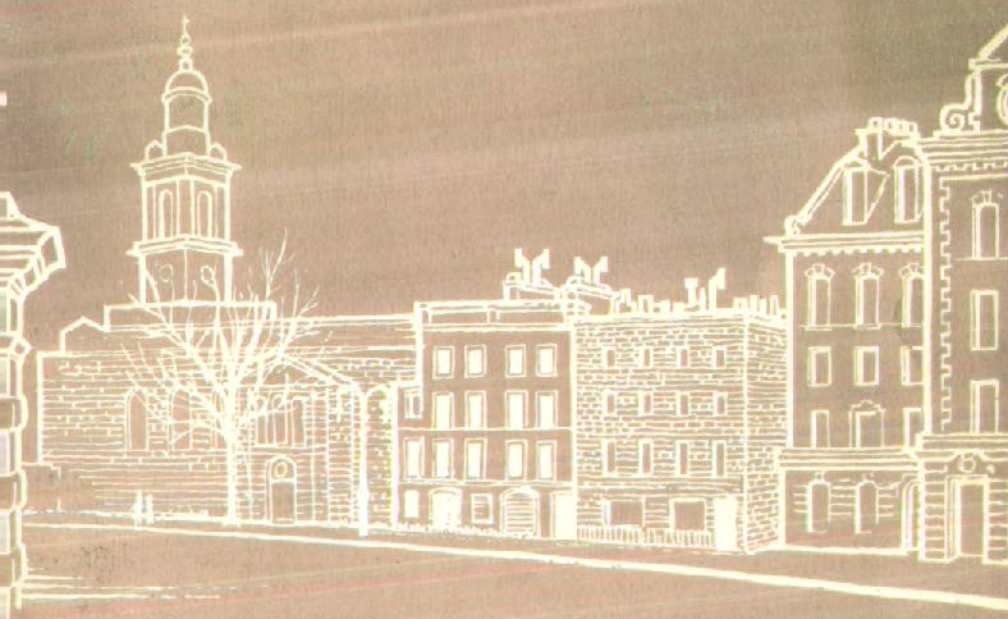


IEA

Gold or Paper?

E. VICTOR MORGAN
and
ANN D. MORGAN



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2. Many governments have issued paper money backed only by their own authority; all the major countries are doing this now; these currencies have eventually ended in rapid inflation and replacement by a link with gold.
3. Inconvertible sterling, like other paper currencies, has had a long run, but it also looks like ending in uncontrolled inflation.
4. It is a caricature of history to blame gold for all or even most of the inter-war monetary troubles. Recent developments in economic theory suggest that the criticisms of the gold standard have been unfounded or greatly exaggerated; the critics removed the sparking plug of the economic internal combustion engine and complained it would not work...
5. Gold survived in international exchange long after it ceased to be used as domestic money. Bretton Woods created a modified 'gold standard', in which 'key currencies' ranked with gold as international reserves.
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9. Down the centuries no government has maintained the value of its currency without external discipline, of which the best is the obligation to convert currency into gold.
10. The world has a long way to go before it learns to manage its money without gold. A return to gold is not fanciful. The gold standard was not created by international agreement: it grew spontaneously and could do so again—perhaps in the EEC.

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*An essay on governments' attempts to manage the
post-war monetary system,
and the case for and against restoring a link with gold*

E. VICTOR MORGAN

Professor of Economics, University of Reading

and

ANN D. MORGAN

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PREFACE

The *Hobart Papers* are intended to contribute a stream of authoritative, independent and lucid analyses to understanding the application of economic thinking to private and governmental activity. Their characteristic concern has been the optimum use of scarce resources to satisfy consumer preferences and the extent to which it can be achieved in markets within the appropriate legal/institutional framework created by government or by other arrangements.

One of the main institutions created by government that economists have analysed intensively, and that has been one of the main sources of division among them, has been the provision of money. They have examined systems of money based on the precious (and base) metals and on paper, and have anxiously debated the conditions in which government is most likely to supply money whose value can be trusted as reasonably reliable.

In the 19th century and in the first quarter of the 20th broadly until the Great Depression, currencies in Western industrialised countries were linked directly or indirectly to gold. It is arguable that this link, which prevented governments from expanding the supply of money to suit themselves, was the fundamental condition and reason for the relatively stable value of money that helped the industrial advance and the rise in living standards of the Western world. About 40 or 50 years ago, and increasingly before and after the last war, economists argued that the gold link would prevent government from controlling the supply of money to encourage industrial expansion, or to reduce industrial fluctuations, and that government should be freed from its link with metal in order to control money in the public interest.

Experience in the last 40 or 50 years does not appear to have supported this faith in the capacity of government to control money better than when linked to an outside control. In this *Paper* Professor E. Victor Morgan, joined by a second economist, his wife, reviews the working of the gold 'standard' in the decades before it fell into disrepute in the 1930s. They conclude that most of the criticisms of 'the gold standard' by economists (repeated, more crudely, by politicians) were unfounded and that it was not necessarily deflationary. And they maintain that what went wrong was the failure to understand the conditions

in which a gold standard could work most effectively. They review the post-war attempts, notably at Bretton Woods, to create a new world monetary system, but contend that it had the same inflationary and destabilising effects as other systems controlled by government. They also contend that the new proposals of the International Monetary Fund have similar built-in inflationary weaknesses as Bretton Woods, and that its suggestion that metallic gold be replaced by 'paper gold' (by new issues of Special Drawing Rights) would not avoid excessive expansion in world money or restrict domestic money when restriction was desirable. They therefore argue that this proposal to 'demonetise' gold would not be much of an improvement, and that, if metallic gold is to be restored as a control of the supply of money outside the power of government, it can only be by re-establishing a direct link with domestic money that no government has so far been ready to accept. In other words, metallic gold could not be used to control international money unless government accepts it as a control of domestic money and monetary and economic policy. Professor and Mrs Morgan say the reason why government will not accept gold as a control of domestic money is that it is under persistent pressure to favour groups and win votes by expanding the supply of money. Therefore, to prevent them from responding to these pressures, money must be subjected to an external discipline.

Hence the Morgans argue the time may not be far distant when the Western world will have to return to an outside discipline over the monetary power of government. Since they are sceptical of linking money to parcels of commodities, they conclude that the West will sooner or later have to return to gold. They say that if gold returns it will not be by international agreement but by one country, or a small group, linking its currencies to gold and others following them by seeing the advantages. That is how the classical gold standard developed – by spontaneous evolution when its advantages were seen, not by formal or solemnly binding international agreement. They doubt whether France would lead the way, but they think Germany might. Other EEC countries might then follow in what could develop into a voluntary European monetary union.

Such a country (or group) would require a strong international balance of payments (and gold stock); buy and sell gold at a price near the current market price; control the

supply of their currencies so that they were convertible into gold; discipline government expenditure; and maintain rates of exchange determined by the gold parities (but floating exchange rates with non-gold countries).

When Professor Morgan wrote Hobart Paper No. 27 in 1964 the Preface described it as 'a brilliantly lucid account' of its subject. This new *Hobart Paper* is also a remarkably clear exposition of the economic case for and against gold. It will be found an ideal text for students and teachers of economics and a thought-provoking analysis for politicians, bankers, civil servants and others concerned with making policy. Although its main purpose is economic analysis it also touches on the political obstacles that make it unlikely that government will accept an outside discipline, and will cause the reader to wonder what constitutional changes are required before government can be made to act in the public interest.

The Morgans' *Hobart Paper* is being published at about the same time as a new *Paper* by Professor F. A. Hayek who agrees with them that an outside discipline on government is required for a satisfactory money and monetary system but, rather than gold (unless government control is unavoidable), argues for competitive paper currencies entirely beyond government control.

The Institute has to thank Professor F. W. Paish, a highly-esteemed authority on the economics of gold, and Miss Sudha Shenoy of the Cranfield School of Management, an economist working on money, for reading the text and offering suggestions and comments that the authors have taken into account in making their final revisions.

Its constitution requires the Institute to dissociate its Trustees, Directors and Advisers from the arguments and conclusions of its authors but it offers this *Hobart Paper* as a work that will clarify thought and stimulate reconsideration of a classical solution to the eternal problem of achieving a dependable money in the modern setting of the 20th century.

August 1976

ARTHUR SELDON

THE AUTHORS

E. VICTOR MORGAN was born in 1915 and educated at Warwick School and Sidney Sussex College, Cambridge. He has been Professor of Economics at the University of Reading since 1974; previously he held chairs in economics at the University College of Swansea (1945-66) and the University of Manchester (1966-74). He has been a Visiting Professor at Columbia University, New York (1953 and 1957), and at Simon Fraser University, British Columbia (1967). He is economic consultant to a London firm of stockbrokers, chairman of the Economists' Advisory Group, and a member of the IEA's Advisory Council.

Professor Morgan's main interests are the study of monetary and financial institutions and policies, and international trade and finance. His publications include *Studies of British Financial Policy 1914-25* (Macmillan, 1951); *The Structure of Property Ownership in Great Britain* (OUP, 1960); (with W. A. Thomas) *The Stock Exchange* (Elek Books, 1964, 2nd Edn. 1969); *A History of Money* (Penguin Books, 1965); (with A. D. Morgan) *The Economics of Public Policy* (Edinburgh University Press, 1972).

For the IEA he has previously written *Monetary Policy for Stable Growth* (Hobart Paper 27, 1964, 3rd Edn. 1969), and contributions to *Not Unanimous* (1960), *Agenda for a Free Society* (1961), and *Crisis '75 . . ?* (Occasional Paper Special (No. 43), 1975).

Professor Morgan is married to the co-author of this *Hobart Paper*, Ann D. Morgan.

ANN D. MORGAN was born in Dublin and educated 'haphazardly' in England, India and Oxford. She is a Senior Research Officer specialising in international trade at an independent research institute. She was previously Deputy Research Director, International Division, Economist Intelligence Unit, where she was responsible for editing and in part writing *Britain and Europe*, *The Commonwealth and Europe*, and other studies and reports.

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INTRODUCTION

On 1 July, 1974, the International Monetary Fund (IMF) abandoned the use of a fixed weight of gold as official unit of account. This was only one step in the decline and fall of gold; but, if it is not reversed, future historians may see it as decisive—the end of an era in monetary affairs lasting well over 3,000 years. During that time, many things, from dogs' teeth to cattle, have served as money in primitive communities; but in sophisticated economic systems the unit of account and the ultimate means of payment has been either gold or silver. Of the two precious metals, gold was always the more highly valued and tended to displace silver whenever circumstances permitted, particularly in wealthier countries.

