One money or many currencies ?

This paper has its origins in the ongoing debate about the nature of money (Ingham2004, Graeber 2011, Martin 2013, Coggan 2011). However you attempt to define money, there is in every case an example that eludes the definition. To avoid this difficulty, you can simply accept that money changes its nature.
This is an exploration of how our theories might change if we gave more importance to the existence of multiple currencies so, that instead of considering money as a single concept, we thought about it as something that can have different forms in different places and changes over time. It is an exploration of a wide-ranging topic, so it touches only briefly on issues that could benefit from much longer discussion. It is not intended to provide answers, but rather to suggest some new and possibly radical questions.
There is an underlying tension between views of money as a “natural” expression of value
“*There can be no unerring measure of either length, of weight of time or of value unless there be some object in nature to which the standard itself can be referred*” (Ricardo in Sraffa 1951 p 401)
and the alternative recognition that money is invented by people and therefore takes many different forms. In much economic theory, the existence of separate currencies is “airbrushed” out of the picture. National sovereignty and separate currencies is seen as “quaint” (Williamson 2007). Economists have focussed on a fairly simple view of money as a convenient alternative to barter and this has led to a preference for a single world currency. The well-known nineteenth century economist, John Stuart Mill was dismissive of separate national currencies. (1894)
” So much of barbarism, however, still remains in the transactions of most civilised nations, that almost all independent countries choose to assert their nationality by having, to their own inconvenience and that of their neighbours, a peculiar currency of their own. “
More recently, in the seminal paper on Optimal currencies, Mundell (1961)wrote:
“In the real world, of course, currencies are mainly an expression of national sovereignty, so that actual currency reorganization would be feasible only if it were accompanied by profound political changes” and
“Money is a convenience and this restricts the optimum number of currencies. In terms of this argument alone the optimum currency area is the world, regardless of the number of regions of which it is composed.”
These quotes from Mundell illustrate how Optimal Currency Area theory (De Grauwe 2009, Bayoumi & Eichengreen 1997, Mundell, 1961) became essentially a discussion of the variety of economies. From the start, it was assumed that the ideal situation would be a single currency.
However the existence of multiple currencies and the way money has changed over time may be evidence that this view is too simple. Money is a collective term covering many different currencies. A universal currency does not exist as a separate commodity. Money is not homogeneous, but is a collection of different currencies, which share similar characteristics, but each have an individual balance between the various properties. This may be true even when currencies appear similar, and perhaps even share the same name. Money is a surprisingly elusive concept. Debt, for example, which is commonly thought to be an absence of money, can itself become money.
“*Whatever barriers the state – or academics may erect within which to confine money, money has an innate ability demonstrated not only during recent decades*

but by thousands of years of history to jump over them." ………."Money is so useful – in other words it performs so many functions – that it always attracts substitutes: and the narrower its confining lines are drawn, the higher the premium there is on developing passable substitutes." …………. *"As an institution, money is almost infinitely adaptable"* (Davies 2002 p27)
On the historical development of money Seaford (2004 p19) lists 7 characteristics of money and then observes "*obviously the historical development of money has been untidy, occurring variously in various cultures and has not necessarily been unilinear even within each culture* " .
What I hope to do in this paper is to explore the implications of understanding the flexibility of money including all its various forms and currencies. Treating money as a collection of different currencies:

- brings theory closer to the reality of everyday life
- Helps to understand the evolution of money. We can discuss how the currencies we use today are similar but also different from the currencies that were used a thousand years ago, five hundred years ago or fifty years ago.
- Enables different theories about money to be combined. Currencies may be based on precious metals, on transferable debt or on state authority or a varying combination of all three
- Puts the differences between countries in a better perspective. Different countries may need or prefer varying different balances between the different functions and characteristics of money. There may be good reasons for currencies to be different and the results of merging currencies may be better understood.
- Can be more realistic in discussing money as an instrument of political and military power as well as a means of exchange.

