



## GENERAL INTRODUCTION

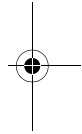
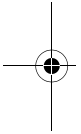
In 1875, William Stanley Jevons, the great Victorian economist, wrote his short book on *Money and the Mechanism of Exchange*. It was written for businessmen and students, not for professional economists. Indeed in 1875 there were very few professional economists. Nevertheless it represented the economic orthodoxy, and progressive opinion, of the gold standard period.

In the century and a quarter since Jevons wrote, the structure of world exchange systems has altered, almost out of recognition. The logic of money has remained the same. Indeed one can go back much further, and trace the discussion of the logic of money back to Aristotle, 2,500 years ago. The case for gold is based on this underlying logic: gold money fulfils the functions for which money is used better than any other type of money. The problem of gold is not that it does not work, but that it works too well. Like all true disciplines, it imposes limits on human behaviour, and those limits can be resented and rejected. Indeed it can become impossible for a government to maintain the discipline of gold, just as the Argentine government has recently proved unable to maintain the discipline of the dollar.

Jevons states that money has four functions. It is 'a medium of exchange', 'a common measure of value', 'a standard of value' and 'a store of value'. If one applies these functions to the modern system of floating exchange rates, as it stands in the first years of the twenty-first century, one can see the deficiencies of the present system, even at its best.

If one takes the strongest of present currencies, the dollar, one can see that it fulfils, as well as gold could do, the function of a medium of exchange. The dollar is acceptable as a form of payment almost anywhere in the world, even in extreme circumstances of war or famine. There are no likely circumstances in which the dollar would cease to operate as a medium of exchange.

It is more questionable whether the dollar acts, in the way that gold did in 1875, as a common measure of value. The relationship between the dollar and other currencies is continually changing, with floating exchange rates. An asset worth \$1,000 may be valued at £600 at one time, but at £700 a short time later. During the period of the gold standard, the value of an asset in gold was its international value. That value could change with market conditions,





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but it did not change significantly from hour to hour and day to day, simply because of exchange movements. The dollar fails to act as a common measure of value in any consistent way.

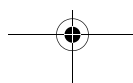
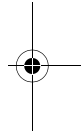
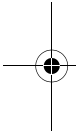
The third function of money is to act as a standard of value. By this, Jevons means that the currency will be used in contracts, either between borrowers or lenders or in commercial transactions which require payment over time. Obviously, the major currencies of our period do get used as a standard of value in this sense. Every day millions of contracts denominated in dollars are exchanged.

However, Jevons observes that 'it will be desirable to select as the standard of value that which appears likely to continue to exchange for many other commodities in nearly unchanged value'. In a floating exchange rate system, no currency can be expected to fulfil that condition at all well. The paper currencies of the twentieth century all suffered from erosion by inflation. This has the effect of making it difficult to reach long-term, or even medium-term, contracts, without an undue exchange or inflation risk. In fact, twenty-first-century contracts are on average much shorter than the gold standard contracts of the nineteenth century. In 1875, it was possible to issue a 100 year railroad bond in the United States; a 100 year bond, issued by a private company, would now be unthinkable.

If one compares the present day dollar with gold, then the dollar is 'as good as gold' as 'a medium of exchange'; it is defective compared to gold as 'a measure of value' and 'a standard of value'. Nevertheless it fulfils all three of these functions for practical purposes. Businessmen accept the dollar's volatility because they have no option.

The modern multiple currency system of floating rates does not meet Jevons's fourth function at all. These currencies do not provide a 'store of value'. With the exception of the dollar, all the modern currencies have lost almost all their value over the last century, as a result of hyper-inflation or defeat in war. The pound sterling has lost 98 per cent of the purchasing power it had in 1931, when Britain left the gold standard. The dollar has not suffered a similar collapse, but its purchasing power has been steadily eroded by inflation since President Roosevelt altered the gold price in 1933; in current gold terms, it has lost well over 90 per cent of its purchasing power since the early twentieth century.