At least since the time of Pericles, both private individuals and governments have issued promises to pay gold or silver and, so long as the public had confidence that these promises would be honoured, they circulated widely and performed a very useful function. Many governments in the past have issued inconvertible money, backed only by their own authority, and this is now being done by all the major countries of the world. Always in the past such experiments have ended in a period of very rapid inflation, loss of confidence in the state money, and a return sooner or later to a metallic standard. Some of the present inconvertible currencies, including our own, have had a longer run than most of their predecessors, but in our view they too look like ending in uncontrolled inflation.

Governments that have been willing to foist inconvertible currencies on their citizens have not enjoyed the same authority outside their borders and, moreover, have preferred to hold their own claims on other countries in 'hard cash'. Hence gold survived as an international unit of account and an international means of payment after it was widely discarded, in the 1930s, for domestic purposes. It is only within the last 15 years that its international rôle has been seriously threatened. This *Hobart Paper* aims to show how that threat arose, what are the policy options now open, and what would be their likely consequences.

Section I gives a brief account of how the international gold

standard worked in its heyday at the beginning of this century, and how the attempt to restore it after the First World War came to be blamed, often wrongly, for the troubles of the inter-war period. Section II traces in rather more detail the rôle of gold in the Bretton Woods system, and how the breakdown of that system has undermined the position of gold as international money. Sections III and IV discuss the pros and cons of various policies ranging from an attempt to re-instate gold to its complete demonetisation.

I: THE INTERNATIONAL GOLD STANDARD

THE CLASSICAL MECHANISM

After a long period during which gold and silver circulated uneasily together, gold was established as the main monetary metal in England during the early 18th century, and in most other industrial countries during the 19th century. The period from 1870 to 1914 is generally regarded as the heyday of the international gold standard. The system established then has had such a profound effect on later developments, and yet has been so much misunderstood, that any discussion of the future rôle of gold must start by getting clear what the international gold standard did and did not do.

Three main features

There were three main features of the system:

1. freedom to import and export gold;
2. convertibility of domestic money into gold;
3. a set of rules relating for each country the amount of domestic money other than gold to that country's gold stock.

The first two are obviously essential; the third needs a little more comment. The rules actually adopted varied from country to country. In England the 1844 Bank Charter Act gave the Bank of England a 'fixed fiduciary issue' of notes backed by government securities, and then required all notes above this fixed amount to be backed by gold or (to a limited extent) silver. Most other countries imposed a minimum ratio

of gold to notes. It can be argued that a formal rule is not necessary; provided that convertibility is strictly enforced, common prudence dictates that anyone issuing promises to pay in gold will keep an adequate reserve, and the discipline of the bankruptcy court will take care of those who do not. Experience has shown, however, that bankers, like other men, are not always prudent and some kind of rule has generally been regarded as necessary for the protection of the public. What matters is not the precise form of the rule but the existence of a reasonably stable relationship between the total domestic money stock and the gold base. For our present purpose the money stock can be regarded as the total of coin, notes and bank deposits held outside the banking system. The links between this total and a country's gold stock will be discussed later; here, it is important to note that, so long as the relationship is reasonably stable, a substantial outflow of gold can be relied upon to produce a contraction of the domestic money supply and *vice-versa*.

In Britain and some other countries, gold coin circulated alongside bank notes and other forms of money. Countries whose money is convertible into gold and which allow free trade in gold, but which do not have a gold coinage are often said to be on a 'gold exchange standard'. There is, however, no virtue (except perhaps an aesthetic one) in having gold in circulation; the three conditions mentioned above are sufficient for the functioning of the system.

Effects of the gold standard

What the international gold standard did can be summarised in six points.

1. It provided a generally accepted medium for the holding of international reserves.
2. It provided a method of adjustment of disequilibrium in the balance of payments of particular countries.
3. It confined fluctuations in the exchange rates of participating countries within the narrow limits set by the cost of transporting gold.
4. It imposed constraints, though not rigid limits, on the growth of the domestic money stock of participating countries.

5. Since the world money stock is the total of the domestic stocks of individual countries, the world supply of gold imposed a constraint on the growth of the world money stock, and on the world price level.

6. It ensured that domestic prices and interest rates in participating countries moved broadly, though not rigidly, in line with one another.

What the gold standard did not do

There has been a good deal of controversy as to how efficiently the international gold standard did these things, and even about the desirability of doing them at all; these questions will be discussed later (pp. 45-47). Meanwhile we should note three important things that the gold standard did *not* do.

First, it did not produce stability over time in the world price level. On the contrary, there was a series of fluctuations during the 19th century, closely linked in time with changes in the output of gold. From about 1820 to 1850 prices were generally falling; the discovery of gold in Australia and California in 1849 was followed by about 25 years when prices were on an upward trend; however, with no important new discoveries and a rapidly rising demand for gold, the trend of prices turned downward in the mid-1870s and continued so until the late 1890s, when there were new discoveries in Australia, Alaska and South Africa. There was then another upturn in the price level that lasted until the First World War. The fact that prices in 1914 were much the same as a century earlier was largely coincidental.

Secondly, the gold standard did not give immunity either from cyclical fluctuations in output or from financial crises. The 'trade cycle' of about 10 years' duration was a prominent feature of the 19th century, while events such as the Overend-Gurney crisis of 1866 and the Baring crisis of 1890 are still remembered.

Finally, gold itself was not generally used as the medium of international payments. The vast majority of transactions were made either by both parties agreeing to accept payment in a single currency (usually sterling) or by purchases or sales of currencies on the foreign exchange market. It was only when there was an imbalance between supply and demand for

currencies which could not be met within the price limits set by the cost of transporting gold that the metal actually moved across national frontiers.

There are many other areas of controversy about the working of the pre-1914 gold standard including the relationship between the monetary system of countries that were on a full gold standard and those that were not; how the working of the gold standard system was related to the business cycle; and how far the cycle was affected by the failure of bank credit, for various reasons, to move strictly in step with changes in countries' gold stocks, i.e. instability in the relationship mentioned above (p. 12). These matters are of much interest to economists and economic historians, but cannot be discussed in detail here.

THE INTER-WAR YEARS AND THE ATTACK ON GOLD

The First World War broke up the international gold standard, and was followed by a period of great monetary instability, of which the most striking example was the German inflation of 1923 when the mark was reduced to one million millionth of its former value. By comparison with more recent times, a notable feature of the period was the virtual unanimity among bankers, economists and statesmen as to the desirability of getting back to the pre-war system. The German currency was stabilised in 1924; the United Kingdom returned to gold in 1925 and France in 1927. These examples were followed by a number of smaller countries, and with the US dollar remaining convertible throughout, it appeared that the old fabric had been largely restored.

Unfortunately, the return to gold was quickly followed by the Wall Street crash of 1929, and by the worst slump that the world has ever known. Not only was the gold standard a casualty of the Great Depression but it has received, in post-war mythology, a large part of the blame for it.

1930s criticism of gold standard

The case against gold as put in the 1930s (it has been somewhat modified in recent years) rested on the supposed nature of the balance-of-payments adjustment mechanism. If country A ran a balance-of-payments deficit, it was argued, this would

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lead to a loss of gold, a contraction of the domestic money supply and deflationary pressures on employment, output and prices. A deficit on the part of country A must mean a surplus somewhere else in the world, leading to an influx of gold, monetary expansion and inflationary pressures on employment, output and prices. Falling prices in country A combined with rising prices elsewhere would stimulate exports from A and discourage imports until the deficit was corrected and equilibrium restored. The improvement in A's balance of payments would raise the demand for labour so that any unemployment in the deficit country (and any excess demand for labour in the surplus country) would be small and temporary.

Having set up this very crude model of the adjustment mechanism, critics focused their attention on four points. First, adjustment required a fall in the domestic price level of the deficit country. If, as was believed by Keynes and his followers, it proved virtually impossible to reduce money wages, unemployment would be heavy and prolonged rather than slight and temporary.

Secondly, it was alleged that the system had a built-in deflationary bias. A country that was losing gold was forced to contract its money supply on pain of ultimately finding its reserves exhausted. A country that was gaining gold could, by various means, prevent the monetary expansion that would normally ensue and so go on accumulating gold almost indefinitely; it 'sterilised' its gold.

Thirdly, it was argued that, even if creditor countries followed the 'rules of the game' and allowed their money stock to expand, this might be ineffective. The famous Keynesian 'liquidity trap'¹ implied that monetary expansion might fail to reduce interest rates (especially those on longer-term securities) to the extent needed to stimulate demand and hence that, while monetary contraction would always cause deflation, monetary expansion need not cause inflationary pressures.

Finally, it was contended that the problems of adjustment were likely to be aggravated by speculative short-term capital movements. When a country was in deficit speculators would foresee the possibility that it might abandon the gold standard (or at least devalue its currency) and would take their money elsewhere, thus aggravating the drain on a deficit country's reserves.

¹ For an explanation of this term, below, p. 46.

Gold not the 'cause' of the Depression

The merits of the theoretical model underlying this reasoning will be considered in Section III. Even if it is accepted, however, it implies only that the restoration of the gold standard could have been a contributory cause of the troubles of the 1930s. There were several other circumstances that seem equally likely culprits. For example, there was the world excess capacity in such important industries as coal, steel and shipbuilding that was generated by the war and the Treaty of Versailles, and so cogently analysed by Keynes in *The Economic Consequences of the Peace*.¹ There was the fact that the widely differing rates of inflation suffered by different countries during and immediately after the war were not fully reflected in the new gold parities; in particular, sterling was rather over-valued, and the French franc under-valued. Then there were the very large war debts incurred by the United Kingdom with the USA; and the enormous sums in reparations that the Allies attempted to collect, albeit with very little success, from Germany. Furthermore, protectionism revived under the influence of excess capacity and trade depression. Protection combined with large transfer payments for war debts and reparations produced the problems summed up in a phrase attributed to an American senator: 'We don't want your gold; we don't want your goods; we don't want your securities. We just want to be paid'. And lastly, there was the behaviour of the US banking system from 1929 to 1933 which produced a disastrous fall in the US money supply that had nothing at all to do with gold.

This brief review may suggest that it is a caricature of history to attribute the whole or even a large part of the troubles of the inter-war period to gold. The fact remains, however, that the caricature gained a very wide measure of acceptance in a remarkably short time and that, as a result, gold got a bad name from which it has never fully recovered.

II: GOLD AND INTERNATIONAL MONEY SINCE THE WAR

GOLD AND BRETTON WOODS

Just as opinion at the end of the First World War was almost unanimously in favour of a return to the gold standard, so there

¹ Macmillan, 1919.

was virtual unanimity at the end of the Second World War against returning to a gold standard without substantial modifications. There was also a general consensus on the need to ensure the convertibility of currencies between countries and to avoid large and frequent fluctuations in exchange rates. The Bretton Woods agreement was therefore designed as a modified gold standard, intended to remove the supposed defects of the classical system.