Varieties of currencies
The existence of multiple currencies seems so obvious as to require little elaboration. As well as precious metal coin, there are copper and other forms of token coins, 230 or so units of paper currency and Davies (2002, p27) lists amber, beads, cowries, drums, eggs, feathers, gongs, hoes, ivory, jade, kettles, leather, mats, nails, oxen, pigs, quartz, rice, salt, thimbles, umiaks, vodka, wampum, yarns and Zappozats (decorated axes). As well as this there are widespread records of the use of tokens of different sorts as social currencies to manage essentially social transactions such as marriage and death(Graeber 2011 pp127 -164)
Experts on primitive and modern money disagree about where to draw the line between money and quasi-money precisely because it is in the nature of money to make any such clear distinction impossible to uphold for any length of time (Davies 2002 p27*)*
Exploring all the varieties of currency might occupy several books, so I will concentrate on what might be called "modern money", essentially coinage, paper and fiat money.
This paper will consider the variety of currencies in three ways:

- The creation of new currencies
- How currencies differ
- The historical development of currencies

Section 2 gives some illustrations of how people create currencies when none are provided. Section 3 looks at the creation of currencies in North America

Are the differences between currencies significant? Section 4 considers money's function as a measure of value. Section 5 discusses how the many functions of money may cause currencies to differ, particularly in the case of inflation. Section 6 confronts the political and military power of money and relates this to the myth of the invention of coinage from barter.
Finally Section 7 develops the theme of the historical development of different currencies from coinage to paper money to fiat money. Section 8 summarises and concludes.

Section 2. Currency creation

As examples of how currencies may be created when normal money supply is interrupted, I take three examples from Australia, Ireland and Argentina.

Early Australian settlements

The first Australian settlements were convict colonies and no money was provided, presumably because it was not thought necessary. In the event, the colonists simply created their own money by exchanging promissory notes.
"Private promissory notes provided some sort of substitute for an internal currency and were probably issued almost from the beginning of settlement, though direct evidence is lacking…….
These promissory notes were written on any handy scrap of paper and accepted in the most casual manner. …….
As a form of money then, such notes were very inefficient but they served for lack of a better for many years" Butlin (1953, pp 26 -29)

Bank strikes in Ireland

In the Republic of Ireland, bank strikes in 1966, 1970 and 1976 closed the banks for several periods. The longest period was six months. In this case, people created their own money by accepting cheques. This relied on close community networks often based around pubs so that people would know the people whose cheques they were accepting. Employers paid wages in several small cheques, rather than one large one so that employees could negotiate each cheque separately, one to pay the groceries, one to pay the rent etc. (Murphy 1978)

Argentine financial collapse

When the value of the Argentine Peso collapsed in 2002 a host of local currencies sprung up to fill the vacancy. The devalued Peso and the U.S.dollar circulated together with a dozen IOUs issued by provincial government as well as luncheon vouchers, tickets and shopping mall currencies. (Ingham 2004 p167)

Section 3 Currencies in North America

As in much else, settlers in America were pioneers in currency, either because they did not have much gold or silver, or, as Galbraith suggests (1975 p57), because they hoarded what they had. Davies lists five sources of early American currency. (2002 p459) During 1715 in North Carolina alone, seventeen different forms of currency were declared to be legal tender. Initially, strings of beads (called wampum) and furs were essential for trading with the indigenous population and used among the settlers themselves. Then crops such as tobacco, rice etc. were used as 'Country money'. Tobacco was used as currency in Virginia for almost two centuries, starting shortly after the first permanent settlement in 1607. In 1642, the general assembly

of the colony, made tobacco legal currency by outlawing contracts made in gold or silver. Professor Galbraith notes:
"The overproduction of farm produce, their often inelastic demand and the resulting disastrous prices have regularly made it hard for farmers to meet interest or payments on mortgages and other debts…………So long as tobacco was money, the same quantity serviced the given debt, for the debt was written in pounds of leaf. The law of 1642 forbidding contracts that called for gold or silver was a thoughtful concession by tobacco planters to themselves." (Galbraith 1975 p58)
Country money was supplemented by foreign coins, especially Spanish and Portuguese coin. The scarce but official British coins were less frequently available and were kept for those payments which required official payment. Then a pioneering effort, eventually overtaking all other forms of currency, was the issue of paper notes. The first official issue of paper notes was made by the Massachusetts Bay Colony in 1690, to pay soldiers returning from an unsuccessful expedition.
The creation of the United States Dollar was an essential element of the War of Independence. A new state with no tax-raising system could only fund an army by printing paper money. Economic theorists may be horrified by the paper currency of the American revolution, but without such monetary innovation, the USA might still be a British colony !
"This currency, as we manage it, is a wonderful machine. It performs its Office when we issue it; it pays and clothes Troops and provides Victuals and Ammunition; and when we are obliged to issue a quantity excessive, it pays itself off by Depreciation. "
Benjamin Franklin quoted in Galbraith 1975 p68