The great contrast between gold money and paper money does indeed lie in the extraordinary long term stability of the purchasing power of gold. A statistical analysis has been made by the late Professor Roy Jastrom of Berkeley in his important book, *The Golden Constant*. He showed that the purchasing power of gold had fluctuated within relatively narrow limits, over the 400 years





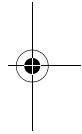
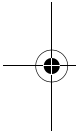
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from 1560 to 1976, and returned to a norm, even after the distortions caused by wars. The purchasing power of paper currencies moves continuously, though at varying rates, in the direction of inflation, and ultimately to zero. Paper currencies do not provide a long term store of value; gold does.

In 1913, the year before the outbreak of the First World War, the purchasing power of gold in England was a little higher – by about 10 per cent – than it had been in 1660, when Charles II was restored to the throne. During this period, Britain had created the first industrial revolution, the greatest economic development in human history. The remarkable purchasing power stability has continued even since gold ceased to be the world currency, though there were wild fluctuations in the 1970s and early 1980s. In 1800, land prices in English agriculture averaged around £40 an acre, or about 10 ounces of gold. In 2000, similar land was selling for about £2,000 an acre, or about 10 ounces of gold. The longest lasting currency in the history of money was the golden Bezant of the Byzantine Empire. This continued to be coined from about AD 600 to about 1450, a period of 850 years. It has been found in hoards as far away from each other as Iceland and South East Asia. It was quite widely used in Anglo-Saxon England, alongside the native silver coinage.

Without gold, the world has no ‘store of value’ which can be expected to last for the long term. The current system depends on the discretionary policy of central banks. In practice these banks aim to keep the rate of inflation at around 2 per cent. Given a 2 per cent rate, prices double in approximately 35 years, or about three times a century. If there is no war, revolution, or default by a major currency, one would therefore expect prices to have doubled by the mid 2030s, quadrupled by 2070 and octupled by the early years of the next century. That is a loss of purchasing power of over 85 per cent in prospect, and in practice external events are likely to make that worse. History suggests that gold will retain approximately its 1900 purchasing power in 2100.

If this were all, it would raise problems which were difficult enough. But inflation does not work as evenly as that. Inflationary expectations change, and have an impact on the short-term rate of price increases. External events intervene. It is already obvious that this is not going to be a century free of wars, and wars breed inflations. In the twentieth century, inflation in the paper currencies has ranged in different decades between quite the low levels in the 1950s and rates of well over 20 per cent in the 1970s. At present the long-term trend of inflation has been downward; that has lasted for 20 years. It may be that central banks have mastered the problem of inflation, but that is probably not the case. It is more likely that the problem of achieving long-term price stability in a system of floating paper currencies is still unsolved. In that case





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there will be further major cycles of inflation, and they will cause economic disruption and distress. Gold offers long-term price stability; floating paper currencies do not, whether they are national currencies, or supranational ones like the euro.

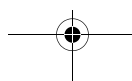
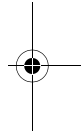
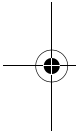
Both gold-based and paper currencies are governed by the quantity theory of money, which has repeatedly been discovered, forgotten and rediscovered, particularly in the works of David Hume, David Ricardo and Milton Friedman. It received its early twentieth-century formulation in Irving Fisher's equation of exchange, and underlies Maynard Keynes's theories of inflation, depression and liquidity preference.

In its origins, the quantity theory of money is a theory of barter. If there were a tropical island in which farmers and fisherman came to barter oysters and coconuts, the ratio between the two products would vary with the size of the harvest. Suppose that the harvest one year produces 1,000 oysters and 1,000 coconuts, and that their exchange value is one-to-one, an oyster for a coconut. The next year the oyster beds fail and only 500 oysters are produced, but the coconut harvest is a good one, which produces 1,500 coconuts. In that case the ratio of exchange might be expected to shift to three-to-one, with the fishermen receiving three coconuts for each oyster. If one substitutes the supply of money for the supply of coconuts, one has the basis of the quantity theory of money. Prices reflect the relationship between the supply of money and the supply of goods.