Free convertibility and exchange stability the aim

Members of the International Monetary Fund (IMF) were required to declare par values for their currencies, either in terms of gold or of US dollars of the value of 0.0285714 fine oz. of gold (\$35 to the ounce) which came to the same thing. They were also required, after a transitional period, to maintain free convertibility of their currencies into those of other members for current transactions, at exchange rates not more than 1 per cent above or below those given by their respective par values. This system provided for the kind of exchange stability given by the gold standard, and it was written into the agreement that any member making its currency freely convertible into gold should be deemed to be fulfilling this part of its obligations.

Members were required to pay 25 per cent of their IMF quota in gold (with concessions for countries holding small gold stocks). It was envisaged that gold would continue to form the major part of international reserves and that gold transactions would play an important rôle in settling those international payments that could not be offset against one another through the foreign exchange market.

In all these respects the new system was similar to the old gold standard. However, the IMF agreement provided formal rules allowing members to change the par values of their currencies to meet a 'fundamental disequilibrium' in their balance of payments, though these words were not defined. The Fund provided members with the opportunity of 'drawing' (i.e. borrowing) foreign currencies in amounts related to their quotas to supplement their reserves, thus allowing more time for the correction of balance-of-payments deficits; and the 'scarce currency clauses' (which never came into operation) were intended to put pressure on countries with a surplus in

their balance of payments to do their share towards adjustment.

Finally, the convertibility rules applied only to current transactions and it was written into the agreement that members were expected to operate exchange controls in order to regulate capital flows. All these points are clearly related to the criticisms of the gold standard noted in Section I.

Difference between gold standard and post-war system

However, the most important difference between the new system and the old was not written into the Bretton Woods agreement at all but followed from the policies of individual countries. No country, after 1945, operated any effective link between its reserve position and its domestic money supply; where a formal rule was maintained it was completely ineffective. The USA retained a formal link in the form of a 25 per cent reserve ratio, but in the early post-war years the US gold stock was so large that the rule imposed no constraint; when the fall in the gold stock and the expansion of the money supply produced a situation where the rule might soon have begun to 'bite', Congress repealed it in 1968. In the United Kingdom the Bank of England still operates within the legal form of the 'fixed fiduciary issue'; but the gold stock is now held by the Exchange Equalisation Account, not the Bank, and the amount of the note issue is in practice varied at the discretion of the Treasury. Thus fluctuations in reserves no longer have the effect on the domestic money stock that an inflow or outflow of gold had under the old system, and adjustments of the balance of payments depend on discretionary action by governments. There has recently been some controversy as to how much the absence of a formal rule matters, with adherents of the monetarist view of the balance of payments arguing that, so long as exchange rates are fixed, governments have very little discretion in domestic monetary policy. This is discussed further in Section III. Our own view is that, while the extent of discretion is limited, the failure of governments to exercise it wisely played a major part in the breakdown of the Bretton Woods system.

Another source of future trouble was that the price of gold was fixed in terms of US dollars at the pre-war figure of \$35 to the ounce, although prices in general had more than doubled

since the 1930s. Under the gold standard, a shortage of gold tended to produce a fall in the prices of other things, thus making gold *relatively* dear, encouraging production, discouraging its use in industry and the arts, and so increasing the flow of new gold into the monetary system. After the war gold was made relatively very cheap. Production was discouraged (though some governments give subsidies to their mining industries); non-monetary uses were stimulated; and hoarding was encouraged.

The transitional period after the setting up of the IMF proved much longer than was envisaged at Bretton Woods and it was not until the late 1950s that the new system was fully operational. The 1960s brought a number of attempts to adapt it to meet growing strains, and the 1970s have seen its progressive disintegration. We shall not trace these events chronologically, but rather concentrate on a few issues that are particularly important in relation to gold. Some other matters that are very important in a more general view of international payments but not directly relevant to gold will either be ignored or mentioned only very briefly.

THE GOLD MARKET AND THE PRICE OF GOLD

As already mentioned, the IMF agreement fixed the price of gold at US \$35 an ounce, and the US Treasury continued to buy and sell at that price (plus or minus a small handling charge) in transactions with other monetary authorities¹ until August 1971. The rules of the IMF allowed members' monetary authorities to sell (but not buy) above the official price and to buy (but not sell) below it. There was also a general obligation not to engage in gold transactions of a kind likely to undermine exchange stability.

Private transactions in gold and objects containing gold, such as jewellery, were not covered by the IMF agreement, but most countries sought to protect their own reserve positions by imposing restrictions (not always effectively) on holdings of and dealings in gold by their citizens.

¹ The phrase 'monetary authorities' is generally used, and will be used here, to cover the various institutions through which governments operate their national monetary policies. These are generally central banks or exchange accounts, though they may, as in the USA, include treasuries. The transactions of these authorities are described as 'official'.

The London gold market

The London gold market, which had been closed during the war, was re-opened in 1954 and at once became the main centre for dealing. There are markets in other centres including Paris, Zurich and Hong Kong, and very recently one has been opened in Chicago; but South African and Russian sales are both routed through London and official attempts to influence the market price have taken the form of purchases or sales in the London market.

Since gold was under-priced in relation to other commodities, there was an obvious danger that private demand would force the free market price to a premium over the official one, and that this premium would impair confidence in currencies, encourage gold hoarding and so divert newly-mined gold from monetary uses. The main pre-occupation of the authorities during the 1950s and 1960s was to prevent such a premium from arising. One obvious solution would have been to raise the official price and this was proposed on a number of occasions, but was always strongly opposed by the USA. The reasons for opposition included the claim that the resulting increase in the value of reserves would encourage inflation; that it would confer an arbitrary gain on countries that happened to have large gold stocks; and that the main long-run beneficiaries would be South Africa and Russia, neither of which was politically popular.

Premium sales of gold caused some anxiety to the IMF in the late 1940s and early 1950s, but from the re-opening of the London gold market in 1954 to the end of 1959 supply and demand were roughly in balance, partly because of Russian sales, and the price remained within the Fund's limit of 1 per cent on either side of \$35 an ounce with the aid of only modest intervention by the Bank of England.

In 1960 there was a big rise in speculative demand prompted by rumours of a devaluation of the US dollar (equivalent to a rise in the official gold price). In October 1960 the London price reached \$40 an ounce, despite large official sales, mostly by the US Treasury. Demand subsided for a while, but rose again in 1961 and in November of that year the USA, the United Kingdom, Switzerland, Belgium, France, Germany, Italy and the Netherlands formed the gold pool. The Bank of England bought or sold in the market as required to stabilise

the price and the participants contributed gold for sale, or shared gold purchased, according to a quota. France dropped out in 1967 but the remaining countries operated the pool until March 1968.

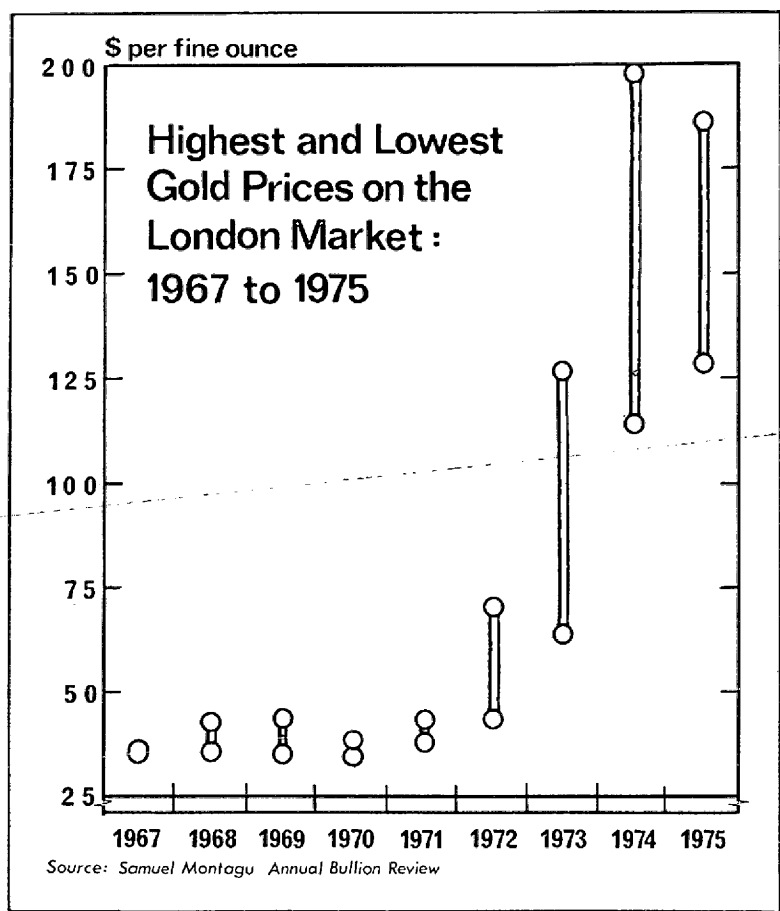
The 'Washington agreement'

From 1961 to 1965 there were substantial Russian sales from time to time, the pool was able to operate both ways, and purchases and sales over the period as a whole were roughly equal. After the end of 1965, Russian sales ceased and the pool became a substantial net seller. The climax came with the devaluation of sterling in November 1967; this again cast doubt on the stability of the dollar, which was widely regarded as overvalued, and created an enormous speculative demand for gold. In March 1968 the gold pool was ended, having cost the participants \$2.8 billion in gold during the previous six months. The US Treasury announced that it would not buy in the market, and shortly afterwards the other participants in the gold pool also agreed not to buy; this was the so-called 'Washington agreement'.

The agreement meant that newly-mined gold could get into monetary reserves only *via* the central banks of producing countries or through purchases by smaller countries that were not parties to the agreement. As yet, private demand was not always quite enough to absorb new output at or above the official price, and in 1969 the IMF agreed to purchase gold from South Africa at the official price, subject to certain conditions. South Africa sold a substantial amount to the Fund in 1969, but after that the market price was always well above the official price, as can be seen in the Chart (p. 22).

By the early 1970s the manipulation of the gold price that was intended to produce stability of exchange rates and a continuing flow of new gold into official reserves had achieved quite the opposite. Virtually the whole of new production was going into the private market, and the market price fluctuated widely with changes in confidence about currency values. Moreover, no central bank would willingly part with gold at the official price and, when the USA renounced its obligation to do so in 1971, official transactions virtually ceased; thus the gold component of international reserves was frozen.

