comes from a system of money, in which most people have lost the money and a small number have gained. That system does not matter at the individual level. For an individual, either money has been lost or gained, and only that is what matters. Moreover, often we do not have the information of what happened in the system, to establish a clear-cut link between the money in the system and the money at hand.

To take this example further, consider the occurrence of people finding treasures in their backyards. Those people suddenly have access to more money but no associated debt. At the individual level, they just have more money at their disposal. Surely, at the individual level the existence of money is not fully explained by the credit theory.

At the national level, not all money of a system can be explained by the credit theory. Note that we have identified money as the ability to move goods and services from one person to another. Such movement always happened and will happen in the future. Many historic movements of

goods and services can be only explained by the ability. This is true also in modern times, for example, assume a government increased the tax rate, e.g. instead of paying 20% one must pay 30%. The individuals or institutions of the economy must follow that directive. Because, if they do not follow the directive, they may face harm, which empowers the government to extract goods and services in the form of taxation. A relatively recent example of the use of ability to extract goods and services is the *Siberian labour camps* known as *Gulag* where the political prisoners were exiled and forced to perform economic activities for the Soviet State (Britanica 2023). Similar forced services are also observable in the name of conscription for military services. Needless to restate that the origin of such services is not any debtor-creditor relationship, rather the ability of a state to force its citizens. Some may feel indebted to state and willingly perform services. It does not mean that all individuals would perform such roles due to the feeling of indebtedness.

Therefore, money as the ability is very well suitable to explain non-market based transactions. The *Gulag* example mentioned earlier is closely associated with the system of slavery. Slavery is an economic system based on some people known as slaves must provide services to other people known as masters. Slaves are bound to provide the services and are at the disposal of masters. There can be bonded slavery explained through the debtor-creditor relationship (See Graeber 2014). However, the slavery may be also the result of a war and one may become slave by force without any debtor-creditor relationship to initiate the process. The slavery system provides the master the ability to make the slave work, thereby to access goods and services. The same goods and services can be accessed by someone via market in exchange of money. But in the economic system of slavery, the same amount of goods and services can be obtained by the master only because of the ownership relation. Hence the ownership gives the master the ability and this ability is equivalent to money of an alternative system. Interestingly the equivalence between having slaves and having money was stated earlier. McNally (2020, page 17) stated about a letter from *Roman* statemen *Cicero* which mentioned about looking a large sum of money, but the letter was actually referring to enslaved human. This provides an example of the equivalence between having money and having slaves, as both allows for obtaining goods and services.

One important distinction to be made before progressing further, which is about the difference between ownership and ability. Ownership gives the master the right over the slave, but it is not sufficient to extract services from that person. For example, if the slave is injured or already has worked for 15 hours in that day, the master is unlikely to be able to extract any further services no matter what measures are available at the master's disposal. The ability of extract services is gained once the slave recovers from the injury or regains the strength to work. The reader may object that the instance of slavery in our example is explained as transaction between the slave and master. However, a form transaction does take place as the slave has the ability to provide services to the master, that prevents the master from causing the harm. Hence money in the form of ability is at the disposal of both parties and get transacted. The slave provides the service and the master does not cause any harm.

A fictional demonstration of exchange of service without any debtor-creditor relationship is available via the famous movie *Shichinin No Samurai* (in English *Seven Samurai* (See, see IMDb 2022, Link https://www.imdb.com/title/tt0047478/). This story was about a Japanese village in the 16th-17th century, recruiting some samurais to protect them from a group of bandits. The bandits came annually to loot the crops produced by the village. Through coercion, the bandits were able to transfer sustenance from villagers to them. In return the bandits did not cause any further harm. Another slightly comical example of the use of such coercion is available in the movie *Kungfu Hustle* (see IMDb 2022, Link

https://www.imdb.com/title/tt0373074/?ref_=nv_sr_srsg_0). This story is about a vicious gang named *Axe Gang* fighting for dominance over some slum duellers. This conflict for dominance starts with two rookie members of the gang going to the slum for a hair cut. Instead of paying the money, they show the symbol of the axe gang drawn on their chest. The symbol hence is the money implying the ability of members of the gang to extract goods and services through coercion from others.

This example of the movies may seem out of place, but a deeper reality is attached with them, that is how the token or commodity money may have come into being. Graeber (2014, page 49) discussed the history of emergence of the commodity money.

"Say a king wishes to support a standing army of fifty thousands men………. Feeding such an army is an enormous problem. ………….One would need to employ almost as many men and animals just to locate, acquire, and transport the necessary provision. On the other hand, if one simply hands out coins to the soldiers and demands that every family in the kingdom is obliged to pay one of those coins back to you, one would in a blow turn one's entire national economy into a vast machine for provisioning of soldiers……..Markets are brought into existence as a side effect."

In other word Graber describes here that the commodity money and market emerged simultaneously to provide for soldiers. This explains that why these fictional depictions of coercion in movies are so easily accepted by viewers. Because most of us have experience or knowledge of the use of such forces in some manner.

A depiction of the emergence of paper money is available in a National Geographic TV series on the origin of human civilization titled "origins" which is available to be viewed via Disney+ (Disney +, 2022). This depiction is largely fictional, however points to the link between money and ability. Specifically, it shows that the paper money may have emerged through coercion and not via a debtor-creditor relationship. As shown in the TV series, a merchant went to the court of Kublai Khan to sell some precious stones. He was in return given some paper money. He was hesitant to accept but realised that not accepting those would result in execution. So, he accepted the paper money. The TV series showed that merchant came out of the court utterly frustrated. However, the truth is that the paper money issued by Kublai Khan had the ability to obtains goods and services from the people, as other merchants under the rule of Kublai Khan was bound to accept that money. Otherwise, they would also be executed by Kublai Khan. Hence the paper money, became money as it gained the ability to obtain goods and services as an extension of the power of Kublai Khan and not by the existence of a debtor-creditor relationship. This ability does not come from the money itself rather from the social arrangement that creates that ability. This is similar to the notion put forward by Zeliger (1989) stating that money itself is dependent upon social processes. Dodd (2014, page 28) in discussing Simmel's idea of money stated that Simmel also regarded the value of money intrinsically connected with socialisation. However, emphasising on society and value in this context may put forward the notion that money came into being due to some social agreement or negotiation. This does not have to be the case as already has been illustrated above. Another example of the use of coercion is activities followed by colonisation, such the coloniser may demand tributes from the colonised, where the colonised have no power to object. The money of Yap is associated with such an incidence as stated by Furness (1910, page 99-100, See also Keynes 1915). The Island of Yap was under the rule of the German government, who wanted to make the natives of Yap to construct/repair roads. They coerced them in doing so through the threat of take over their they stone money *Fei*. Hence the German government's ability to cause harm to the people allowed them to obtain that service, hence was money in that context.

Interestingly, Furness also mentioned that the stone money had no use as money in Germany, which is aligned with what we stated earlier that money of country may not have any used in another country.