The United States is also an example of the diversity within a single nominal currency. While there was one unit of account, the dollar, there were, at the time of the civil war, 10,000 different bank notes in circulation, the products of some 1600 banks. (Davies 2002, p483) This diversity was the result of a general suspicion of banking, which caused the first two attempts to establish a Bank of the United States to end in failure. Furthermore, the federal nature of the United States meant that there were both National and State banking laws and each state had its own version of bank regulation. In practice, there was a division between the established banks of the East Coast and the more speculative banks of the western Frontier regions. Notes from the Western banks might be accepted at only 50% of their nominal value. (Galbraith Chapter 7, Davies pp474 -494)
Galbraith summarises:
"….the hundred years from 1832 on were ones of basic compromise ……..
For the growing financial, trading and creditor community, mostly of the East …………the arrangement provided a basic hard money – gold and silver.
And…..there were increasingly reliable banks……..
For the new parts of the country as they opened up, there was the right to create banks at will and therewith the notes and deposits that resulted from their loans………..
Men of economic wisdom, then, as later, expressing the views of the reputable business community, spoke of the anarchy of unstable banking…………
The men of wisdom missed the point.
The anarchy served the frontier far better than a more orderly system that kept a tight hold on credit could have done. (1975 pp 93,94)

So it is clear that new currencies can be invented by people in many different ways. But are currencies essentially different? Is all money the same ? or does it matter which currency is being used? This is the theme of sections 4, 5 and 6.

Section 4 Currencies reflect the variation of value

A flexible system of different currencies may reflect the changeable nature of value. Value, in common use, means value in money or price. Economic theory generally discusses money (a single concept) instead of currencies in the plural because it is seen as a single measure of value. There is a single concept, length, measured in a variety of units, feet, metres, yards. So it is thought there is a single concept, value, measured in Pounds, Euros, dollars. The property being measured is single so the system for measuring is a single concept, that is, money.

However, this theory is too simple. Unlike length and weight, value can vary over time and between places. Different currencies are needed to reflect local variations in value. Use value and exchange value were separated by Adam Smith and the classical economists. Modern economists rely on marginal utility theory. There are logical difficulties in applying the concept of utility to a whole community. The problem is solved by drawing a supply curve and a demand curve. The price of the commodity is the point where supply and demand are equal. But, in different places, people's preferences will be different, so the same goods will have a different price and a different value. Similarly, if the income of the prospective purchasers falls, then the amount they can buy will also fall and so will the value of the goods.

What this means is that though a particular item will always have the same length and weight, it does not always have the same value. Value changes in different places and different times. It can also be completely unstable, subject to steep rises and sudden drops as the multiple crises throughout history have shown. So when money is considered as a measure of value, it is not measuring something constant, like length or weight. Instead, it is measuring something changeable like, for example rainfall. So a flexible system of different currencies is needed to reflect the changeable nature of the value that money measures.

Section 5 Currencies reflect the multiple functions of money

Money has many possible functions. Economists prefer to concentrate on money as a means of exchange and this naturally leads to an idealised view of money and a predisposition to pass over the differences between currencies. In reality, money has many different possible functions so that each currency reflects an individual local balance between different functions and political interests.

For example, Davies (2002 p27*)* lists 10 functions of money

1. Unit of account
2. Common measure of value
3. Medium of Exchange
4. Means of payment
5. Standard for deferred payments
6. Store of value
7. Liquid Asset
8. Framework of the market allocative system (prices)
9. A causative factor in the economy
10. Controller of the economy

This is a fairly general list. To it might be added some specific functions of particular currencies, like

11. promoting trade within a certain country or geographical area

12. protecting the economic interests of particular groups. (in some cases)
13. method of social control (if you include the use of taxes to promote certain types of behaviour).

Further than this, promoting political independence and paying for military expenditure is an important function of a separate currency which will get more detailed discussion in the next section.

Recognising that money can have many separate functions leads naturally to an expectation that currencies may differ because some will fulfil some functions better than others and these differences will correspond to the needs of differing geographical areas. To discuss this further, I am going to concentrate on the issue of inflation and two of the principal economic functions of money, Means of exchange and Store of value.