The behaviour of the market price of gold was one influence



among several that combined to produce support for the idea of demonetising gold, and the developments of 1974-75, discussed at p. 41, can be regarded partly as moves towards demonetisation and partly as attempts to unfreeze the gold stocks held by central banks and by the IMF.

The supply of gold

Underlying these price developments were big shifts in the supply of and more especially the demand for gold. Production in the non-Communist world is dominated by South Africa, which has increased its share of the total from rather under

60 per cent in the early post-war period to over 75 per cent in the last few years. Table 1 shows the share of the leading producers in 1946 and 1970, the year in which free world output reached its peak.

TABLE 1
SHARE OF LEADING PRODUCERS IN
GOLD OUTPUT, 1946 AND 1970

	1946		1970	
	metric tons	% of total	metric tons	% of total
South Africa	371.0	55.7	1000.4	77.7
Canada	88.5	13.3	74.9	5.8
USA	49.0	7.4	54.2	4.2
Ghana	18.2	2.7	21.9	1.7
Australia	25.6	3.8	19.4	1.5
Philippines	—	—	18.7	1.5
Rhodesia	16.9	2.5	15.6	1.2
All others	97.3	14.6	82.8	6.4
Estimated free world total	666.5	100.0	1287.9	100.0

Source: *The Banker*, March 1975.

The relationship between price and output is not simple. In the long run, low prices mean low output and *vice-versa*; but it takes about seven years to develop a new mine, so there can be long time-lags. Moreover, a rise in price reduces the minimum gold content of ore that can be processed to yield a profit, and so may lead mines to concentrate on lower grade ores, keeping higher grade ones for the future; in South Africa this is encouraged by a progressive profits tax intended to prolong the life of mines. Supply is, of course, also influenced by the discovery of new sources and by improvements in technology which are partly independent of price, though a high price encourages exploration and research in the long run.

Production of gold in the non-Communist world in 1946 (666.5 metric tons) was down to less than 60 per cent of its 1940 volume. Output grew only slowly in the late 1940s and early 1950s; there was then an acceleration due mainly to the development of new mines in South Africa, but it was not until 1960 that the 1940 output of 1,165 metric tons was exceeded. A peak of 1,288 metric tons was reached in 1970 but, in spite of the rise in the free market price, there has since been a steady decline to only 985 tons in 1974.

Little is known of Russian output; but recent studies by Consolidated Goldfields indicate that it has been growing rapidly, and was equivalent to about 40 per cent of free world output by 1974. Russian sales on the London market have been large but irregular; their timing has depended mainly on that country's foreign exchange needs, and also on the view taken by the Soviet authorities of the likely movement of the gold price.¹

Reserves, industrial gold and 'hoarding'

Table 2 shows the supply of gold from the mines and from the estimated net sales of Communist countries, and how that supply has been distributed between monetary reserves, industry and the arts, and hoarding. The growth of reserves is known with a high degree of accuracy; industrial and commercial use can be estimated, though with a considerable margin of error; it is obviously impossible to get direct information on hoarding and this figure is a residual.

The maintenance of a fixed price and intervention in the market by the authorities meant that, until 1968, industrial users and hoarders (subject to any restrictions imposed by their own governments) could get as much gold as they wanted, and the difference between their demand and the total supply went into or came out of monetary reserves. Incidentally, this is just what would have happened under a gold standard.

The distribution between industrial and artistic uses and hoarding is by no means clear-cut. Coins and medals are popular with hoarders, especially in countries that have legal restrictions on holding gold bullion, and a hoarding motive may enter into the demand for jewellery and utensils of gold. Nevertheless, it is clear that the low price of gold relative to other goods in the 1950s and 1960s led to a very rapid growth of industrial and artistic demand, especially for jewellery. In the late 1950s these uses accounted for rather more than 25 per cent of new supplies; in 1968 they absorbed between 60 and 80 per cent. This growth was checked by the rise in the price of gold after 1968, and sharply reversed by the much bigger rise in 1973-74. Estimates recently published in *The Banker* are shown in Table 3 (p. 26).

¹ 'Spotlight on Gold', *The Banker*, March 1975.

TABLE 2
ESTIMATED NEW GOLD SUPPLY AND DISPOSAL,
1950 TO 1973

	<i>Production and sales</i>	<i>million fine oz. Additions to official reserves</i>	<i>Industrial and artistic use</i>	<i>Residual = Estimated private hoarding ^a</i>
1950	24.2	9.3		14.9
1951	23.7	7.6		16.1
1952	24.4	6.6		17.8
1953	26.4	13.0		13.4
1954	27.8	19.1		8.7
1955	29.0	19.0		10.0
1956	32.3	14.0	8.9	9.4
1957	36.5	19.7	9.1	7.7
1958	36.0	19.4	10.3	6.3
1959	39.5	21.4	10.9	7.2
1960	39.4	8.0	12.3	19.1
1961	42.6	17.3	13.4	11.9
1962	42.9	10.6	14.6	17.7
1963	54.5	23.4	15.4	15.7
1964	53.0	20.3	17.1	15.6
1965	52.6	6.3	20.4	25.9
1966	39.0	-1.3	22.3	18.0
1967	40.1	-45.1	24.3	60.9
1968	39.7	-20.0	24.6	35.1 ^b
1969	39.6	2.9	36.4	0.3
1970	40.7	7.6	39.9	-6.8
1971	41.5	-3.1	41.2	3.4
1972	44.9	4.8	39.9	0.2
1973	44.8	-0.2	24.9	20.1

^a Including speculation.

^b Change in series. On the new definition, industrial and artistic use was about 10 million oz. higher in 1968 and the residual correspondingly lower. The residual is probably overestimated in all earlier years.

Sources: M. A. Kriz, *Gold: Barbarous Relic or Useful Instrument*, Princeton Essays in International Finance No. 60, June 1967; International Monetary Fund; *The Banker*, March 1975.

There has long been a demand for hoarding, mainly from the Middle and Far East, but also from France and, much more recently, the United States. It is estimated that about 5,000 metric tons may be in private hoards in India and a similar amount in France. In the USA private gold-holding was banned until the beginning of 1975, but US citizens were believed to hold about 4,000-4,500 tons overseas. Hoarding

TABLE 3
ESTIMATES OF GOLD USAGE,
1969 AND 1974

	<i>% of total free market demand</i>	
	1969	1974
Jewellery in advanced nations	43.8	19.8
Jewellery in less developed nations	35.2	0.0
Electronics	8.9	7.6
Dentistry	5.6	5.3
Other industry	5.5	4.9
Coins	6.0	23.5
Speculation	-10.3	46.1
Hoarding	5.2	-8.1
Total	100.0	100.0

Source: The Banker, March 1975.

demand, as can be seen in Table 2, is very erratic, rising sharply in periods such as 1960, 1967-68, and 1973-74, when there were fears of inflation and currency devaluation. So long as the major central banks controlled the price through the operation of the gold pool, fluctuations in hoarding were reflected in monetary reserves. Since 1968, official transactions have been very small; the amount of gold in official reserves has remained almost constant; and fluctuations in new supplies and in private demand have been reflected in the price fluctuations shown in the Chart on page 22.

Even without abnormal hoarding, however, the pre-1968 situation was fast becoming untenable. The slow growth of output and the rapid rise in industrial and commercial demand was producing a steady downward trend in the proportion of new supplies going into reserves. In the three years 1956-58, 50 per cent of new supplies went into reserves; even if there had been no increase in hoarding at all over the decade, that proportion in 1966-68 would have been only 20 per cent. It was speculative hoarding that was the immediate cause of the 1968 change, but the fundamental weakness of the system was the attempt to hold a constant price for gold without an effective mechanism for restraining the rise in the prices of other things.

INTERNATIONAL MONEY

(a) Reserve currencies

We must now look briefly at the alternatives, from the point of

view of monetary authorities, to gold as an international reserve asset. The Bretton Woods system was based on three types of medium for the holding of reserves and the making of international payments—gold, reserve or ‘key’ currencies convertible into gold, and drawing rights on the IMF. Developments in relation to these alternative reserve assets have an obvious, though indirect, effect on the rôle of gold.

When a currency is widely used in trade, citizens of other countries will accept payment in it (as OPEC countries now accept payment in dollars for their oil) rather than insisting on payment in their own currency. In such circumstances, traders normally keep a working balance in currencies that are widely used in the transactions with which they are concerned and, from this, it is only a short step for the central banks of other countries to keep part of their official reserve in this form rather than in gold. In addition, of course, they gain the advantage of being able to invest reserves held in foreign currencies in assets such as money market loans or Treasury bills that, though highly liquid, pay interest.

Sterling and, to a lesser extent, the French franc functioned as key currencies before 1914 and the dollar began to do so in the 1930s. After 1945, the dollar was the most wanted currency but a number of countries had substantial balances in sterling accumulated during the war. Table 4 (p. 28) shows total foreign currency reserves, distinguishing official overseas liabilities of the USA and the United Kingdom and other currency holdings. The total grew slowly during the 1950s, accelerated during the 1960s, and has grown at an alarming rate during the 1970s. The acceleration has been largely in official dollar liabilities and also in ‘Eurodollars’, which are included in the ‘other’ column of the Table.

The essential condition for the functioning of a reserve currency is that holders should retain confidence in it. Convertibility into gold helps to maintain confidence partly because gold is valued for itself but also because the convertibility obligation operates as a constraint on the total domestic supply of the currency and therefore on its purchasing power over goods.

We need to distinguish here between the domestic money supply and the reserves in the hands of overseas central banks. As already noted, these reserves are mainly held in short-term securities that are not part of the money stock; but they are

TABLE 4
COMPOSITION OF TOTAL FOREIGN CURRENCY
RESERVES, 1950 TO 1975

SDR billion, end of period

	<i>US liabilities</i>	<i>UK liabilities</i>	<i>Other^a</i>	<i>Total</i>
1950	4.9	14.3
1951	4.2	8.2	2.8	15.2
				^b
1952	5.6	7.0	3.1	15.7
1953	6.5	7.5	3.0	17.0
1954	7.5	7.6	3.0	18.1
1955	8.3	7.6	2.6	18.5
1956	9.2	7.4	2.9	19.5
1957	9.1	7.0	2.7	18.8
1958	9.7	6.7	2.4	18.8
	^b			
1959	10.1	7.0	0.8	17.9
1960	11.1	7.1	2.0	20.2
1961	11.8	7.1	2.0	20.9
		^b		
1962	12.9	6.2	2.4	21.5
1963	14.4	6.5	3.1	24.0
1964	15.8	7.1	2.5	25.4
1965	15.8	7.1	2.3	25.2
1966	14.9	7.9	3.2	26.0
1967	18.2	8.3	2.5	29.0
1968	17.3	9.7	5.0	32.0
1969	16.0	8.9	7.3	32.2
1970	23.8	6.6	14.1	44.5
1971	46.6	8.6	17.8	73.0
1972	56.7	9.6	29.7	96.0
1973	55.4	9.4	37.0	101.8
1974	62.6	12.4 ^c	52.0	127.0
1975	68.3	137.6

^a Other currencies, Euro-dollars and statistical discrepancies which may be large.