To be noted, that a significant number of modern transactions are done through mutual negotiation. The transactions of transaction money and goods between buyer and sellers in a supermarket, what we have previously discussed, is one such example. The ownership of money gives the buyer the ability to obtain, contingent upon the availability of that goods or services. Such money in the modern world is well explained by the creation of debt by commercial banks (See Ryan-Collins et al. 2012, McLeay et. al 2014a; McLeay et al. 2014b) and therefore the credit theory is well applied. However, debt and money are synonymous in this theory, but the reason is not explained. On the other hand the idea of ability can explain the relationship perfectly, that is through obtaining the loan from a bank, a debtor obtains the ability to obtain the predesignated goods and services. It follows that whenever banks are extending loans, they create debt, and this increased debt adds to the overall money available in the economy.

However, as we have given examples, debt is not essential for transactions to take place. They can happen through coercion, mutual negotiation, social contract or even altruism. They all cause the transfer of goods and services from one to another and equivalent to the commonly known money such as dollars, pounds and yens. Hence all together is the money in the economy and money in the form of dollars, pounds etc. are only a part of it. As human being always transacted goods and services with each other, the money also has always existed. Money thus has a central role in human existence, not a side-lined actor serving as the medium of exchange appearing sometime during the history.

So, money cannot be fully explained through debt. Nor it can be fully explained via trust or social contracts. Many people around the world are happy to trust cryptocurrencies like Bitcoin, Ethereum as money. The use of those as money however is limited as the governments around the world generally do not accept them. So, even if millions trust cryptocurrencies, they have limited ability as not approved by governments. On the other hand, one may not trust some forms of money such as the paper money of Kublai Khan, but still must accept that.

The proceeding analysis also shows that our limited view of money may have resulted in incorrect economic policies. The usual view of money looks only at the so called money defined in term of M1, M2 or likes, capturing a fraction of economic transactions. The remaining are unaccounted for. Money as the ability on the other hand has a wider applicability and able to provide a deeper insight on the issues to be addressed in the economic policies.

5. Money as the ability vis-à-vis the purchasing power

In a market-based situation, instead of ability, the term *purchasing power* can also be used. This is very useful addressing the nature of inflation in the modern economies. Interestingly, the term purchasing power appeared in some well known writings:

"Money itself, namely that by delivery of which debt contracts and price contracts are discharged, and in the shape of which a store of general purchasing power is held, derives its character from its relationship to the money of account, since the debts and prices must first have been expressed in terms of the latter" (Keynes 1930, page 1)

"The term "money" is ordinarily used in two quite different senses. We speak of a man having "money" in his pocket, and we also speak of him as "making money," even when he is not a counterfeiter. I shall use the term solely in the first sense……… Money in this sense consists of anything that serves the function of providing a temporary abode for general purchasing power" (Friedman 1968, page 195-96).

"Credit is the purchasing power so often mentioned in economic works as being one of the principal attributes of money" (Innes 1913)

Money therefore shows purchasing power, but the above examples fall short in making this clear-cut statement. In addition, we are stating that *purchasing power is money* instead of investigating the *purchasing power of money*, which is a separate issue to be addressed, though connected to inflation. Ryan-Collins et al. (2012, page 10) states about defining money in this manner by pointing to the relationship between purchasing power and liquidity. However, no explicit analysis has been provided on how liquidity implies purchasing power. The book later goes back to the considering money as something generally acceptable as a means of payment, which has the influence of the barter theory of money.

When transactions take place, the purchasing power gets transacted. For example, the seller gives up goods i.e. the right to use those goods gets transferred to the purchasers. The purchasers give up money in the form of dollars, pounds etc. Hence money in those forms has the purchasing power to obtain those goods. Once the money gets transferred the seller has the additional purchasing power equivalent to the amount of money. To see it more, note that in the modern world many transactions taken place using bank cards. Nobody cares about existence of any physical money, or where the bank money actually is. They only know that they have the ability to access some certain amount of money via bank cards. Once some of it is used, the amount drops. For example, assume an individual has access to £10000. If that person uses £1000 in a transaction, only a further £9000 can be accessed. Then having less money is equivalent to having less purchasing power.

Consider another example. Many people now have the experience of remitting money from one country to another country. For example, assume that someone wants to remit money from the UK to Bangladesh. That person receives income in pound but in Bangladesh the currency is Taka. Assume that the person wants to remit £500 and instructed the bank to remit that money to someone in Bangladesh. In Bangladesh that persons do not receive £500 but an equivalent amount of Taka. Through inter-bank transfers and the intermediation of the central banks, this conversion is achieved. However, whatever is the process in between, the receiver does not receive the actual pound, so the pound do not move from one place to another. Only the ownership of the pound gets transferred. First from the remitter to the bank in the UK. Then through some process to a bank in Bangladesh. The bank keeps the ownership of the pound and provides equivalent amount of Taka to the receiver. The result is the decrease of the purchasing power of the sender by £500 and the increase of the purchasing power of the receiver in Taka to an equivalent amount of £500.

It is well known in the literature that the money in the economy consists of the lending made by banks. As we discussed in the previous section, not clear explanation is provided as to why the lending made by banks should be a part of money in the economy. When viewed from the perspective of purchasing power, it becomes obvious that bank's lending is actually money. By lending, banks create purchasing power for the clients. The client uses that to conduct predesignated activity such as buying properties. The loan is not immediately returned but with some lags. Hence by creating loans with delayed return, a bank increases the money supply or purchasing power of individuals taking the loan.

The above analysis shows the idea of money as purchasing power well explains the transaction of goods and services. However, the idea of purchasing power is more suitable for a market-based situation where the acts of buying and selling takes place. Money as the ability to obtain goods and services is a much stronger concept encompassing both market and non-market activities and can explain historical money as we have discussed with examples in the previous sections.

6. Money creation, transfer and destruction

How to explain the creation of money, when money is defined as the ability? For example, creation of money by the government such as literally the printing of money by a government.

Our explanation of money as the ability is fully consistent with this mode of creation of money. Assume a country with a certain currency, and the government has the power to print money and buy goods and services using that. Hence two acts are taking place essentially, one is printing cash and second is acquiring goods and services. By printing money, the government creates the ability to acquire goods and services from others. Therefore, money is getting created with such acts of the government.

For any party the money gets destroyed once that is used. But in return that party received money in another form. That money may not remain a money in the hand of that party. For example, assume someone purchased an apple from a supermarket. For the purchaser, if that apple has no more ability to acquire any goods and services by engaging in another transaction, it ceases to be a money. Another such example is obsolete or damaged money, lacking the purchasing power though in past participated in transactions.

The brings us to the question of liquidity. In the market economy, money has some degree of mobility i.e. can be used readily, which is synonymous to the concept of liquidity. For example, money in the cash form can transfer several hands without any barriers. How about the other forms of money that this article refers to? Are they also mobile in a manner similar to cash or credit? Let us analyse it within the context of slavery, that we have used as an example.