Why has gold kept its value so well? It has several crucial advantages. It is not perishable. Most of the gold ever mined is still in existence. It is rare, and always has been rare. Now mining produces each year an additional 2–3 per cent of the existing stock. This matches reasonably well the average long-term growth of the global economy. In some periods such as the Californian gold rush or the South African discoveries in the nineteenth century, new finds of gold have resulted in mild inflations, but these have been minor compared to the wipe-out inflations of paper currencies.

The unique advantage of a metallic money, and gold is the most convenient of metals, is that it cannot be created except by discovery and mining. This was David Ricardo's argument, that the value of money is determined by how much is issued, that neither banks nor governments can be trusted to issue new money in correct amounts, and that convertibility into gold, which they cannot issue, is the best safeguard against them issuing too much:

Experience, however, shews, that neither State nor a Bank ever had the unrestricted power of issuing paper money, without abusing that power: in all States, therefore, the issue of paper money ought to be under some check and controul; and none seems so proper for that purpose, as that of subjecting the issuers of





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paper money to the obligation of paying their notes, either in gold coin or bullion.\*

Later economists have argued that central banks do not have the information to judge the appropriate issue of money.

The basic argument used against gold in the twentieth century, by Keynes and many others, was that Ricardo was wrong to distrust human discretion, that central banks could respond better than the automatic gold system to market needs and stabilize prices and the business cycle. After the Second World War, many British economists believed that a discretionary monetary policy, in which the control of issue and interest rates was handed to a nationalized Bank of England, would provide static prices and full employment. This was the neo-Keynesian expectation.

The quantity theory of money is not as simple as it looks. The effective supply of money is determined not only by how much money is in existence, but by how fast it circulates. This led the American economist Irving Fisher, whose collected works have been published by Pickering and Chatto, to develop his equation of exchange, though he was not its original inventor. He argued that money multiplied by velocity must equal prices multiplied by transactions:  $mv = pt$ . Some economists have criticised this as a tautology; if so, it is a useful tautology. It helps one to think about money.

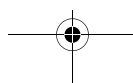
The equation of exchange forces one to recognize that changes in one of the factors will be accompanied by changes in the other three. If the money supply is increased, then velocity may fall, prices may rise or transactions may rise. The aim of central bankers in a discretionary system is to manage the supply of money, so that the other three factors remain reasonably stable, particularly prices and transactions, which will in their turn influence employment.

There have undoubtedly been periods, such as the second half of the 1990s in Britain, when an independent central bank has been able to achieve this objective to a satisfactory degree. There have been other periods, particularly the 1970s, when the world central banks have performed extremely badly, and prices and employment have been very unstable.

The case for gold turns on the extreme difficulty of the central banks' discretionary task. In the first place, it is almost impossible for central banks to know what money is, let alone manage it. Various measures of money are used, from the narrowest measure of coins and notes, to the broadest measure of accounts of all kinds. These monetary measures have proved unsatisfactory for

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\* *The Works and Correspondence of David Ricardo*, Vol. 1, *On the Principles of Political Economy and Taxation* (Cambridge: CUP, 1951), p. 356.





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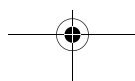
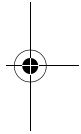
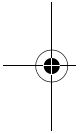
the purposes of controlling the money supply. A gold-based currency is, at least, much easier to understand: there is a gold supply which forms the base, and various forms of credit which form the superstructure. Gold flows in and out, and that acts as an automatic regulator.