^b Break in series owing to changes in definition.

^c IMF estimate.

Source: International Financial Statistics, IMF.

claims on money and, when that money is convertible, claims at one remove on gold.

It is often said that the supply of reserves depends on the balance of payments of the reserve currency country; if it has a payments surplus or 'too small' a deficit reserves grow too slowly, while if it has 'too large' a deficit they grow too fast. The relationship between reserves and payments balances is complex (it will be discussed further in Section III), but one

important point must be made here: contrary to popular belief, a shortage of reserves is not likely to be a problem, since they can always be acquired by borrowing; a continuing and large deficit by the reserve currency country can, however, lead to a glut of the reserve currency in foreign hands, and a loss of confidence in it.

This is precisely what has happened to the US dollar. The large US payments surplus that generated the so-called 'dollar shortage' in the early post-war years disappeared very rapidly. On current and capital account together, the USA has had an almost continuous deficit since the early 1950s. (Table 5

TABLE 5
US BALANCE OF PAYMENTS ON CURRENT AND
LONG-TERM CAPITAL ACCOUNT,
1960 TO 1974
\$ million

1960	—1,211	1968	—2,287
1961	—20	1969	—3,949
1962	—1,043	1970	—3,760
1963	—1,339	1971	—10,637
1964	—100	1972	—11,113
1965	—1,817	1973	—977
1966	—2,621	1974	—10,686
1967	—3,973		

Source: Survey of Current Business, US Department of Commerce.

shows developments since 1960; comparable figures for earlier years are not available.) The resulting rise in official dollar liabilities coincided with the drain on the US gold stock, also arising from the payments deficit. The US government tried to keep down the deficit by discouraging private overseas investment; it also tried to protect the gold stock by arranging currency 'swaps' with overseas central banks, and by selling securities to them; but all to no avail, as can be seen from Table 6. In 1950, the US gold stock was more than four times its official overseas liabilities; by 1970, the liabilities were more than twice the gold stock, and they trebled from 1970 to 1974.

This was the situation that caused the US authorities to suspend the convertibility of the dollar into gold in August 1971 (called 'closing the gold window' in the USA). The dollar has continued as a reserve currency, even though in-

TABLE 6
US OFFICIAL GOLD STOCKS AND FOREIGN
LIABILITIES, 1950 TO 1975

\$ billion, end of period

	Gold ^a	Liabilities ^b		Gold ^a	Liabilities ^b
1950	22.82	4.89	1963	15.60	14.43
1951	22.87	4.16	1964	15.47	15.79
1952	23.25	5.56	1965	14.07	15.83
1953	22.09	6.47	1966	13.24	14.90
1954	21.79	7.52	1967	12.07	18.19
1955	21.75	8.26	1968	10.89	17.34
1956	22.06	9.15	1969	11.86	15.99
1957	22.86	9.14	1970	11.07	23.77
1958	20.58	9.65	1971	11.08	50.64 ^d
		— ^c	1972	10.49	61.52
1959	19.51	10.12	1973	11.65	66.80
1960	17.80	11.09	1974	11.83	76.66
1961	16.95	11.83	1975	11.26	80.00
1962	16.06	12.91			

^a Valued at \$35 per fine oz. to end 1970 and \$42.22 per fine oz. thereafter.

^b Liabilities to central banks and governments only.

Break in series. On the pre-1959 definition the 1959 figure would have been \$10.66 billion.

^d From 1971 figures differ from those in Table 4 owing to change in US \$—SDR rate.

Source: *International Financial Statistics*, IMF.

convertible, partly because it is still widely used as an international means of payment, and partly because there is no practical alternative; but declining confidence in the long-term value of the dollar has shown itself in the rising price of gold and in the growing concern with the reform of the international monetary system.

(b) *Other reserve arrangements*

IMF drawing rights

The third form of reserve arrangement envisaged at Bretton Woods was drawing rights on the IMF. Drawing rights are related to members' quotas which, in turn, are fixed in relation to the national income and the overseas trade of member countries. The agreement provided for a quinquennial review of quotas. The first review in 1950 produced no changes and the second only minor ones. The third, fourth and fifth reviews led to general increases of 50 per cent, 25 per cent and 33 per cent, with additional increases for some countries. The sixth

review, at present under discussion, is expected to produce a rise of $32\frac{1}{2}$ per cent, though its allocation has still to be decided. The total amount of quotas (also affected by the admission of new members) rose from the equivalent of SDR 8.7 billion in the early 1950s to SDR 14 billion at the end of 1969 and SDR 29.2 billion at the end of 1975.

'General Agreement to Borrow'

Since 1960 gold, reserve currencies and IMF drawing rights have been supplemented by several other arrangements. During the 1950s there was widespread concern that the stability of the system might be affected by a shortage of reserve assets, should the outflow of US dollars be reversed, and this was reinforced by the rise in the gold price in 1960. In October 1962 10 countries (the USA, West Germany, the United Kingdom, France, Italy, Japan, Canada, the Netherlands, Belgium and Sweden), subsequently known as the Group of Ten, concluded the General Agreement to Borrow (GAB). The scheme was administered by the Fund and could be brought into operation only 'to forestall or cope with an impairment of the international monetary system'. Each member had a quota (adding to a group total of \$6,000 million), and the Fund could borrow from any member up to the amount of its quota and lend the proceeds to any other, but not to countries outside the group.

A somewhat similar arrangement, known as the 'oil facility', was negotiated in 1974 following the rise in oil prices; a number of the OPEC countries agreed to lend to the Fund for re-lending to oil consumers.

'Special Drawing Rights'

During the mid-1960s there were studies by both the Fund and the Group of Ten of what was then thought of as the international liquidity problem, and the view gradually emerged that a new reserve asset was necessary in order to prevent the system from becoming unduly dependent on the dollar. The result was 'special drawing rights' (SDRs) (so called to distinguish them from the ordinary drawing rights under the Bretton Woods agreement mentioned on p. 30), which were agreed in principle at the Fund meeting in September 1967 and came into operation in 1970.

SDRs are allocated to participants in the scheme in pro-

portion to their IMF quotas. Any member may use any SDRs that it holds unconditionally for the purchase of the currency of any other participant through the IMF. The Fund may arrange the purchase directly or indirectly. For example, if country A notified the Fund that it needed to buy currency X in exchange for SDRs, the Fund could require country X to supply its own currency, or it could require country B (known to hold currency X in its reserves) to sell some of its holdings. In either case, SDRs are transferred from the buying country to the selling one but, since transfers cannot be made outside the system, the total stock remains constant from one allocation to another, and increases each time an allocation is made.

The unit of account for SDRs was originally one US dollar of its 1934 gold value (\$35 to the ounce). This was adjusted in 1971 and 1973 to take account of changes in the official dollar price of gold; the SDR-gold relationship remaining unchanged. From 1 July, 1974, as noted at the beginning of this *Paper*, gold was abandoned as the standard of value and the SDR was expressed in terms of a 'basket' of the currencies of 16 countries.¹

The original allocation of SDRs was 3.4 billion which had risen to 9.3 billion by the end of 1975. As shown at p. 40, it appears probable that SDRs will become increasingly important in the international monetary system. The implications of this are discussed in Section III.

Reference has already been made (p. 29) to 'swap' arrangements between central banks. In essence these are very simple: the banks concerned agree to accept one another's currency (equivalent to allowing one another an overdraft) up to stated amounts. Such arrangements are not reserves in themselves but, since drawing on a swap facility avoids (at least temporarily) using reserves, they are a supplement to the reserve system.

Euro-currency markets

Lastly, a word should be said about the Euro-currency markets that have grown so enormously since the late 1960s. They are relevant here for several reasons. Some countries hold substantial amounts of their reserves in Euro-currencies (mainly

¹ The currencies are: US dollar, Deutschmark, Pound sterling, French franc, Japanese yen, Canadian dollar, Italian lira, Netherlands guilder, Belgian franc, Swedish krona, Australian dollar, Danish krone, Spanish peseta, Austrian schilling, South African rand. Details of weights and method of calculation are in *Bank of England Quarterly Bulletin*, September 1974, pp. 281-3.

dollars) rather than in official liabilities, and Euro-currency loans may be used, as they have been since 1971 by United Kingdom local authorities, to offset a balance-of-payments deficit and so avoid a drain on reserves. Private capital transactions (e.g. investment abroad by UK companies) can be financed on the Euro-currency markets without affecting the reserves, but the switching of Euro-currencies into or out of domestic currencies can be very awkward for monetary authorities, as shown by the difficulty of the German authorities on several occasions during the past 10 years in resisting large currency inflows caused by expectations of a rise in the value of the D-mark. Banks can create Euro-currency deposits, as they can create deposits within a domestic system, by their own lending. They must, of course, have a reserve base which, in the case of Euro-dollars, is US dollar balances in New York; but there are no rules relating the size of the base to the credit structure that can be erected on it.

(c) *The composition and distribution of reserves*

The effects of the developments reviewed in the last two sections on the volume of international reserves are shown in Table 7 (p. 34). Gold holdings rose from the equivalent of SDRs 33.8 billion in 1950 to a peak of 41.8 billion in 1965, and then declined, in every year except 1969, to only 35.8 billion in 1973-74. As a percentage of total reserves, they fell from 68 in 1950 to only 20 at the end of 1974. Reserve positions in the IMF¹ rose as a combined result of changes in membership and increases in quotas from SDRs 1.7 billion to 8.8 billion, but at this level they still formed only 3.8 per cent of the total. SDRs amounted to 8.9 billion at the end of 1974. By far the biggest part of the total increase in reserves has come from holdings of overseas currencies, mainly dollars and Euro-dollars. At first the rise was relatively slow, only 25 per cent from 1950-59; but it increased to 80 per cent from 1959-69 and to 294 per cent between 1969 and 1974. As a proportion of total reserves, foreign currency holdings rose from 29 per cent in 1950 to over 70 per cent in 1974.

From 1950-59, the average annual growth rate of total

¹ 'Reserve positions' is the official IMF term for the proportion of subscriptions paid in gold, against which members have automatic drawing rights. Other drawing rights and borrowing facilities, except SDRs, are not counted by the Fund as reserves.