Acting as a means of exchange is probably essential. It is doubtful whether something that was not used as a means of exchange would generally be considered to be a currency. But in order to pay wages or to allow for any exchanges which occur over a period of time, money also needs to be a store of value. These are not only separate functions, they often appear to be opposed. By keeping money scarce, you restrict its use as means of exchange. Alternatively supplying ample currency may lead to inflation. As a means of exchange you want as much currency as possible for everyone's convenience. On the other hand, the most usual way of ensuring a currency's value is to keep it scarce, by increasing interest rates or restricting supply in other ways. Davies expresses this as a pendulum meta-theory of money:

"there is an unceasing conflict between the interests of debtors who seek to enlarge the quantity of money and who seek busily to find acceptable substitutes and the interests of creditors who seek to maintain the value of money by limiting its supply……and generally trying in all sorts of ways to safeguard the quality of money" (Davies 2002 p30)

J.K.Galbraith puts the same point in his inimitable style:

"*Attitudes towards money proceed in long cyclical swings. When money is bad, they want it to be better. When it is good, they think of other things. Only as matters are examined over time can we see how people who are experiencing inflation yearn for stable money and how those who are accepting the discipline and the costs of stability come to accept the risks of inflation*." (Galbraith 1975 p13)

The terms used in this quotation from Galbraith reflect general academic opinion. "Good" money means money that retains its value and "bad" money means the opposite. There are some grounds for this view. At the extreme, a currency can devalue so fast as to damage its value as a means of exchange. There can be a noticeable change in value within a week or a month, so that a persons wages devalue within the time it takes to spend them. There are well –known examples of this extreme hyper-inflation such as Zimbabwe (2009) and Hungary (1946).

Less consideration has been given to the possible benefits of inflation. Inflation imposes a cost on holding money. Money that is kept as money does not benefit the productive capacity of society. From the point of view of society as a whole, wealth is more usefully employed in building factories, houses or shops than simply hoarded as money. Why should society not decide to impose a cost on people who hoard money? Real assets require maintenance and replacement, they impose maintenance costs on their owner. Why should society provide people with a costless asset in the form of money. Would it not be better to have a level of inflation which would encourage wealth owners to invest in real assets, rather than just

money ? This idea was supported by Gesell (1958 p274) and has been put into practice in some local currencies which charge demurrage. A small payment each month or year is required to validate the currency. Not surprisingly, this is found to speed up the circulation of the currency. (The best known examples are the Worgl and the Chiemgauer see Lietaer & Dunne 2013 p88 and pp175 -178)
The variations of inflation are the subject of a large literature that cannot be summarised here. It is generally accepted that there is not a simple inverse relationship between economic growth and increased inflation. The relationship between inflation and economic growth is non-linear and developing countries are more tolerant of high levels of inflation. (Lopez Villavicencio & Mignon, 2011). The experience of the euro area shows that differentials in inflation are surprisingly persistent. (Angeloni et al. 2006, Andersson et al. 2009, Lane 2006). So the relative benefits of inflation may vary between countries and areas. Galbraith suggests that less developed areas have more to gain from easily available currency at the expense of some inflation, while more established areas can use a more stable currency and suggests a connection to the rapid economic growth during the expansion of settlement in America (see quote in section 2). All this suggests that countries can benefit from managing their inflation individually and therefore good management of the economy may require separate currencies.

Section 6 Currencies, power, independence and the origins of money

Currencies are instruments of military and political power. This is an inconvenient fact that was emphasised by mercantilist thought (Schumpeter 1954 p347)and then systematically downplayed by the classical economists following Adam Smith. It is no accident that most innovations in money are connected with wars and governments who urgently need money. For any military adventure from Alexander the Great to the present day, the first need is for money to pay troops and buy equipment. An easy solution is to produce your own currency. Alternatively, you need to find ways to borrow money, which leads governments into experiments in currency innovation that they might not otherwise have considered. The founding of the Bank of England, the end of the gold standard and the floating of the U.S. dollar are all examples of currency innovations spurred on by the need to borrow money for military purposes
And today, would the USA be able to be a world superpower if it was not able to run up large debts because its currency is the world reserve currency ?
It is generally agreed that the creation of many currencies, from the U.S. dollar to the Euro were the result of political pressures. Was the original invention of coinage any different ?