The slave works for the master. As we discussed, the money of the master, in the form of the ability to extract a service, is destroyed once used. However, does that get transferred to the slave? The nature of relationship between the master and slave is that, if the service is not performed the master has the ability to harm the slave. Even the master has the ability to harm at any time. So, what the slave receives in return of the service, is the ability to avoid that harm for some time period or the period when the task is performed. But like cash, credit or cryptocurrencies in modern economy, can they be transferred to others?

Firstly, to be noted there that money in no form is always transferable. They are all context dependent. Such as pounds and dollars cease to be money when enter another territory, implying being stripped of the property of liquidity. This is more prominent for currencies of weaker economies. Moreover, money in the form of bank deposits such as fixed deposits are much less liquid. Sometimes, they cannot be at all used in transactions, rather first need to be converted to current deposits and then can be used for transactions.

The same is applicable to money only available in the form of ability. Let us go back to the example of slave and master. We previously discussed that the master is capable of causing harm to the slave so *not causing a harm* is what received by the slave in the transactions. Let us now evaluate what may imply by *not causing a harm*. Not causing a harm may imply that the slave is allowed to return to the family. So, not suffering from a harm allows the slave to enjoy the time with family members, which is a form of transfer of services within the family. Not causing a harm may mean that the slave family is provided with sustenance, which can be consumed and even transferred to others in exchange of goods and services. It is also possible to have some surplus (though seems unusual) in the slave-master relationship. Assume that a master may be capable of extracting 12 hours of service in exchange of *not causing the harm*, but only 10 hours of service has been extracted. In that case, the slave has 2 hours of surplus that can be considered as a form of gain, which in the context our paper is a form of monetary gain as the slave has the ability to work for two more hours. However, if the slave works for 12 hours and barely allowed to live only, nothing may remain as transferable, hence ceases to be money.

The master on the other hand obtain goods and services via the work of the slave. If the goods and services are not transferable implying has no ability to obtain further goods and services, those goods and services cease to be money. However, if those goods and services have the ability to enter another transaction with a third party, then act as money.

Once the skill of someone becomes desirable for others, it creates the potential of more money. An interesting example is available from a story about a painting named *Tondo Doni* of *Michelangelo*, which is now on display at the *Uffizi Gallery, Florence*. It was painted to honour the marriage of *Agnolo Doni* and was sold to him for one hundred and forty silver coins. Michelangelo initially asked for only seventy coins. But Agnolo wanted to only pay forty. Michelangelo was unhappy with this negotiation and asked for one hundred coins. Agnolo then decided to pay seventy coins as asked previously by Michelangelo, but this time Michelangelo asked for one hundred forty. The painting was then purchased by Agnolo at that price (Uffizi 1987) at that price. This shows that Michelangelo's skill was highly desirable at that time. As it was desirable, with the creation of the painting, money in the form of ability to obtain goods and services were created, which in the example is the ability to obtain silver coins. The painting surely is also transferable from hand to hand resulting in finally getting housed in Uffizi.

7. Universality of Money

The existence of money is universal, in the sense that it existed in all societies in the past, now existing and will exist in the future. However, the types i.e. the type of ability to extract goods and services are context dependent and there is no universal form or representation of money.

To illustrate the point, assume the example of an extreme case, that is a mother's love for her child. Most will agree that this is biologically determined resulting in a mother taking care of her child. However, activities that a mother would perform are context dependent. Below some examples supporting this claim have been provided. However before proceeding further, we establish that a mother performing activities for her child is equivalent to money i.e. that is can be obtained using money in our traditional sense.

To establish this claim, we will note that in many places, instead of a mother, the majority of the activities, including breastfeeding, may be performed by a hired nanny. The nanny performs the role in exchange of a salary. The service of the nanny is therefore the result of the salary, while the service of mother is due to the motherly lover for the child. The result of both is the same as they both are providing goods and services to the child. Hence, they both i.e. the salary received by the nanny from parents/guardians and the existence of a motherly love are money for the child. Existence of either of them providing the child the ability to obtain goods and services from someone else. Not only that both nanny and mother are capable of performing the same roles such as when child needs changing, the mother and the nanny both are capable of doing the same, they may do it with the same level of care and love. One example of the equivalence of a nanny's care with that of a mother is available via the highly popular and celebrated *Baby's Day Out* movie (IMDb 2022, See https://www.imdb.com/title/tt0109190/).

The mother's love is therefore performing the same function as can be purchased via our traditional money forms like dollars, pounds etc. The existence of a mother's love is providing the ability to the child to obtain goods and services from her. Those who still have a strong objection is referred to the literature around the topic called *Unpaid care and domestic work*. The essential idea of the literature is that some household works create value, but do not receive recognition and not counted in the GDP of the economy. This idea of monetisation of domestic work is generally accepted (See e.g. Luxton 1997 for the literature). As the arguments are essentially the same, there should be no objection of identifying the existence of money in the transfer of services from a mother to a child. Following from our description of money, again both parties possess money. What the mother extracts from the child? It is the satisfactions received from taking care of the child. On the other hand the child possess money due the existence of the motherly love. This money for the child gets recreated every time the mother regains the strength, for example, ready to breastfeed.

We have now established the motherly love is a type of money for the child as it allows the transfer of goods and service from mother to child. However, as stated earlier, there is no universality in this relationship. It is true that a child receives services from a mother but what and how much i.e the provision of services by the mother/or the family is contingent upon the makeup of the society under which they operate. In addition, the idiosyncrasy of that family relationship plays a role. Everett (2010) from his experience of living with the *Piraha* in *Amazon* demonstrated that all societies may not perform the motherly duties in the same way. As he illustrated, the Piraha children learn to become independent once the wining period is over. The children are treated as children only during the winning period, after which they started to take care of themselves without the family supervision. This way of raising children is substantially different from what can be observed in many societies.

Another event described by Everett (2010) also illustrates how a social context may influence the provision of services from one person to another. In his description, a women died by the riverbank. She was in pain the whole night and was crying for help, but nobody came to help her. This is unthinkable in some societies as in such a case, someone is sure to offer help and call for an ambulance to take the women to the hospital. But that activities of getting an

ambulance and receiving treatments from the hospital involves monetary transactions. So, in Piraha society, because of the social make up, the dying women lacked that money. But in another society that money exists for the same women in a similar circumstance.

In some societies, a newborn may not be allowed to live if some pre-conditions are not fulfilled. *Jean Auell*'s provided description of an incidence of this nature in her prehistoric novel the *Clan of Cave Bear* which is the first novel of her celebrate prehistoric series *The Earth children* (Auell 1980). The novel was about a *Homo Sapiens* girl living with a *Neanderthal* group. The Neanderthal group practised the tradition of examining every newborn for any physical deformity. If any deformity is found, then the child is not regarded as fit to survive and left outside of the cave of the group for certain death by natural elements. In the novel, the Homo Sapiens girl was unwilling to accept this tradition and ensured the survival of her deformed child (deformed in the eyes of Neanderthals). Another grim description of this nature is available in the novel *Growth of the Soil* of *Knut Hamsun* (Hamsun 1917). This novel has a much more modern setting illustrating the emergence of an industrial society from a rural background. But this novel also features infanticide by the mother as the child was born with a cleft lip, the same as her.