TABLE 7
COMPOSITION AND GROWTH OF OFFICIAL RESERVES,*
1950 TO 1975
SDR billion, end of period

	<i>Gold</i> <i>Actual</i>	<i>% of SDRs</i> <i>total</i>		<i>Reserve</i> <i>positions</i> <i>in IMF</i>	<i>Foreign</i> <i>exchange</i>	<i>Actual</i>	<i>Total</i> <i>Annual %</i> <i>increase</i>
1950	33.8	68	—	1.7	14.3	49.7	6.4
1951	33.9	67	—	1.7	15.2	50.8	2.2
					_b	_b	
1952	33.9	66	—	1.9	15.7	51.5	1.4
1953	34.3	64	—	1.9	17.0	53.2	3.3
1954	34.9	64	—	1.8	18.1	54.9	3.2
1955	35.4	63	—	1.9	18.5	55.8	1.6
1956	36.1	62	—	2.3	19.5	57.8	3.6
1957	37.3	64	—	2.3	18.8	58.5	1.2
1958	38.0	64	—	2.6	18.8	59.5	1.7
1959	37.9	64	—	3.3	17.9	59.1	-0.7
1960	38.0	61	—	3.6	20.2	61.8	4.6
1961	38.9	61	—	4.2	20.9	64.0	3.6
1962	39.3	61	—	3.8	21.5	64.6	0.9
1963	40.2	59	—	3.9	24.0	68.1	5.4
1964	40.8	58	—	4.2	25.4	70.3	3.2
1965	41.8	58	—	5.4	25.2	72.4	3.0
1966	40.9	56	—	6.3	26.0	73.2	1.1
1967	39.5	53	—	5.7	29.0	74.3	1.5
1968	38.9	50	—	6.5	32.0	77.4	4.2
1969	39.1	50	—	6.7	32.2	78.1	0.9
1970	37.2	40	3.1	7.7	44.5	92.5	18.4
1971	36.1	30	5.9	6.4	73.0	121.3	31.1
1972	35.8	24	8.7	6.3	96.0	146.8	21.0
1973	35.8	23	8.8	6.2	101.8	152.6	4.0
1974	35.8	20	8.9	8.8	127.0	180.5	18.3
	_b					_b	
1975	35.5	18	8.8	12.6	137.6	194.5	7.8

* Reserves of all member countries of the IMF. Sino-Soviet bloc countries, which are not members, are excluded.

^b Break in series owing to minor changes in definition.

Sources: International Monetary Fund *Annual Reports*; *International Financial Statistics*, IMF.

reserves was only 2.4 per cent; there was a slight acceleration in the 1960s, but the average for 1959-69 was only 2.8 per cent. From 1969 to 1974 it jumped to 18.6 per cent. The relationship between this enormous growth of reserves and world inflation is discussed below (p. 38).

Shifts in reserves

The distribution as well as the total amount of reserves has

received a lot of attention and has exerted a significant influence on the politics of monetary reform. The distribution of total reserves in selected years is shown in Table 8, and that of gold in Table 9.

TABLE 8
DISTRIBUTION OF RESERVES AT SELECTED DATES,
1954-1974
SDR billion

End of:	1954	1959	1964	1969	1974
<i>Developed countries</i>					
USA	23.0	21.5	16.7	17.0	13.1
UK ^a	4.5	4.3	3.8	2.5	5.7
EEC (Six)	7.2	12.3	21.9	20.8	49.5
<i>of which: Germany</i>	2.6	4.8	7.9	7.1	26.5
<i>France</i>	1.3	1.7	5.7	3.8	7.2
Japan	0.9	1.4	2.0	3.7	11.0
Switzerland	1.8	2.1	3.1	4.4	7.4
Other	7.1	7.8	12.9	14.0	28.8
<i>Less developed countries</i>					
Oil exporters	10.5	9.5	9.7	4.2	39.2
Others				11.3	25.7
All countries ^b	54.9	59.1	70.3	78.1	180.5

Note: Figures may not add to total shown owing to rounding.

^a Including official dollar portfolio.

^b All member countries of the IMF.

Source: *International Financial Statistics*, IMF.

TABLE 9
DISTRIBUTION OF OFFICIAL GOLD HOLDINGS AT
SELECTED DATES, 1954-1974
SDR billion

End of:	1954	1959	1964	1969	1974
<i>Developed countries</i>					
USA	21.8	19.5	15.5	11.9	9.7
UK	2.5	2.5	2.1	1.5	0.7
EEC (Six)	3.1	7.8	13.2	13.8	13.9
<i>of which: Germany</i>	0.6	2.6	4.2	4.1	4.1
<i>France</i>	0.7	1.3	3.7	3.5	3.5
Japan	—	0.2	0.3	0.4	0.7
Switzerland	1.5	1.9	2.7	2.6	2.9
Other	2.8	2.8	4.2	5.5	4.5
<i>Less developed countries (all)</i>	3.1	2.9	2.7	3.5	3.1
All countries ^a	34.9	37.9	40.8	39.1	35.8

Note: Figures may not add to totals shown owing to rounding. Gold is valued at SDR 35 per fine oz.

^a All member countries of the IMF.

Source: *International Financial Statistics*, IMF.

The US holds only a negligible amount of overseas currencies, so that the fall in its reserves reflects the decline in its gold holding less the rise in its reserve position with the IMF and its SDRs. UK reserves have fluctuated considerably, but in 1974 they were only 27 per cent higher than they had been 20 years earlier. The most striking increases in reserves have been achieved by Germany and Japan, though all the other major industrial countries have also had substantial increases.

Until 1969, the developing countries lagged behind the industrial world in building up their reserves. Primary producers benefited from the commodity boom of the early 1970s and the OPEC countries have accumulated very large sums since 1973, but the non-oil-producing developing countries are still in a weak position. Assistance to the developing countries plays a prominent part in discussions of monetary reform, and the IMF is currently selling off part of its gold stock for their benefit. It is important, however, not to confuse assistance for developing countries with the general problem of international reserves; the basic trouble of developing countries is low earning power, not low reserves, and a once-for-all increase in reserves would do very little to raise their long-run earning power.

Changes in the distribution of gold follow much the same pattern as changes in the distribution of total reserves, but with some interesting exceptions. Japan has not put much of its big increase in reserves into gold and the United Kingdom has reduced its holding from the equivalent of SDRs 2.5 billion (55 per cent of total reserves) in 1954 to SDRs 0.7 billion (12 per cent) in 1974. On the other hand, the original members of the EEC have increased their gold holding from SDRs 3.1 billion to SDRs 13.9 billion. The less developed countries hold an even smaller share of the world's gold than of total reserves, and their holding in 1974 was no bigger than it was 20 years earlier.

RESERVES AND WORLD INFLATION

From the end of the Korean War boom until 1967 inflation rates in the major industrial countries measured by their index numbers of consumer prices rarely exceeded 5 per cent a year and were often substantially lower. Export prices of manufactures rose by rather less than consumer prices and the average unit value of world exports of manufactures in 1967

was only 16 per cent higher than in 1953. The volume of trade in manufactures in 1967 was, however, nearly two-and-a-half times what it had been in 1953. The growth in the value of trade was thus outstripping the growth of reserves which, as shown in Table 7 (p. 34), rose by only 40 per cent over the same period. However, because there were no linkages between reserves and domestic money supplies, there was no constraint on domestic monetary expansion, and the only real consequence of the disparity in growth rates was a search for ways of augmenting reserves as recorded in the preceding section.

From 1967 there was a marked acceleration in world inflation which continued, with a slight check in 1972, until 1974. Table 10 shows an average of index numbers of consumer prices in

TABLE 10
CHANGES IN PRICES AND RESERVES, 1967 TO 1974

	<i>Consumer prices</i>		<i>Export prices of manufactures</i>		<i>Reserves</i>
	<i>Index 1970=100</i>	<i>Annual increase %</i>	<i>Index 1970=100</i>	<i>Annual increase %</i>	<i>Annual increase %</i>
1967	86.4	+2.8	91	+1.1	+1.5
1968	89.8	+4.0	91	—	+4.2
1969	94.7	+5.5	92	+1.1	+0.9
1970	100.0	+5.6	100	+8.7	+18.4
1971	106.4	+6.4	105	+5.0	+31.1
1972	112.5	+5.7	113	+7.6	+21.0
1973	121.8	+8.3	133	+17.7	+4.0
1974	138.2	+13.5	162	+21.8	+18.3

Sources: OECD *Main Economic Indicators*; National Institute *Economic Review*; and Table 7.

France, Germany, the Netherlands, Japan, the UK and the USA, together with the annual percentage change. The average inflation rate for the six countries rose from 2.8 per cent in 1967 and 4.0 per cent in 1968 to 13.5 per cent in 1974.

In contrast to the earlier period, the unit values of manufactured exports from the major industrial countries, also shown in Table 10, rose even more steeply than consumer prices between 1967 and 1974. They began to overtake the consumer price index in 1970, fell below it in 1971, and then rose increasingly steeply to show a rise in 1974 of no less than 21.8 per cent. Reserves too were growing much faster in the early

1970s, except in 1973; and the reason for this upsurge in reserves was, of course, the US balance-of-payments deficit.

Genesis of 1970s world inflation

The chain of causation leading to the upsurge of world inflation was as follows. The USA financed its increasing involvement in the Vietnam War during the late 1960s partly by increasing its domestic money supply and its domestic rate of inflation. This made US industry less competitive in world markets and so enabled other countries to pursue policies leading to higher rates of inflation without the damage to their balance of payments that would otherwise have resulted. The US payments deficit added directly to domestic demand in other countries (where its counterpart was a payments surplus) and so contributed to inflation there. Meanwhile, the outflow of dollars added to other countries' reserves which both reduced the constraints on their domestic monetary expansion and, by a mechanism described in Section III, put positive pressures on them to increase their domestic money stock.

The difficulty of resisting the import of inflation is illustrated by the experience of Germany which kept the rise in consumer prices between 1967 and 1974 down to 38 per cent, against the six-country average of 60 per cent shown in Table 10, but only at the cost of domestic policies so restrictive as seriously to slow down the growth of output. In the United Kingdom, where domestic inflation was superimposed on imported inflation, the rise in consumer prices over the same period was 74 per cent.

The transmission of inflation through the international payments system works much more strongly when the initial source is a large country which has a reserve currency; nevertheless under the system of the recent past, and that which is proposed in the future (discussed in Section III), any country that pursues inflationary domestic policies makes it easier for others to follow suit and harder for them to resist.