The myth of the origins of money

The myth of the origin of money from barter is repeated in most modern economic textbooks. This myth has a long pedigree. It originates from Adam Smith's classic, "The Wealth of Nations" and he repeats it from Aristotle. It is worth looking at the evidence. The exact details of what happened over 2,000 years ago may seem irrelevant. But the point of the myth is to make it appear that money evolved by some process of consensus between independent 'free' agents. It systematically emphasises the elements of convenience and consensus and downplays the effect of political power and military expediency.
Firstly it is worth noting that currency is not essential for trading. The requirement for a "double co-incidence of needs" is not nearly as big a problem as the economics textbooks suggest. In practice it is simply necessary to remember, or to keep a

record, of what you have received and what you have provided in exchange. Exchanges within a village community, were probably done by memory, and indeed, they are very often still done that way. A good description is in Graeber (2011 pp34,35). More formal and long distance trading can be done, and often still is done by means of credit and debt accounts. A unit of account may be needed but it seems unlikely that long-distance trading caravans carried a load of silver one way, just in order to bring it back again. It would be much more sense to trade on account and then settle occasionally when necessary.
Furthermore, the anthropological evidence is clear.
"*No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there never has been such a thing*" Caroline Humphrey quoted in Graeber 2011 p29
"On one thing the experts on primitive money all agree, and this vital agreement transcends their minor differences. Their common belief, backed by the overwhelming tangible evidence of actual types of primitive money from all over the world and from the archaeological, literary and linguistic evidence of the ancient world is that barter was not the main factor in the origin and earliest development of money. "(Davies 2004 p 23*)*
Thus the invention of money as an improvement on barter is a myth. An essential part of the myth, not explicitly stated but clearly implied, is that the people who do this mythical bartering are stateless. They appear to be living in isolation, somewhere, apart from occasional meetings in order to trade. For example, a modern economist outlining the basics of monetary theory writes:
"To lend intuitive colour to our story, suppose that all individuals in our barter world live on a wooded island (perhaps in company with the odd snake or tiger) and must seek out other individuals as and when they wish to engage in commercial transactions." (Clower 1969 p8)
But there is no record of any substantial number of people living like that. People are social. The earliest hunter-gatherers lived in groups. Certainly, the Aegean civilisation in which coins were first minted were a collection of city states and while the first coins may have been minted by private individuals, these were individuals who lived in a state, in a clearly structured and hierarchical society.
Our earliest record of trading exchanges pre-dates coinage by two thousand years. Evidence from Mesopotamia in the third millenium B.C. shows the use of tokens for common items like sheaves of corn, then the use of simple characters to record transactions. Long-distance trading was mainly done on account, by keeping records of credits and debits. The weight of silver was the basis of accounts, though the silver itself was probably kept in temple vaults and only rarely transported. (Graeber 2011 pp214-217).
However, Mesopotamian use of silver as a trading standard was distinct from modern money, not only because of the absence of coins but also because trading was not the main means of exchange. The ancient Near East economies were primarily re-distributive economies in which a central system of distribution was managed by a temple or court bureaucracy (Seaford 2004 pp318 -337)
A fundamental change of approach occurred around 600- 700 B.C. at roughly the same time as coins were developed in Lydia, on the Aegean coast of present day Turkey. But it was not a transition from barter to coins. Instead it was a change from personal, hierarchical exchange systems where what you got and what you gave depended on your position in society, to an idea of general exchange based on

individual choice and universal economic value (Seaford 2004 p175). Interestingly similar changes occurred a little later in India and China (Graeber 2011 p225) Seaford explains the transition in detail. He examines the traditional world of Homer's epics where there are many instances of exchange but they are mostly presents, booty or communal sharing and the few instances of trading are all in the background. He contrasts this with later classical Greek writings which treat money as the aim and measure of activity, much as we do today.
Martin (2013) follows Seaford in attributing the invention of the concept of general economic value to the Greeks. They suggest that Mesopotamian ideas of accounting were mingled with Greek customs for community obligations in order to create the single idea of a numerical value which expressed the value of something to the community and also to the individual. According to Seaford, the invention of coins and the concept of universal exchange value deeply affected the communal life, the philosophy and the drama of the Greek civilisations and probably made their ideas the fore-runners of modern thought.
However, Seaford and Martin do not really explain why this change occurred and spread so rapidly. Graeber (2011 p226) adds a useful suggestion. The invention of formations for fighting, such as the Greek phalanx and, later, the Roman legions, required trained soldiers and this meant that soldiers had to be employed and paid. Schoenberger (2008) adds a more detailed description of the process in Athens. Coins were part of a wider social change in which feudal obligations were changed into money transactions and paid armies replaced citizen militias. Money was successful because states that used money, employed trained soldiers, and won wars. States that concentrated on trading, like the Phoenician cities, might rely on ingots and promissory notes. But they lost the wars and were burnt to the ground.
Being a "great trading nation" (rather than say, an aggressive military power like Persia, Athens or Rome) was not ultimately a winning proposition. (Graeber 2011 p227)
So it seems that coinage, was from the very beginning a political and military enterprise, as well as a commercial convenience. From the very start there is a close association between monetary innovation, war and state spending which continues to the present day.