If these references from fictions are objected, we may look at a very modern incidence. India in the recent decades experienced a widespread occurrence of feticide. The modern inventions like ultrasonogram allows the parents to know the gender of the foetus. As female children are less desired in some Indian societies, the foetuses identified as female were terminated. It was so widespread that the Indian government had to ban this practice by passing a law in the parliament (Imam 1994). It may be also pointed out that there also exists a business of surrogacy which is essentially renting out of the womb in exchange of money (Qadeer and John 2009). The readers may here also be referred to the disturbing literature on filicide (Stanton and Simpson 2002).

The above examples should be sufficient to establish that our social activities involve transactions of goods and services from one person to another, but those activities are not uniform, and we may not know the exact basis of those activities. Even activities, caused by something biological and apparently universal like motherly love depend on individuals and societies. However, such transactions of services are always taking place and will take place making the existence of money universal. On the other hand, the type may differ depending on the individual and social contexts. Some of those transactions may not be viewed as money in our traditional sense, but have the potential to turn into one, for example, the replacement of the motherly love by the care of a paid nanny. Such activities exist in every society in usual money or non-money forms, hence money as the ability to obtain goods and services from others is prevalent in every society. But not only they vary by societies, within a society they vary by individuals. The existence of money therefore is a conditional existence which differs due to individual and societal idiosyncrasies.

The money in the form of cash or credit are not immune from this conditional existence. For example, money in the form of notes is issued by governments or relevant authorities. The existence of the government provides legitimacy of the money issued. The notes issued in a country usually has no ability to acquired goods and services in other countries. With the fall of governments, the value of those currencies collapse. So, the existence of money in the form of pounds, dollars etc. are also relative conditional existence. They cease to be money or go through modifications once the conditions are not fulfilled. Interestingly, while notes/cash usually cease to be money in another country, money in the form of bank deposits may remain useful. In addition, when it comes to the export or import of goods, money in the form of cash,

notes etc. have very limited ability, while money as bank deposits maintains the ability. It again proves the context dependence existence of money.

A powerful proof of the existence of money in ancient time is the ancient mega projects such as Pyramids. However, the ancient world has seen many other mega projects much older than Pyramids. Graeber and Wengrow (2021) in a monumental book titled *The Dawn of Everything* attempted to reconstruct the human history and provided references of several ancient mega cities. These cities provided some type of public goods requiring the communities to come together for design, constructions and maintenance. The formation of those cities or structures provides proof of mobilisation of resources from one person to another person or to some central bodies. Boyd and Richeson (2022) also identified large scale cooperation for public goods in small societies. Hence those societies had some mechanisms for the transfer of goods and services, though not in usual forms. In the absence of money how can one explain such mobilisation of resources? Surely money like gold coins, ingots, shells etcs. can not explain those mobilisations as there exist no proof of commodity money in those periods. Those projects may have used some accounting techniques like the one can be found in the *Illiad* of *Homer*. Schmandt-Besserat (1978) proposed that ancient Sumerians may have invested writing as a consequence of the use of clay token to keep records. In a similar fashion, Graeber (2014) proposed that the need to use something as the unit of account may have results in some commodities regarded as money. Therefore, those ancient mega projects may have used some unit of account, for example gold or Oxen. However, gold and Oxen cannot build Pyramids or cities, instead what required are woods, stones, other building materials and human labour to put them in use. The mobilisation of human labour in this manner can be only explained by some pre-existing social conditions compelling the individuals and households to spare labour for those common causes. Our identification of money as the ability to obtain goods and services from others well explains such mobilisation of resources. Ancient mega projects or existence of public goods in some societies therefore are examples of pre-existence money in a society and supporting the claim of the universality of money.

The preceding analysis shows that the existence of money can be entirely biological such as a mother feeling love for the child, which allows the child to access goods and services from the mother. But they are socially conditioned or sometime can be entirely socially constructed, such as instead of the love, the mother may feel obliged to provide the service. An example of the influence of social norms is the goods and services received by guests in many contemporary societies. The practices of making the guests satisfied by feeding and entertaining surely have emerged sometime in those societies.

To summarise, anything with the ability to obtain goods and services from one person to another is money for the person who is at the receiving end of those goods and services. The money can arise biologically, culturally, politically, by negotiation, by trust or by the decree of a government. All types of money are creating demands for goods and services in an economy and should be taken in consideration when addressing the question of inflation.

8. Explaining inflation

The general increase in prices is known as inflation. The opposite of it is deflation or negative inflation. The use of the term inflation can refer to the economy as a whole or can be sector specific such as the inflation of consumer goods, producer goods, food items or a specific good such as apples. A rise of the price level or inflation shows that more money is required to acquire previous level of goods and services. As we have identified money as the ability to obtain goods and services, inflation indicates that the previous level of ability is no longer capable of obtaining the same level of goods and services. We may also say that purchasing power of the ability drops with inflation.

The distinction between market and non-market activities here are very important. When the issue of price is addressed, it must be addressing to the market-based activities. Referring back to the previous example of the activities of a mother and a nanny, we must recognise that there exists no market for a mother's love as that is not transferrable. However, the services performed by a mother are marketable, such as a mother can also work as a nanny. Now compare between the two situations. Firstly, a mother providing a service to a child out of love and in return obtaining motherly satisfaction, and secondly, a mother working as a nanny and providing services to a child for accessing goods and services, through usual money (dollars, pounds etc.) or in other forms. The question of inflation is appliable for the second case as a mother may demand more money for the services or the service receivers (the family of the child) may demand to pay less to the mother for the services.

However, things that are not marketable may influence market price and the economic realities are formed by both market and non-market conditions. This view expressed is nothing new. The introductory microeconomics courses in any places teaches that the market prices of goods are determined by the demand and supply. But the demand and supply themselves are dependent on many non-market-based issues such weather, tastes, habit, belief systems, seasonality even the history. All those factors therefore have roles to play in inflation which is determined through the transactions taken place in the market.

Hence, to some extent the treatment of inflation in this paper is not different from what is available in introductory microeconomics books. Money in the paper is identified as the ability. That ability is chasing the goods and services. Similar to the microeconomics texts, the increase in the ability or the decrease in the supply of goods and services results in the price hike.

However, this simple explanation requires further development. It is not only the money in usual sense of dollars, pounds etc. are chasing goods and services. Money in other forms are also chasing goods and services and may impact prices. To illustrate further let us go back to the example of the mother's love for a child. Assume a mother is unable to take care of the child for some reason and wants to hire a nanny for performing that service. The mother would not hire a nanny without the pre-existence of the motherly love. Therefore the existence of the motherly love is playing a role in the existence of a market for buying and selling of the child care service. Consequently, the demand and supply of the child care service will determine the price and consequent level of inflation.