A paper-based currency consists of many layers of credit, one on top of the other. As there is no monetary base, everything can be regarded as belonging to the superstructure. If one cannot know what money is, or is not, one cannot judge either the money supply or its velocity. In practice, most central banks have given up trying to do so, and assume that the manipulation of interest rates is the same thing as control of the money supply. On the other side of the equation of exchange, there are relatively good measures for prices and activity, which would in any case need to be used by a central bank operating a gold-based currency. Even prices are a problem, since it is possible to have inflation of asset values without inflation of consumer prices. What is the price level? Is it simply the price of chickens and shoes, or should it include house prices and the Dow Jones index?

In the United States, in the euro area, and nowadays in Britain, the central bank is partially insulated from political pressures by being given formal independence. Nevertheless, all central banks are subordinate parts of government, and the maintenance of their independence is to some extent conditional on their performance. Their ultimate political masters, in the democracies, are the voters. As far as they can, central bankers want to maintain price stability and full employment. The German, and now the European, view is that price stability, subject to a narrow range of inflation, is all that central banks can contribute to the economy. For them prices are everything. The American and British tradition is that central banks can, and should, provide economic stimulus in times of recession. If Britain joins the euro, this may lead to conflict, since the British public undoubtedly expects central banking policy to be concerned with employment and prosperity, as well as with the movement of prices.

There are other difficulties. In a discretionary monetary system, the central bank has no reliable machinery for controlling outcomes. Everything such a Bank does depends on its control of interest rates. This control only extends to the short-term official rate; longer-term rates and other short-term rates can only be influenced much more loosely. Even such control as the bank possesses of interest rates has to be mediated through public expectation over time.

Expectations and time lags would make the discretionary task of the central banks difficult, or even impossible, even if the banks could provide themselves with a logical definition of what they were trying to do, or how they were trying to do it. The same change in interest rates will have a different impact on expectations at different times, in different phases of the business cycle and in





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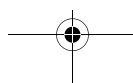
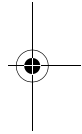
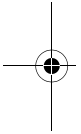
different countries. Obviously reductions of interest rates tend to encourage substantial purchases, which become less expensive, and to accelerate circulation. They tend to discourage saving. But in some circumstances, as in the Japan of the 1990s or the United States of the early 1930s, they have little effect; minimum interest rates have not offset the fall in Japanese prices or reduced the Japanese level of savings.

When prices are actually falling, a central bank can cut nominal interest rates, but real interest rates may continue to rise. If nominal interest rates are reduced to zero, but prices fall by 2 per cent, then the real interest rate will be 2 per cent; if the rate of price reduction goes to 3 per cent, then the real interest rate rises to 3 per cent, making the deflation worse. When prices are falling, central banks, which rely on interest rate movements, lose their ability to control the direction of the economy. They must look, if to anything, to the willingness of governments to run budget deficits, in a Keynesian way.

We can see that the task of the central bank in a discretionary paper system is extremely difficult, perhaps impossible. The banker is trying to manage the supply and velocity of money in order to stabilize prices and optimize economic growth. The banker does not know what the supply of money is, how fast it is growing or contracting, or what the changes of velocity have been. If the banker could estimate these variables successfully, his only instrument for controlling their future direction is interest rates. That operates after an unknowable time lag, and on an expectation which is variable, and it is influenced by non-monetary factors.

In fact, paper regimes change quite often, as the authorities try to overcome the different difficulties inherent in discretionary monetary management. The case for gold is that it is an objective rather than discretionary money; in history gold regimes have proved much more durable. Apart from the 850 years of the Byzantine gold coinage, there is the British gold standard, which lasted from 1717, after Isaac Newton's recoinage, to 1797, when gold convertibility had to be suspended, and from 1819 to 1914, when the First World War broke out. One regime lasting two centuries, with one break during a major war, compares favourably to the nine different monetary regimes Britain has experienced since the final abandonment of the gold standard in 1931. Under gold, changes average one a century; paper regimes change their structure once a decade or more.

Why does gold enjoy this greater stability and durability? Its fundamental virtues, which Maynard Keynes regarded as its greatest defect, is that it stabilizes long term expectation. 'In the long run,' Keynes observed, 'we are all dead.' Yet the stability of long term expectations is necessary to stabilize medium- and short-term expectations. The argument for paper is its flexibility, the argument for gold is its durability.