Section 7 Currencies and the historical development of money

This last theme, the evolution of coinage, provides a convenient link to the following section which explores the historical development of money. Investigating the changes of currencies over time is made more difficult because people who innovate new forms of money, do not advertise the innovation, instead they emphasise how the new form of money is just the same as the old. And, of course, there are profits to be made. If you can invent a new form of money and persuade people to accept it, then you earn at least the interest on the new money that has been created.
Historically, there is a general pattern that the evolution of new currencies has gradually broken the link between precious metals and money. From classical antiquity to the middle ages, almost all money was based on precious metal coinage. So Adam Smith and his contemporaries treated money as a commodity, often a precious metal, used as a general intermediate commodity which is universally bought and sold and provides an improvement on barter. Schumpeter (1954 p288) describes this as "metallism".
With the evolution of paper money, currencies changed, But theory was slow to catch up. Many 19th century theorists concentrated on making paper money behave

as much as possible like gold. More recent monetary theories which Schumpeter labels together as “cartelism” treat money as a token. They can be divided into credit and state theories of money. The credit theory concentrates on money as a promise to pay. Money can be any transferable debt, provided that the debtor is credible enough for the majority of people to believe that they will repay. In contrast, the State theory concentrates on the function of the state as the originator and authoriser of money. These two theories can be inter-linked, since the state can be seen as the principal debtor whose debts are the principal, though possibly not the sole source of money. (see for example Wray 2004).
There is a simple, alternative practical view that whatever is generally agreed to be money acquires value, simply by virtue of that agreement. (Von Mises 1953 p45). An example of this is the current value placed on the U.S. Dollar. However, as we have already discussed, value is variable and occasionally unstable so there also needs to be a backup system of guarantees to establish and guarantee the value.
A review of the history of currencies, however, shows that no one of these theories on its own can explain the diverse human creation that is money. Real currencies are a combination of state authority, credit and commodity value, combined with chance, politics and practicality. Following a vaguely chronological order, we look first at coinage.

Coinage

Coins were the principal form of currencies throughout the Roman and Medieval period. Since each city state could mint its own coins, multiple parallel currencies circulated. Recent studies (Weber 1996, Munro 2009) have shown that the value of coins was complex. Their value was determined neither solely by the weight of precious metal they contained nor solely by their face value. Their face value was set by the state and could be changed by public proclamation. But their value was also related to their value as precious metal. They were neither solely commodity money, nor solely state money, but a combination of the two. The value of coins as precious metal was a “foreign exchange” value and also a minimum value. The coins could not be allowed to fall below this value, because people might melt them down and sell them as gold or silver. The face value had to be higher than the metal value, to provide seigniorage to the minting authorities and to pay for the cost of minting. How far the face value of coins differed from their metal value depended on multiple issues of local politics and power.

Private Money

Currencies in the form of writing go right back to Babylonian times. In the heyday of the Roman empire, most large transactions were settled by using notes or bonds (Martin 2013 p79). But in the chaotic centuries that followed the decline of the Roman empire, the use of all forms of money declined. By the twelfth century, however, the use of money started to revive. During the 16th century, an international group of bankers and merchants developed whose fortunes were based on settling international debts by means of written bills of exchange. This network of exchange bankers relied on their own, virtual currency, the ecu de marc. This was a private monetary standard of the exchange bankers alone, not guaranteed by any state, in which they could settle the relative value of multiple local currencies, by means of meetings of a select few bankers at regular fairs. This was “a supranational private money interacting with domestic public monies”. (Boyer Xambeu et al 1954 p xvi). Around the end of the 16th century, however, this system collapsed as a result of regional rivalries and changes to the French monetary system.