TOWARDS THE DEMONETISATION OF GOLD

The real sickness of the international monetary system in the 1960s and early 1970s was due to the refusal of individual governments to control domestic inflation by limiting the growth of their domestic money supply; but several of the symptoms were related to gold. The monetary gold stock did not keep pace

with the growing demand for monetary reserves, so the share of currency holdings in official reserves increased rapidly; the reduction of the US gold reserve and the increase in dollar liabilities impaired confidence in the dollar; and there was believed to be a kind of vicious circle operating in the free gold market—a loss of confidence in the dollar raising the price and a rise in the gold price further impairing confidence in the dollar.

Hence gold was once again blamed for a good deal of what was going wrong; and its critics, having given gold a bad name, took the short step to proposing that it should be demonetised. The idea that it might be better to take gold gradually out of the international monetary system was first hinted at as long ago as 1964 when a study by the Group of Ten referred to the possible creation of some new reserve asset. It was this study and a parallel one by the IMF that started the discussions leading to the creation of SDRs.

As already recorded, the gold pool was abandoned in 1968 and the major central banks undertook not to buy in the free market (the Washington agreement); in August 1971, the US suspended the gold convertibility of the dollar. This left the following situation: the price of gold in the market was free from official intervention, though many countries still had restrictions on gold holdings and gold dealing; the gold stock of national monetary authorities and of the IMF was still valued at the official price and was virtually frozen; the official price had no significance in relation to transactions (except insofar as it prevented them from taking place), but still served as a unit of account.

Most other currencies had par values fixed under the IMF agreement in US dollars of the 1934 gold content, so the only way the US authorities could change the par value of the dollar in terms of other currencies was by changing the dollar price of gold. It is the USA, which was largely responsible for the rôle given to gold in the IMF agreement, that has suffered the most inconvenience from it, and which has led the way towards demonetisation.

Moves towards the abandonment of gold

The move from the 1971 situation to complete demonetisation would require three changes:

- (i) making gold like any other commodity by abolishing restrictions on holdings and dealing that did not apply to other goods;
- (ii) getting rid of the special position that gold still had as a unit of account;
- (iii) unfreezing and eventually disposing of the gold stocks held by monetary authorities and by the IMF.

Already moves in that direction have been either proposed or introduced.

In 1972 the IMF set up a Committee on International Monetary Reform consisting of the Group of Ten plus 10 developing countries (generally known as the Group of Twenty). This Committee reported in 1974 setting out a number of proposals discussed in Section III. Among its long-term recommendations was that the SDR should become the principal reserve asset and that the rôles of both gold and reserve currencies should be reduced. An Interim Committee of the Fund's Board of Governors has been set up to formulate amendments to the Articles of Agreement of the IMF in the light of the Group of Twenty recommendations. Its conclusions on gold, reported to the 1975 Annual Meeting, were as follows:

‘There was widespread agreement that the rôle of gold would have to be based on the following broad principles: (i) the enhancement of the rôle of the SDR as the central asset in the international monetary system, with a consequent reduction of the rôle of gold; (ii) the official price of gold should be abolished; (iii) obligations to use gold in payments between the Fund and members should be abrogated; (iv) there should be the sale of a portion of the Fund's gold at the approximate market price for the benefit of developing members in general, and particularly those with low income, and the sale of another portion to members at the present official price; (v) with respect to the rest of the Fund's gold there should be a range of broad enabling powers, exercisable with a high majority; (vi) a reasonable formula should be found for understandings on transactions by monetary authorities with each other and in the market, which would include understandings that would be designed to avoid the re-establishment of an official price and would deal with the volume of gold held by monetary authorities; and (vii) an

appropriate formula should be found for collaboration with the Fund in connection with the understandings among monetary authorities. Some countries felt that this collaboration should relate also to the reduction in the rôle of reserve currencies in the international monetary system.¹

Three steps to demonetisation

Meanwhile several important steps along the road to demonetisation have already been taken. As recorded (p. 10), from 1 July, 1974, the SDR has been valued not in gold but in a 'basket' of national currencies. Also in the summer of 1974 it was agreed that central banks might value gold pledged as collateral for loans from one to another at an agreed 'market-related' price, though purchases and sales between them must still take place at the official price. The USA has moved towards making gold like any other commodity by removing the ban on its citizens holding gold, and by selling a small part of its gold stock at two public auctions in January and June 1975. Finally, it was agreed at the end of 1975 that the IMF should reduce its gold holding by a series of auctions over the next four years, the proceeds of sales being put into a trust fund for assistance to developing countries. The first auction took place in June 1976. Central banks agreed not to make direct purchases. The names of purchasers were not disclosed but it is believed that the Bank for International Settlements was a buyer, and that the Bank of France may have bought indirectly through the BIS.

What, therefore, remains of the monetary rôle of gold as defined at Bretton Woods? The official price is still binding on monetary authorities in their transactions with one another, though this has little practical importance and will probably not remain for long. About 40 per cent of the total world gold stock remains in monetary reserves; at the official price, this amounts to only 20 per cent or so of total reserves but, if it were re-valued at the current market price (about \$140 an ounce at the time of writing),² the proportion would be over 40 per cent. More important, some central banks are still anxious not only to maintain their gold stocks but to add to them.

¹ *IMF Annual Report*, 1975, p. 44.

² By mid-August 1976 the price had fallen to about \$112.

What are the alternative policy choices for the future? Should we go on with the IMF proposals which would eventually complete the demonetisation of gold and replace it by SDRs? Should we, or can we, go back? Or is there some compromise that will leave some monetary rôle for gold in a new system? These are the questions we shall try to answer in Section III.

III: POLICY OPTIONS

THE IMF PROPOSALS

The long-term proposals of the Group of Twenty can be summarised under the following headings:¹

1. 'More effective and symmetrical adjustment procedures.'
2. 'Better management of global liquidity.'
3. Avoidance of 'uncontrolled' growth of reserve currency balances.
4. That the SDR should become 'the principal reserve asset' with a consequent reduction in the rôle both of gold and of reserve currencies.
5. Assistance for developing countries.

As interim measures the Group of Twenty recommended closer surveillance by the Fund of the (balance-of-payments) adjustment process; an 'interim method' of valuing SDRs which has already been adopted; 'guidelines' for floating exchange rates, which have now been drawn up; and 'further study' of the rôle of gold. We will discuss those proposals most relevant to the future of the international monetary system.

The results of the 'further study' of gold have already been described (p. 40). If the proposals of the Interim Committee were taken to their logical conclusion and monetary authorities divested themselves of their gold stocks, the process of demonetisation of gold would be virtually completed. No concrete proposals for a similar phasing-out of reserve currencies have yet been put forward, but their rôle, too, would be reduced as SDRs became the principal reserve asset. The quantity of SDRs to be created would be determined by agreement among

¹ The quotations are from the IMF's *Annual Report*, 1975.

the governments of members of the Fund according to an estimate of the need for 'global liquidity'. Again, no precise rules have been put forward for determining the amount of reserve assets that is 'needed', but discussions of the subject in the Fund's publications suggest that the most important criterion would be the growth in value (not volume) of world imports. It is likely, however, that political considerations, including the demands of governments that found themselves short of reserves because of inflationary domestic policies, would also play their part.

The Interim Committee has agreed that the ultimate aim should be 'stable but adjustable par values and the floating of currencies in particular situations',¹ and as an interim measure has drawn up a set of guidelines for the operation of floating rates. Stripped of their official verbiage, the guidelines encourage members to smooth out very short-run fluctuations; to 'offer a measure of resistance to market tendencies in the slightly longer run, particularly when they are leading to unduly rapid movements in the rate'; the estimation in consultation with the Fund, but by unspecified means, of a 'medium-term norm' for a country's exchange rate; and the offsetting, so far as reserves allow, of movements away from the norm.

Balance-of-payments adjustment

The question of balance-of-payments adjustment has caused long-standing controversy. One aspect is the criteria to be used in determining whether or not a change, either in domestic policy or in the exchange rate, is necessary. The most obvious and generally accepted criterion is a sustained fall or rise in reserves, but countries can often plead that a change in reserves is due to special circumstances either in their domestic currency or their export markets. The reference by the Group of Twenty to 'more symmetrical' adjustment procedures reflects the belief, which has persisted since the 1930s, that surplus countries should make a bigger contribution to adjustment. In this context, making the procedures more 'effective' presumably means putting greater pressure on surplus countries to pursue more expansionary domestic policies or to raise the value of their currencies.

¹ *IMF Annual Report*, 1975, pp. 44-5.

The real trouble with any such policy, however, is that individual governments jealously guard their right to domestic demand management (or mismanagement) and there is very little that the international community can do about it. The original articles of the Fund stated that, in deciding whether or not a country was suffering from a 'fundamental disequilibrium' that would justify a change in exchange rates, the Fund should not take account of domestic economic and social policies. In their introduction to the guidelines on floating exchange rates, the Interim Committee states that

'national policies, including those relating to domestic stabilisation, should not be subject to greater constraints than are clearly necessary in the international interest'.

'Paper gold'

To sum up, the brave new world towards which the IMF proposals would lead us would be one in which gold would be replaced by SDRs, the volume of which would be determined by the collective wisdom of Fund members and which would form the main component of reserves. Exchange rates would generally be fixed but would be subject to adjustment and, in exceptional circumstances, a period of floating would be permitted. To tide them over temporary fluctuations, countries would have access to general drawing rights on the Fund and to its special facilities, e.g. oil and buffer stocks. The Fund would consult with members on the adjustment of their balances of payments and exert such moral suasion as it could, but interference with national policies would be minimal. There would be no formal rules for balance-of-payments adjustment, and no links between countries' holdings of international reserves and their domestic money stocks. This looks very like a re-vamped version of Bretton Woods with a few cosmetic changes and with SDRs in place of gold; small wonder that this new creation is sometimes called 'paper gold'.

A THEORETICAL ANALYSIS

In Section I, we referred to four criticisms of the international gold standard that gained widespread acceptance in the 1930s, and that provided the logic of the Bretton Woods system. It is now time to see how these criticisms stand up to recent develop-

ments in economic theory. It can be said at once that each of them appears to be either totally unwarranted or greatly exaggerated.