On the other hand non-market factor sometime may prevent the formation or limit the operation of the market. This is notable to the products that are regarded as protected by the nation states or households. This attitude is observable in the production, consumption and trade of rice. It is well identified in the literature that only a very small fraction (e.g. 7%) of production of rice

enters the global trade as rice is consumed mostly at the same country of production (Muthayya et al. 2014). Similarly, the decision of the farmers to produce rice may not be motivated by market forces, rather by the motive to ensure the food security of their households (There exists an extensive literature, see Toquero et al. 1975 as an example). Therefore, price mechanisms are unable to signal the extent of the economic activities for some products. Going back to our example of the motherly love, a wealthy mother may just prefer to take care of the children by herself, though capable of hiring a nanny. The economic activity of this particular mother therefore is not directly observable in the market.

However, the price mechanism may indirectly capture the existence of these non-market factors. If a mother decides not to hire a nanny, then the available nannies of the market do not have the ability to extract goods and services from that mother. If no mother or family want their children to be taken care of by others, then the available nannies have no ability to obtain goods and service from others in exchange of the child care service. Therefore, relative availability of nannies and the demand for the child care service determines the price charged i.e. exchange rate for this service.

In previous section, we discussed that the abilities can remain stored and has a role to play in determining the exchange rate. A higher level of stored ability may cause the exchange rate to reduce unfavourably for that ability. The whole literature on the transfer of surplus labour from agriculture to industry following Lewis (1954) is based on this concept of availability. The literature is essentially suggesting that the stored ability of some economies in the form of surplus labour can be unleased for achieving the goal of economic development in a relatively inexpensive manner.

The storage of the ability is actually of prime importance when discussion the matters related to inflation. The abilities are generally not storable, such as labour power, for example the ability of someone to perform the child care service perishes with time and if someone does not work in a day, work hour cannot be used in another day. However, money in dollars, pounds, gold coins, gold ingots etc. provide the assurance and to some extent an illusion of storage. There is a mismatch between things that can happen such as the perishment of some abilities in one hand and the storage of some abilities on the other hand. Both stored and active abilities are in the chase for obtaining goods and services from others and inflation is the struggle of the abilities in stored and active forms to retain the exchange rate.

The viewed shared above can be easily explained to address contemporary economic issues, such as the cost of living crisis. Assume an economy where the nominal income of all inhabitants in form of dollars, pounds has gone up by 10% and without any change of the production or supply of goods and services. For simplicity also assume that all abilities of the economy are exhibited in those money forms. In this situation, inhabitants may perceive that they have now higher ability as the income has gone up. However, they are not capable of purchasing more as the availability of goods and services is unchanged. So essentially quantity of money remains unchanged. In the usual economics language this is similar to a phenomenon of what is called the real money. As the nominal income has gone up by 10%, the economy is likely to experience a 10% price hike without any change of the welfare. The price hike in this case is not an inflation as there is not change of the ability of the inhabitants in acquiring goods and services. The distribution of the ability is therefore to be considered. In an economy not all may experience the same increase in the nominal income. Say 50% experienced an income hike and the remaining 50% not. Then again, more money (i.e. ability) will chase the same amount of goods and services causing a price hike. But the 50% without the increase in the nominal income now experience a decrease in the purchasing power and are worse off. The

issue of inflation therefore is an issue of distribution. It reflects how the abilities of different sections of an economy interact with each other in chasing goods and services.

In order to address inflation, the distribution of the ability therefore should also be considered. The availability of more nominal money (usually known money such as dollars, pounds) induces consumers to chase more of goods and services. Many factors can result in the increased availability of such money at the individual level. Most notable is the increase of the wage/salary received by individuals. However, there are also other factors such as support packages provided by the governments and/or other entities. The ability of some sections of the economy to obtain support packages from government and other entities are their money and impacts the distribution.

Examples of support packages are subsidies provided to reduce the cost of production, which aims to increase the ability of the suppliers to supply more at a lower price. Businesses themselves are run by human beings and owners are themselves consumers. So, the support packages have a demand increasing effect. On the balance, the decrease in the cost from increased supply may get cancelled out by the increase in demand, so the policy to provide support to the business may not end up in having an effect to reduce the price level of the economy, rather increase that. At the same time, it may impact the rest of the economy negatively due to impact of the policy on the distribution of the ability.

Assume a pub owner struggling to keep the business afloat due to a higher operational cost. Only way out for the pub is to increase the price, which is expected to drive away the customers. Supports received, such as in the form of wage subsidy or lowering of the tax or just a direct financial support, may provide a respite to the pub owner. It means that the pub owner is able to keep the business, enabling the owner to retain or even increase the level of profit. The pub survives but the question remains of the destination of the profit if the government does not take the support back through some lump sum tax. The profit is not necessarily going to get invested in the pub. The owner will make the investment where the benefit (monetary or non-monetary) is certain or the highest. Therefore, the profit from the pub may not be reinvested when the owner regards that as a sinking project.

It is not that the governments or other entities are not aware of this issue of reinvestment of profits elsewhere. But still a tendency can be observed to provide continuous support to keep businesses afloat. That is to extending support packages again and again where they disproportionately impact the economy by providing ability to some specific group of people at the expense of a general price hike. Why is this the case?

Here is the understanding of the non-economics motives are important. The fear often expressed when extending supports to the businesses is that the businesses generate output and employment. For example, if the owner closes the pub, it will imply the loss of business for companies supplying goods and services to the pub as well as a number of people will lose employment. This happening in a large scale can severely impact the economy. This was the argument expressed in bailing out the banks following 2008 financial crisis (Moosa 2010). Recently one of the energy companies was bailed out seemingly motivated by a similar view (Guardian 2022; Financial Times 2023). This fear of collapse is the making the transfer of support to the business possible, and is the money for business, i.e. provide them the ability to extract supports from the rest of the economy. To be noted, that the expectation is that this support will also help them to grow, which may not be the case in reality as discussed before. It is also to be noted that though we have used the example of businesses, but it is appliable for other segments of the economy and does not have to be business specific. The Covid pandemic

has seen the governments all over the world extending supports to businesses, employees and general people (IMF 2022), motivated by a fear of a general collapse of the economy and the law and order.

As the inflation is caused by increase supply of money i.e the ability to obtain goods and services from other in various forms, it is therefore important to investigate how various types of abilities are getting created and interacting with one another. The economy is consisting of many different agents and they create these abilities in many manners. However the most notable here is the apex institutions like a government or a central bank, who are capable of significantly altering the distribution of the ability in the economy. The policies taken during the covid pandemic serve as clear examples.

During Covid years and afterwards, the world in general observed an increase in the price level specifically the increase in the property prices. With reference to the UK economy, we will discuss below how the policies taken during the Covid period may have caused the property price hike. Hutton and Keep (2022) provides an extensive report prepared for the House of Commons on the support received by the businesses in the UK. Though the Furlough scheme is often discussed, which allocated £70 billion to the 1.3 million jobs, at the same time the businesses received much greater support under various schemes. For example, the business loan along was at £80.37 billion.