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We can return to Irving Fisher's equation of exchange –  $mv = pt$  – where  $m$  is money,  $v$  is velocity,  $p$  is prices and  $t$  is transactions. With gold as the base of the monetary system,  $m$  is highly predictable. The global money supply will consist of the present world supply of monetary gold, plus or minus diversions of gold into hoarding or ornaments, plus the part of new mining which may be used for monetary purposes. Without the intervention of human discretion, the money supply growth is broadly calculable for decades ahead.

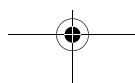
There will still be changes in the velocity of circulation, and in the height of the credit structure which may be built on the monetary base. But these changes involve the human calculation of risk. If  $m$  can be estimated for decades ahead, the safe limits of credit risk can also be estimated, though they may be exceeded. If credit is expanding too fast, or asset values are being raised too high, then the absolute limit of a finite money supply will check the inflationary process before it has run out of control. The gold supply is finite and predictable; the paper money supply is infinite and unpredictable. The predictability of the gold supply stabilizes  $m$ , but by stabilizing  $m$  it also tends to stabilize  $v$ , and by stabilizing  $mv$  it tends to stabilize  $pt$ , which is the other side other the equation of exchange. Paper leaves  $m$  unstable, and therefore all the other factors of the equation must logically be unstable as well.

Monetary authorities are normally under pressure to expand the money supply, whether these authorities are banks, or central banks, or governments. In periods of recession, an increase in the money supply initially causes an increase in economic activity, including employment. In the 1750s, David Hume first observed the two stages which follow an increase in money – greater activity at first, but higher prices following about two years later.

There needs to be some discipline to prevent excessive increases in the money supply to satisfy these demands. If the paper money, whose issue can be controlled, up to a point, by central banks, is not to be over-issued, there needs to be a discipline which cannot be overridden. Governments cannot create gold, and convertibility into gold is therefore a powerful discipline against inflationary over-issue of paper. Governments can seek re-election by inflating a paper currency, but have only limited capacity to manipulate credit where the currency is convertible into gold.

The choice is one between an absolute measure and no measure other than the perception of prudence; it is also a choice between an objective and a political measure. Democratic governments need to be re-elected. Increasing the money supply may be inflationary, but it can help to win elections.

Currencies, as is apparent in the debate on the euro, also involve sovereignty. The ordinary citizen may well be reluctant to hold funds in the money of a government he does not trust. But this is also true of governments themselves. At present, most countries hold the major part of their exchange





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reserves in dollars, whether or not they trust the economic policies of the U. S. government. The result has been to produce a very high valuation for the U. S. dollar, with long term damage to the U. S. balance of trade.

It is cheaper for Americans to import than it is to produce at home. The widening trade gap has already made the United States a net-debtor nation, and the debt can only increase so long as the dollar is the preferred reserve currency. This process gave the United Kingdom, in the period of the British Empire, the same overvalued currency; it undermined Britain's export trades, and made the British economy uncompetitive.

At some point, this process will have to come to an end for the United States, as it did for Britain. During the second Clinton term, the U. S. balance of payments deficit was doubling every eighteen months, an unsustainable rate. Dollars are the debt of the United States, even though they only represent a paper promise by the U. S. government to pay other dollars. The only reserve asset which does not represent the debt of another country is gold.

The world's most rapidly expanding major economy is now that of China. Most of China's foreign exchange reserves are held in dollars. Some are held in other currencies, including the euro and the yen. China is well aware, already, of the rapid deterioration of the debt position of the United States, and remains somewhat distrustful of American international policy. The Chinese have said that they plan to diversify their dollar holdings into euros. But this only changes the currency risk. The dollar is, by most measures, a stronger currency than the euro. Diversifying into a weaker currency is not an attractive policy option.