Paper Money

During the 14th, 15th and 16th centuries, the wider use of paper based transactions was pioneered by private enterprise rather than initiated by state authorities. Goldsmiths led the way by issuing notes recording gold that they stored. Then they used the gold they were storing as backing for issuing credit notes. Credit notes became cheques and then became universally transferrable, leading to currency notes issued by individual banks. Initially, notes were issued by a multitude of private banks

"at the beginning of the nineteenth century no proper system existed for controlling the flood of notes issuing from a motley collection of many hundreds of banks which were springing up over most parts of Britain" Davies 2002 p285

Country banks could be set up in the spare room of any prosperous local trader. (Davies 2002 pp286-289) When official money was in short supply, local shops might even issue credit tokens in order to economise on official coinage.

One problem of paper currencies is how easy it is to issue too much. Well known examples are the Chinese who pioneered paper money but then abandoned it because repeated over-issuing led to chronic inflation and John Law's Bank of France. Issuing too much money was a particular temptation for monarchs, because they resented the limitation to their powers posed by finance and because of the occasional urgent need to finance wars. More democratic means of government tended to limit excess state expenditure, because the people who ran the government were usually the richer citizens, who had an interest in ensuring that their wealth was not diluted by excessive inflation.

So following the establishment of the Bank of England in 1694 in order to borrow money to finance the Anglo-Dutch wars, there was a lively debate about how its note-issuing powers should be restricted. The solution was to require that the issue of paper notes was backed by precious metal reserves. Davies comments : (2002 pp300 -321)

"The British empire may well have been built up in a fit of absent-mindedness, but the gold standard that sustained it was by contrast the result of conciously learning from the experience of practical bankers, those who failed as well as those who prospered and from the willingness of the authorities to accept the wisdom and reject the folly of countless parliamentary debates, committees books, journals, pamphlets and papers with which the period abounded."

Paper money was developed by private initiative, but inevitably came to be controlled by the state. A process of trial and error created a stable system supported by a mixture of state backing, precious metal reserves and the credit of local bankers or traders.

Keynes, Bretton Woods and the end of the Gold Standard

The gold standard system of the late nineteenth century is sometimes seen as an ideal. But it was probably inseparably connected with the British Empire which gave the authority of the Bank of England a world-wide reach and enabled it to maintain the system with a remarkably small gold reserve. As the two world wars shook the British Empire, so the Gold standard also broke down under the strain of war debts. Like the British Empire, its time was probably past.

As early as 1911 J.M. Keynes wrote

" *The time may not be far distant when Europe, having perfected her mechanism of exchange on the basis of a gold standard, will find it possible to regulate her standard of value on a more rational and stable basis. It is not likely that we shall leave permanently the most intimate adjustments of our economic organism at the*

mercy of a lucky prospector, a new chemical process or a change of ideas in Asia." Keynes, J.M.1913 (1971*)* p71

Countries often made their currencies inconvertible in war time. So it was not surprising that Britain came off the gold standard during the First World War. It returned to the gold standard at an unsustainable gold price for a few years but this caused a damaging economic recession and Britain abandoned the gold standard again in 1931. Since Britain had been at the heart of managing the pre-war international gold standard, this was effectively the end of the old gold standard regime.

After the Second World War, there was a determination to negotiate a more stable new economic order. The Bretton Woods agreement created an indirect gold standard. Most currencies had fixed exchange rates against the US dollar and the US dollar had a fixed exchange rate against gold.

Floating exchange rates

As financial strains built up during the 1960's, the adjustable exchange rates that were the heart of the Bretton Woods system were subject to increasingly frequent re-adjustment. Support grew for floating exchange rates that would reflect international foreign exchange markets and avoid the need for awkward sudden adjustments. Robert Triffin (1961) made the case for an international currency reserve based at the International Monetary Fund. He argued that the burden of managing an international reserve currency was too great for an individual country. The United States was encouraged to run up deficits because this provided foreign currency reserves for other countries. As the US dollar is the international reserve currency, its debts count as international money and there seems to be an almost unlimited demand for them. Triffin's argument under-estimated the political attraction of access to almost unlimited borrowing. Under pressure from debts from the Vietnam war, President Nixon abandoned the one effective control on U.S. borrowing by ending U.S. government purchases of gold in 1971 .