To be noted that many businesses were not operational during Covid, however paid for rents and other expenditures via the ability i.e. money acquired from the support packages. The economy as a whole had limited expenditure opportunities, but received wages, rents, fees etc. at or close to the pre-existing level. When someone received money during the Covid lockdown periods, that money generally stayed with that person instead of getting utilised quickly. As we have mentioned that money in the form of dollars, pounds etc. can store the ability which is referred to as the store of value function of money. The storage is usually done in the form of bank deposits. The Covid pandemic experienced exactly that. ONS (2022c) provided snapshot of the impact of Covid 19 on the household expenditure and savings. The statistics reveal that the household expenditure dropped, however at the same period the households have seen an increase of the deposits in banks. This increase in deposit in bank is therefore explained by the lack of scope for expenditure. The pandemic also prevented the investment by the businesses within the economy. Therefore, the economy in general experienced an increase in the stored ability.

This stored ability like a raised riverbed surely have flowed to many directions determined by the economic terrain. Seemingly the property market was one of the major attractors contributing to a demand pull inflation. During the Covid period, a number of sectors of the economy experienced significant level of growth, notable of which is the mortgage market (Bank of England 2022). The housing market experienced a massive increase in demand caused by the demand for more space (as commonly known) following lockdown. This demand was further increased following the policy of the stamp duty holiday. Stamp duty holiday was a tax the buyers have to pay for purchasing properties. The policy was initially introduced in July 2020, then extended until 30 June 2021, to boost the UK property market during the COVID-19 pandemic. This meant that buyers completing a purchase on a property for less than £500,000 before 1 July 2021 didn’t have to pay stamp duty (ComparetheMarket, 2021).

Therefore, the property market observed a combination of several factors. Two of them are the increased demand for space and the support package in the form of the stamp duty holiday. As expected, the result of the policy is the increase of the demand for properties and consequent

increase in the prices. Any introductory microeconomic textbooks will teach that incidence of such policy depends on the elasticity of demand and supply. As the supply of houses are relatively inelastic, the gain from the subsidy has been mostly appropriated by the sellers. The sharp increase of the house price reported by ONS (2022d) surely reflects that.

The third factor, that likely to have also contributed is the build-up of deposits i.e. the stored ability. To discuss further, some understanding of the mortgage market is useful. Essentially, in the mortgage market, the availability of the loan depends on applicants' income and the deposit. Usually, the lenders will provide 4 to 5 times of the yearly income of the buyers. The rest is to be covered by the deposit. If someone has an annual income of £50,000, the maximum lending accordingly is £225,000. Hence if that person is willing to buy a property for a price of £300,000, then the deposit will have to be £75,000 (note that it is a crude estimate).

The availability of deposit therefore ensured that one of the necessary preconditions of a loan is fulfilled. The lenders as such do not face any financial constraints. As long as the deposit is available and the income of a borrower provides assurance of the repayment, a lenders can create money just by some accounting techniques to make the purchase possible (Werner 2014; Werner 2016). Moreover, the higher prices impact the lenders positively as it implies a higher amount of loan and consequent interest earnings. It has been observed that the financial institutions registered a record level of profit during the pandemic (KPMG 2021). KPMG explains that the increase of the net profit is primarily due to the reduction of the operating cost, while the net interest income also played an important role.

The people who have brought properties with the deposits have lost the ability to purchase once the purchase is done. That has been transferred to the seller and the mortgage lenders. The owners now have the properties but not as the money, as the properties are unable to enter into any further transactions. The new owners have the properties, but mainly for own habitation and will not be willing to sell to the market soon. Those who purchased for investment must also wait some years to realise the benefit. Meanwhile they must pay back loan through instalments. The instalments have gone up compared to the income of the property purchasers as they had to accept a higher price by stretching themselves to be able to climb up the property ladder, while the price hike benefited mortgage lenders significantly. Note also that the average house price in December 2021 was at £275,000 and the average income was £31,400 (ONS 2022b). The loan amount considering 5 times of the income is about £155,000. So the rest is provided by buyers, i.e about £120,000. With the deposit of about one third or half of the property, lenders are fully secured, implying that in the event of a default, the lenders are ensured to receive the money through the forced sale of the property. On the other hand, the borrower lacking in money are struggling to meet the current expenditure, explain the cost of living crisis faced by this group.

But, even before the Covid, the property market experienced an increase of prices (ONS 2022d). The debt surely has a role in the increase of the price. The purchase takes place at present but the income and output for repayment are generated in the future. It may be argued that borrowing from the future for current expenditure is true at the individual level but at the macro level, many are only paying back, so in total money creation and destruction should equate with each other. It however depends on the population dynamics. With a growing population, the newly created money is more than the money destroyed. In addition, the preference for living alone has increased all over the world including the UK (Kotlikof and Morris 1990; ONS 2021a). ONS reported that the number of families increased by 6.5% over the decade from 2011 to 2021. At the same time the number of people living alone has increased by 8.3%. Thereby, availability of loans coupled with the increased demand well explains

tremendous growth of the price of housing. The Covid pandemic and consequent policies may have just expediated an already existing trend.

However, the explanations provided above all already well known and extensively covered elsewhere (Ryan-Collins et al. 2017, Cheshire et. al. 2021). What important is to recognise that we have entirely managed to explain the price hike of the property market from the perspective of money as the ability to obtain goods and services. To be noted that Ryan-Collins et al. (2017) in a number of occasions used the term money and purchasing power together, as such is consistent with our explanation of money. Our explanation is relatively simplistic and aiming to provide some intuitive explanations. The price hike of the property market is a complex phenomenon requiring an extensive investigation. What we like to point out that as the price hike refers to the issue of money, unless a thorough analysis is conducted on the nature of money (i.e the abilities in money and non-money forms) in operation of those transactions, any investigation on this matter is incomplete.

So far, we have only applied an economic perspective and shared the view on how the government policies may impact the distribution of the ability within a sector and accordingly influence the price hikes. However, our definition of money as the ability suggests that there is a need to look beyond just economic factors. That is inflation may have been the consequence of our lifestyle, which may or may not get compounded by institutional policies. In order to elaborate this point, note that human abilities are sourced by physical and intellectual human labour. What we buy and consume are ultimately down to the utilisation of the labour power. Inflation therefore is the need to increase the utilisation of human labour power to meet our various demand. If we demand less, less is the need to utilise our human labour.