If the Chinese wish to achieve a higher degree of independence in their currency, they have reason to look to gold, because gold is the only form of exchange reserve which does not depend for its value on the successful central banking policies of other nations or, in the case of the euro, other regional blocs.

For the individual, the merit of gold is that it does not depend for its value on the discretion of officials, who always have motives other than maintaining the optimum value for a currency. Gold exists outside this world of official debt manipulation. In that sense, it is the only independent asset.

Given that the gold standard provided stable prices and long term economic growth from the later seventeenth to the early twentieth century, why did it disappear? Its most obvious weakness was that its disciplines were not compatible with fighting a major war. In 1797, which was quite early in the war between France and Britain which followed the French Revolution, the Bank of England had to suspend convertibility of its bank notes into gold. Sterling convertibility into gold again had to be suspended after the outbreak of war with Germany in August 1914. After victory in 1815, the British economy had





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been strong enough to support a return to gold, as was the U. S. economy after the end of the Civil War in 1865. U. S. gold coins were reissued in 1879. After the First World War Britain again returned to gold in 1925, at the old parity. But Britain had by then accumulated war debts and lost export markets. The post 1925 deflation to bring down the price level was too severe to be borne. Britain was forced to leave gold in 1931, though during the post-1945 Bretton Woods era, there was again technical convertibility into gold for other central banks through the dollar. President Nixon finally closed this 'gold window' in 1971.

In the twentieth century, many different currency systems were tried. Most of them failed. The discipline of fixed exchange rates replaced the discipline of gold. However, the public had come to realize that fixed exchange rates were not a law of nature. Apart from Europe, which moved to the fixed system of the Exchange Rate Mechanism, based on the mark, and then moved on to the experiment of a single European currency, most of the world has been moving away from fixed rates.

These electorates were not prepared to accept higher interest rates, any more than they had been prepared to accept deflation in order to defend the gold standard. My view is that the European electorates will not accept economic sufferings in order to defend the euro, but we shall see.

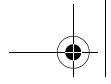
The present reality is that the dollar has replaced gold as the central currency of the world system. The United States does have the strongest world economy, with the best technology, relatively low taxes and light regulation. The U. S. economy has proved more adaptable and resilient than the European or Japanese. With high immigration, U. S. demographics are better than Europe or Japan. The United States is the only defence super-power.

However, there are two problems which could undermine the pre-eminence of the dollar. The first is that Asian powers may become reluctant to keep the present very high proportion of their reserves in dollars. With present reserve patterns, all currencies can be regarded as subsidiaries of the dollar.

The second problem is that the world's preference for dollars means that the dollar is overvalued in trade terms, with a consequent loss of exports, rise in imports and growth of debt. If the dollar were not the dollar, every foreign exchange dealer would already be expecting a devaluation.

When one reads the arguments against the gold standard, they come down to the proposition that central bankers, using a discretionary judgment, can manage the global economy in a more stable way than gold. The monetary history of the post-gold period has not yet settled that argument. If the central bankers are able to maintain global prosperity with low inflation for another 50 years, then no governments or electorate would contemplate a return to a metallic monetary standard. Even now, the world seems to have passed from





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gold, to gold plus the dollar, to the dollar on its own, as disciplines have been rejected.

The central bankers have not yet proved their case. Monetary history shows a repetition of the same responses to the same crises, ever since the Romans devalued their currency at the end of the second Punic War. Each generation approaches the problems of currency convertibility and stability as though no one had started to think about them more than a couple of decades before. Even the Bretton Woods experience has now been forgotten.

In the 1970s, the world currency system trembled on the edge of a total loss of confidence in currencies during the oil inflation. At present, central banks are trying to fight off a global deflation by cutting interest rates and increasing the money supply. If the world loses confidence in non-convertible paper money, as it has done in the past, then gold, and the discipline of gold, may be the only way to restore stability. An automatic gold standard has its own problems, but gold remains the money of last resort.