Since then, the international financial system has relied on fiat money and flexible exchange rates. It appears that this might be similar to the 16th century Ecu de Marc system described above where a cartel of bankers decide the international value of currencies. This created vast additional opportunities for foreign exchange trading. (Eatwell & Taylor 2000) As banking regulations were relaxed, banks and financial institutions created complex financial derivatives that enabled them to gamble on alterations in relative prices. This created a pyramid of risk which collapsed in the financial crisis of 2008, resulting in worldwide political and financial strains.

Section 8 Conclusions

This paper has been about the flexibility and fluidity of money. It is an exploration. Many suggestions and issues have been raised without being completely resolved. These are areas for future research. They may be pursued further in further papers or by other researchers.

It is easy to illustrate the varieties of different currencies. Sections two and three illustrate how currencies can be created. The examples of early Australian credit notes and from Ireland and Argentina shows how people feel the need for a currency and invent one if none is provided. The currencies of the North American colonies give a more detailed example of adapting and inventing money to suit each situation as it happens. The use of tobacco as money in the early American colonies is included as an illustration of how currencies can be designed to favour some groups of people more than others. The creation of the American dollar is an illustration of

the important role of an independent currency in asserting political and military independence.
The general assumption that there is a single money seems to have little empirical support. Sections four and five explore reasons for assuming that money is a single concept. One reason why a single concept of money has been used is the idea that money measures value. But value is changeable unlike length or weight. It seems likely that the ratio between the prices of different goods varies depending on which currency is being used. This an area that needs more research.
Economists have emphasised the function of money as a medium of exchange. This emphasis naturally leads to a preference for a single currency. But, in reality money has many more possible functions. On the economic front, there is a natural tension between money as a store of value and money as a medium of exchange. Since money has multiple functions, countries may prefer different balances between the multiple functions and this may lead to a preference for different currencies. The economic situations of different geographical areas may make different levels of inflation (for example) desirable or even necessary.
Having a separate currency gives political independence. A new currency or monetary innovation is a common way of funding military spending.
"*Money always has a political dimension*" (Carruthers & Ariovich 2010 p49)
A discussion of the myth of money's origin in barter emphasises this point. There is considerable evidence that the evolution of coinage was connected with military and political power struggles within and between Greek city states and little evidence that coinage reflects a consensus value which would, in any case, be extremely difficult to measure. The evidence for the introduction of coinage as a way of promoting political independence and funding military spending is much stronger than any connection between coins and barter.
This leads into a study of the evolution of currencies. Accepting that money is not homogeneous and can change over time makes it easier to discern a pattern of the development of money. The three major forms of currency have been backed as follows:

a. Coins: value set by state, minimum value guaranteed by commodity
b. Paper: private credit backed by a combination of the state and a gold reserve
c. Fiat: Private credit backed by state guarantees and international agreement

The question is raised about whether the widespread adoption of floating currencies in the early 1970's may have created a situation similar to the 16th century when a network of bankers decided the value of national currencies.
This exploration has highlighted questions about why currencies are created. The idea that money is a concensus measure of value seems to be no more than a myth. The evidence points overwhelmingly to the creation of currencies as examples of political or financial opportunism. Where there is an opportunity, someone will create a currency as a way of gaining political or financial benefits for themselves or their cause. Creating a currency may be a way of gaining easy access to monetary credit, but the example of tobacco money shows how it can be used in other ways to bias the economic system in favour of the currency's creators.
There is much further work to be done. For example, I have omitted any discussion of whether separate banks issuing the same nominal currency should be considered

as separate currencies Similarly the separate roles of unit of account and means of payment could do with further discussion.

There are numerous suggestions for reforming our banking systems and creating completely new forms of currencies. I hope this paper may form a useful background for considering their various merits. Money is a concept, a human creation, not a fact of nature.

There are multiple different currencies. Understanding the changeable nature of money and the interplay between currencies is becoming ever more important in a globalising world in which computers and the internet are now enabling currencies to be more easily created and managed. The world's financial system now depends on electronic records of credit and debt. Money can be created by tapping numbers into a computer and the electronic age is enabling the growth of alternative currencies like bitcoins and mobile phone credits.

Money changes. We can either be the victims of this process or we can control it. If our market society produces results that we do not like, perhaps we should consider changing the currency.

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