The modern times have seen an increased desire to consume. Not only that, but we also think that the consumption flow will remain constant throughout of our life. Biologically, the ability of human body to create goods and services changes with time. However, the human beings now expect to retain a high level of consumption throughout their whole life. The increase in the desire to consume more and also to sustain over a relatively long period of time therefore is forcing us to stretch our abilities to obtain all those goods and services. Surprisingly, there is also an expectation that the desires will be fulfilled by others, and when such desires are pursued through institutional policies impact the distribution of the abilities within a whole economic system. Therefore, the changes in our outlooks of the way we desire goods and services may be causing the price hikes, topped up by the shortfalls in national and international economic policies. Viewing inflation in this manner may sound close to the economics of de-growth (see Kallis et al. 2012 for the literature). However, many political economists regard the failure of economic policies by governments as the only cause of the debacles ((Streek 2014) instead of the change in the consumption desire of individuals. Given the plethora of available views, this matter I believe requires a further extensive treatment and should be addressed in a separate paper. However, below some preliminary views are offered.

Assume a traditionally structured household, comprising the husband, the wife, two children and two elderly parents living in a traditional agricultural society. The husband usually works in the field and the wife looks after the household works. They may receive support from parents but it is the mainly the works of husband and wife that provide the means for all members of the family. The dependency ratio here is 3 to 1. Now assume that the children go to a school. Then even the school also depends on the fees received from the husband and wife. Similarly, some other out of family activities may also depend on the labour of husband and wife such as recreational activities or religious services. Hence all other activities in addition to the basics of life are demanding goods and services from the husband and wife of the family.

The husband and wife may accordingly need to work more for the provision of all those demands. The husband and wife may feel that the time and effort are not taking them far but still desire and strive to provide all those services.

We may need to analyse inflation more from this perspective then just looking at government policies. The identification of inflation by our paper is essentially coming down to the time available to the individuals for working to procure goods and services and the mismatch between what is feasible and what is not. The goods and services are acquired through the physical and intellectual labour of individuals. The more the individuals desire, more is the need to use those labour, more is the pressure on time and the extent of inflation i.e the struggle of the human ability to meet the demands. Then the question is whether an individual has a choice in containing the desire, specifically when the desire of the society is imposed upon the individual. We may also want to ask about how individuals come to accept those desires and decide to act accordingly implying the transfer of resources from producers to the rest of the society or economy? Is there any value system such as religious beliefs causing the transfer? Or are they biological such as our everlasting desire for a life with happiness and prosperity? Or is there any pressure group/lobbies causing the transfer of resources? All of them can be causing of inflation making the individuals to work more to acquire the ability to obtain goods and services. As stated, this view of inflation requires a separate comprehensive treatment and better attempted in a future paper.

9. Conclusion

To conclude we refer to *George Simmel*'s statement that *money is only a claim upon society* (Simmel 2004, page 176) We replace the term claim with ability and do not see money in commodity form only. Nor that we consider it only arising out of a credit relation, instead view money as the ability to extract goods and services from others, and that ability can arise under many circumstances. The ability can even come from the value system of a family, society or even a country. It can also come from the power relation or arise from some unknown reasons. Money is there as long as someone has the ability to obtain goods and services from others by force, gift, mutual negotiation or in any other manners.

In the modern nation states, money in the form of notes, coins or bank money exhibit that ability. However, abilities to extract goods and services are observable in other manners, many of them have been discussed in this paper. Additionally, this idea of money as the ability can explain historical occurrence of transfers of goods and services. For example, the ancient period has seen many mega projects, such as construction of Pyramids. A system of taxation is more suitable for mega projects, rather than a system of credit and a system of taxation is nothing but the ability to extract goods and services from one body to another.

Hence the missing part in the story of money is understand the evolution of that ability and how is that impacting the distribution of goods and services from one to another. Is that taking place in a manner, we can regard as fair? When there is a growth of production are all receiving more or less a higher portion of the pie or when the pie shrinks, are all more or less receiving a lower share of the pie? Should we think of our economic lives in a different way then currently perceived by many in this age of mass consumption. These are surely difficult, uncomfortable

questions to raise and may face moral and political challenges , but such are unavoidable, and requires a comprehensive unbiased investigation, if one wants to address the complex economics of inflation of our times.

References

Aristotle. 1908. *Politics*. Translated by Benjamin Jowett. Clarendon Press, Oxford, Available on https://archive.org/details/aristotlespoliti00arisuoft/page/42/mode/2up?view=theater. Date accessed 08.02.2023.

Auell, J. 1980. *The clan of cave bear*. Crown publisher, New York.

Bank of England. 2022. Household credit: A visual summary. *Bank of England*. Available on

https://www.bankofengland.co.uk/statistics/visual-summaries/household-credit. Date accessed 12.01.2022.

Boyd, R. and Richerson, P., 2022. Large-scale cooperation in small-scale foraging societies. *Evolutionary Anthropology: Issues, News, and Reviews*, *31*(4), :175-198.

Britannica 2023. *Gulag, labour camps, Soviet Union*. Encyclopaedia Britannica. Available on https://www.britannica.com/place/Gulag. Date accessed, 24.02.2023.

Cheshire, P.C., Hilber, C. and Schöni, O., 2021. *The pandemic and the housing market: A British story*. Centre for Economic Performance, London School of Economics and Political Science. Available on https://cep.lse.ac.uk/pubs/download/cepcovid-19-020.pdf. Date accessed, 01.03.2023.

Christophers, B., 2011. Follow the thing: money. *Environment and Planning D: Society and Space*, *29*(6):1068-1084.

ComparetheMarket. 2021. Stamp duty holiday explained. *Compare the market*. Available on https://www.comparethemarket.com/mortgages/content/stamp-duty-holidays/. Date accessed 02.12.2022.

Cook, I., 2004. Follow the thing: Papaya. *Antipode*, *36*(4) :642-664.

Davies. G., 2002. *History of money*. University of Wales Press. Cardiff

Disney+, 2022, Origin of the Journey of Humankind. Available on https://www.disneyplus.com/en-gb/series/origins-the-journey-of-humankind/4tGBS4pdG6tD. Date accessed 27.10.2022.

Dodd, N., 2014. The social life of money. In *The Social Life of Money*. Princeton University Press, New Jersey.

Everett, D., 2010. *Don't sleep, there are snakes: Life and language in the Amazonian jungle*. Profile books.

Ferguson, N. 2008. *The Ascent of Money: A Financial History of the World*. The Penguin Books, London.

Friedman, M., 1968. Dollars and deficits; living with America's economic problems. Prentice-Hall, New Jersey, USA. Available at the Internet Archive https://archive.org/details/dollarsdeficitsl00frie/page/n3/mode/2up. Date accessed 12.09.2022.

Friedman, M., 1991. The island of stone money, Hoover Institution. Available on https://miltonfriedman.hoover.org/internal/media/dispatcher/215061/full. Date accessed 25.11.2022.

Furness, W., 1910. *The island of stone money, Uap of the Carolines*. JB Lippincott Company. Available on https://archive.org/details/islandofstonemon009573mbp/page/n7/mode/2up. Date accessed, 08.01.2023.

Graeber, D. 2014. *Debt: The First 5000 Years*. 2nd Revised edition. Melville House Publishing, London.

Graeber, D. and Wengrow, D., 2021. *The dawn of everything: A new history of humanity*. Penguin, UK.

Guardian, 2022, UK government defends bonuses paid to staff of collapsed firm Bulb. Guardian. Available on https://www.theguardian.com/business/2022/apr/25/uk-government-defends-bonuses-paid-to-staff-of-collapsed-firm-bulb-energy. Date accessed 01.11.2022.

Hamsun, K., 1917. Growth of the Soil. Translation by Sverre Lyngstad. Published 2007, Penguin Books, New York.

Hart, K., 2022. *Self in the World: Connecting Life's Extremes*. Berghahn Books. Oxford.

Homer,1997. *The Illiad.* Translated by Robert Fagles. The Softback Preview. Bath. First published in 1990 by Viking Penguin, USA.

Hughes-McLure, S., 2022. Follow the money. *Environment and Planning A: Economy and Space*, *54*(7), pp.1299-1322.

Hutton, G. and Keep. M., 2022. Corona Virus Business Support Scheme Statistics, Research Briefing Number CBP 8938. House of Commons.

IMF, 2022. Policy response to Covid. *International Monetary Firm*. Available at https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B. Date accessed 02.011.2022.

Imam, Z., 1994. India bans female feticide. *BMJ* 1994: 309:428.
doi: https://doi.org/10.1136/bmj.309.6952.428

IMDb. 2022. *Internet Movie Database*. Names and links of cited movies are in the article. Available at https://www.imdb.com/. Date accessed, various date July-October 2022.

Innes, M., 1913. *What is Money? The Banking Law Journal*, May 1913, pages 377-408 Available at https://www.newmoneyhub.com/www/money/mitchell-innes/what-is-money.html. Accessed, 26.08.2022.

Financial times, 2023. Why is this £6.5bn Bulb blowout still in the dark? *Financial Times*, Available on https://www.ft.com/content/a3ec2dd2-f443-43e2-b58b-906e42afdc3c . Date accessed 27.02.2022.

Kallis, G., Kerschner, C. and Martinez-Alier, J., 2012. The economics of degrowth. *Ecological economics*, *84*:172-180. https://doi.org/10.1016/j.ecolecon.2012.08.017

Keynes, J., 1915. The island of stone money. *Economic journal*, 25(98) :281-283.

Keynes J., 1930. *A treatise on Money*. Macmillan, London

KPMG, 2021. Record profit for banks after a year of Covid-19. KPMG. Available at https://home.kpmg/nz/en/home/media/press-releases/2022/04/record-profit-for-banks-after-a-year-of-covid-19.html. Date accessed 28.10.2022.

Kotlikoff, L. and Morris, J., 1990. Why don't the elderly live with their children? A new look. In David A. Wise edited *Issues in the Economics of Aging* (pp. 149-172). University of Chicago Press.

Kuroda, A., 2020. *A global history of money*. Routledge, London.

Lerner, A., 1947. Money as a Creature of the State. *The American Economic Review* 37(2): 312-317.

Lewis, A., 1954. Economic development with unlimited supplies of labour. *The Manchester School*, 22(2): 139– 191.

Luxton, M., 1997. The UN, women, and household labour: measuring and valuing unpaid work. *Women's Studies International Forum*, 20(3): 431-439)

McNally, D., 2020. *Blood and money: War, slavery, finance, and empire*. Haymarket Books. Chicago, USA.

McLeay, M., Radia, A. and Thomas, R., 2014a. Money in the modern economy: an introduction. Bank of England Quarterly Bulletin, p.Q1.

McLeay, M., Radia, A. and Thomas, R., 2014b. Money creation in the modern economy. Bank of England Quarterly Bulletin, p.Q1.

Marx, K., 1867. Capital. Published in 2013 by Wordsworth Editions, Ware, UK

Martin, F., 2013. Money: An unauthorised biography. The Bodley Head, London, UK

Meikle, S., 1994. Aristotle on money. *Phronesis*, *39*(1): 26-44.

Moosa, I., 2010. The myth of too big to fail. *Journal of banking regulation*, 11:319-333. https://doi.org/10.1057/jbr.2010.1

Muthayya, S., Sugimoto, J., Montgomery, S. and Maberly, G., 2014. An overview of global rice production, supply, trade, and consumption. *Annals of the New York Academy of Sciences*, 1324(1):7-14.

ONS. 2022a. Families and households in the UK: 2021. *Office of National Statistics*. Available on https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/2021#:~:text=1.,decade%20from%202011%20to%202021. Date accessed, 27.02.2023.

ONS, 2022b. Average household income, UK: financial year ending 2021. *Office of National Statistics*. Available on https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/financialyearending2021. Date accessed 02.11.2022

ONS, 2022c. Coronavirus and the impact on UK households and businesses: 2021. *Office of National Statistics*. Available at https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/articles/coronavirusandtheimpactonukhouseholdsandbusinesses/2021. Date accessed 02.11.2022

ONS, 2022d. UK House Price Index, July 2022. *Office of National Statistics*. Available at https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/housepriceindex/july2022. Date accessed 02.11.2022.

Qadeer, I. and John, M., 2009. The business and ethics of surrogacy. *Economic and political weekly*, 44 (2): 10-12.

Ryan-Collins, J., Greenham, T., Werner, R. and Jackson, A., 2012. Where does money come from?. New Economics Foundation, London.

Ryan-Collins, J., Lloyd, T. and Macfarlane, L., 2017. *Rethinking the economics of land and housing*. Bloomsbury Publishing, UK.

Schmandt-Besserat, D., 1978. The earliest precursor of writing. *Scientific American*, 238(6): 50-59.

Simmel. G., 2004. *The philosophy of money*. Translated by Tom Bottomore and David Frisby from a first draft by Kaethe Mengelberg. Routledge, London

Smith, A., 1776. An inquiry into the nature and causes of the wealth of nations. A selected edition. Edited by Sutherland, K. Published as an Oxford World's Classics paperback. Oxford University Press, Oxford.

Stanford, 2022. Philosophy of money and finance. Stanford Encyclopaedia of Philosophy. Available at https://plato.stanford.edu/entries/money-finance/. Date accessed 10.09. 2022.

Stanton, J. and Simpson, A., 2002. Filicide:: A review. *International Journal of Law and Psychiatry*, *25*(1):1-14.

Toquero, Z., Duff, B., Anden-Lacsina, T. and Hayami, Y., 1975. Marketable surplus functions for a subsistence crop: Rice in the Philippines. *American Journal of Agricultural Economics*, 57(4): 705-709.

Uffizi, 1987. The Uffizi: All the gallery room by room. Editrice, Florence, Italy

Werner, R., 2014. Can banks individually create money out of nothing? The theories and the empirical evidence. *International Review of Financial Analysis*, 36:1-19.

Werner, R., 2016. A lost century in economics: Three theories of banking and the conclusive evidence. *International Review of Financial Analysis*, 46: 361-379.

Zelizer, V., 1989. The social meaning of money:" special monies". *American journal of sociology*, 95(2): 342-377.