Criticisms of gold standard examined

1. Adjustment mechanism deflationary?

First, it was alleged that the adjustment mechanism required a reduction in the price level of deficit countries. In the famous controversy over German reparations after the First World War, Bertil Ohlin argued that Keynes greatly exaggerated the magnitude of price changes needed in the adjustment process, and current theory would endorse this view. In the extreme case, if markets were perfect, there would be only one world price for an internationally traded good and quite small changes in a country's costs would lead to big changes in the amount that it would sell at the going price. Real world markets are, of course, less than perfect, but empirical studies have found little evidence of the kind of price movements implied by the crude version of the adjustment process described in Section I.¹

2. Asymmetry of gold standard?

Secondly, there was the alleged asymmetry arising because surplus countries could 'sterilise' gold imports. Again, in the extreme case it can be argued that such a policy is bound to break down. One of the results of preventing an expansion of the money supply would be to maintain relatively high interest rates in the surplus country, thus encouraging an inflow of foreign capital and a still larger influx of gold. Meanwhile the monetary authorities of the gold importing country would have to borrow from their own citizens to finance their gold purchases, and the point must come when they would be unable to do so without increasing their money supply. In the real world some degree of sterilisation is possible and has been practised, but it is much easier in conditions such as the 1930s, when capital movements are impeded by fluctuations in exchange rates and political uncertainties.

Moreover, the fact that sterilisation is possible does not mean that countries will always find it in their interest to undertake it.

¹ For a modern interpretation of the rôle of price movements, J. M. Parkin and G. Zis (eds.), *Inflation in the World Economy*, Manchester University Press, 1975.

At some times in the past governments have tried to sterilise gold imports in the hope of keeping down domestic prices and stimulating employment, e.g. the USA in the 1930s. More recently some countries have tried to prevent or neutralise currency inflows in the attempt to avoid importing inflation, e.g. Germany in the 1960s and 1970s. But in a world where employment is reasonably high and prices reasonably stable, there is no point in trying to maintain a payments surplus as an end in itself.

3. *'Liquidity trap'?*

Thirdly, there was the allegation that an expansion of the money supply might fail to reduce interest rates because of the 'liquidity trap'. The liquidity trap hypothesis was based on a very simple view of the choice between holding bonds or money. Those who expected bond prices to rise would hold all their wealth in bonds; those who expected a fall would hold all their wealth in money. As bond prices rose and yields fell, the number of people expecting a future fall (and therefore wanting to hold money as a protection against capital loss) would rise until, at rates that were very low by historical standards, there would be no takers for securities however much the quantity of money were expanded. Modern theory is based on the more realistic assumptions that investors think in terms of probabilities rather than taking a definite view of future security prices, and that they normally hold a mixed portfolio of money and securities. This implies that the idea of an absolute barrier to a reduction of interest rates can be rejected.

4. *Capital movements destabilising?*

Finally, there is the supposed malignant effect of capital movements. Capital movements can be highly damaging, but destabilising movements occur either when there is little confidence in the stability of exchange rates so that a balance-of-payments deficit gives rise to fears of devaluation or in response to political uncertainties. In stable conditions where a gold standard exists and there is general confidence that countries will remain on it, capital movements are highly stabilising, and are an important part of the adjustment process. As the deficit country loses gold and contracts its money supply, its interest rates rise and those of gold-importing countries fall. There is

thus an incentive for capital to move from surplus to deficit countries, so minimising the need for gold movements and giving time for the current account balance to adjust smoothly. In practice, the private capital market does just what drawing rights on the IMF were intended to do.

It appears, therefore, that the theoretical criticisms of the gold standard have little substance. The supposed evidence of its failure in practice is largely derived from taking examples of what happens when at least one essential condition of the system is absent, and using them to 'prove' that the complete system works badly. This is very like removing the sparking plugs and then saying that the resulting failure to start proves that internal combustion engines do not work; it is a technique that is very common among critics of the market economy.

The views so far discussed all rest on the premise that money, for good or ill, plays a very important part in the economic system. This view was always held by Keynes himself, but neo-Keynesian economists have tended to play down the rôle of money, arguing that the level of domestic demand should be managed by manipulating government spending and taxation, and that inflation should be controlled by incomes policies. Thus the idea of subjecting the growth of the money stock to any formal constraint has been opposed both by those who believe that money is so important that the government must retain complete discretion in its control of it, and by those who think that money is so unimportant that rules for its management are unnecessary.

Bretton Woods and 'paper gold'

Let us now turn to the Bretton Woods system and its proposed replacement using 'paper gold'. As noted, the two are very similar (p. 44), and both contrast with the classical gold standard in having no direct link relating a country's international reserves to its domestic money supply. Each country is free to regulate its own money stock as it sees fit though it must, of course, take the consequences in inflation and payments imbalance.

At this point we should take account of the controversies (p. 13) about the amount of discretion that a country can enjoy over monetary policy in a system of fixed exchange rates. The differences of view derive from differing theories of how the

balance of payments is affected by monetary expansion. The traditional theory was that, if one country expanded its money stock faster than others, its prices would rise, exports would be checked and imports stimulated and the resulting deterioration of the balance of payments would cause a drain on reserves. Eventually, the loss of reserves would force the government concerned to revise its policies, but this result could take a considerable time, especially if attempts were made to protect reserves by borrowing abroad or drawing on the IMF. This theory, therefore, says that governments have a great deal of discretion over their monetary policy in the short run, which may be a matter of years if reserves are large and/or they can borrow to cover their deficit.

The view recently put forward by monetarist economists envisages a different and much quicker response to changes in the stock of money operating mainly through capital movements. An increase in the rate of monetary expansion relatively to the demand for money balances would tend to depress interest rates in the expanding country and so cause 'unwanted' domestic money to be lent overseas, thus inducing an immediate loss of reserves. Moreover, it is argued that, for the kind of reason described (p. 45), countries gaining reserves would be unable to resist an expansion of their own money supply. Thus the money initially created would be very quickly distributed all over the world, and no one country would exercise any effective discretion over its own domestic money stock even in the short run.

Adherents of both theories would criticise the post-war system on the ground that it made the growth of world reserves very largely dependent on the balance of payments of reserve currency countries, and so gave those countries a great deal of power to generate and export inflation. They would, however, differ somewhat about the importance of the fact on which we have laid so much emphasis, that the system contains no direct link between a country's reserves and its domestic money stock. For the monetarist this does not imply that individual countries enjoy much control over their monetary policy in the short run; but it does mean that successive bouts of expansion in different countries can raise the world money stock and the world rate of inflation on an unchanged reserve base. Adherents of the more traditional view would not doubt this last proposition but would also, as we have said above, argue that

individual countries do have a measure of discretion that they often abuse, and that the resulting balance-of-payments deficits impose direct strains on the international payments system. These strains have resulted in the pressures already described for 'symmetry' in the adjustment process, but insofar as they are successful, these pressures add to the inflationary bias of the system: if A generates inflation B, in the interest of symmetry, must do so too.

The two theories are not mutually exclusive and what happens in the real world is almost certainly something in between the two extremes. Moreover, both imply that a system in which national currencies are convertible into gold imposes a constraint on the growth of the world money supply and on world inflation that was not imposed by Bretton Woods and would not be imposed by the new IMF proposals.

It is agreed, then, that a system of fixed exchange rates without any link between international reserves and domestic money supplies has a very strong inflationary bias, whether it uses real gold or 'paper gold'. The only major difference is that, if real gold is a reserve asset and has a fixed price, rising prices will ultimately create a shortage of monetary gold. There is no guarantee, however, that the world would react to such a shortage by curtailing the growth of the total money supply. On the contrary, past experience suggests that governments are more likely either to adopt restrictive trading policies in the hope of protecting their own gold stocks, to develop ways of economising gold, e.g. by using other currencies as reserves, or to devise gold substitutes such as SDRs.

Flexible rates: 'free-floating' and 'managed floating'

The case of flexible exchange rates can be dealt with very briefly. If rates were left to find their own level without any official intervention ('free floating') there would be no reserve movements at all, and no country could run a deficit on current and capital account together. Any country that expanded its money supply unduly fast would suffer a fall in the value of its currency on the foreign exchanges, but it would be impossible for any country to export excess money or to export inflation. Domestic price levels would be independent of one another and the international system would neither transmit inflation from one country to another nor exercise any restraint on it.

In practice, free floating is very rare and would be quite contrary to the IMF guidelines summarised above (p. 43). Where floating rates are 'managed', reserve movements (sometimes very large ones) do occur and, insofar as they occur, they produce the effects already analysed in relation to fixed rates.

To sum up, the classical gold standard, with a direct link between gold and the total money stock, has little if any of the deflationary bias generally attributed to it; however, the world gold supply does impose a constraint on world inflation that does not exist in the system we have had since 1945 or in that proposed by the IMF. Fixed exchange-rate systems with no direct link between reserves and domestic money stocks have a strong inflationary bias, whether the reserve assets are real gold or paper gold, and this bias is magnified by the existence of reserve currencies and by attempts to maintain so-called 'symmetry' in the adjustment process.

IV: SOME PRACTICAL CONCLUSIONS

In Section I of this *Paper*, we outlined the working of the 'classical' gold standard of the late 19th and early 20th centuries, showing how it provided a balance-of-payments adjustment mechanism and a constraint on the world price level; we also showed how that system fell into disrepute in the 1930s. The theoretical analysis of Section III showed that most of the criticisms of the classical gold standard were ill-founded and, in particular, that the adjustment mechanism did not contain the strong deflationary bias that is generally attributed to it.

However, there are certain conditions that are essential for the efficient operation of the system. The most fundamental is that there should be a direct link, either through convertibility or through a monetary rule, between each country's gold stock and its domestic money supply. It is also necessary that governments should be committed to remaining on the gold standard at a fixed gold parity, so that there is general confidence in the stability of exchange rates, and that capital movements should be allowed to perform the stabilising function that they naturally do in such circumstances.

In Section II we showed that the fundamental weakness of the Bretton Woods system was the lack of any direct link between gold, or any other form of international reserve, and the domestic money supply. This weakness was aggravated by

fixing the gold price at the pre-war level, and by growing uncertainty about how long fixed exchange rates would remain fixed, which tended to make capital movements destabilising rather than stabilising.

Inflationary bias of both Bretton Woods and IMF proposals

The Bretton Woods system had a strong inflationary bias because inflation generated in one country was 'exported' to others without the constraint imposed, under the classical gold standard, by the relationship between the total world stock of gold and the total of countries' domestic money stocks. This bias was accentuated by the rôle of reserve currencies. Under the classical gold standard, reserve currencies played a useful rôle because their amount was limited by the obligation to convert them into gold on demand; when convertibility into gold is restricted or abolished a reserve currency country can export money and inflation almost without limit. Moreover, if one country runs a deficit as a result of monetary expansion and inflation, the pursuit of symmetry (p. 43) in the adjustment process means encouraging others to follow suit.

The new IMF proposals are very similar to the Bretton Woods system except for the substitution of 'paper gold' (SDRs) for real gold. They contain the same built-in inflationary bias as the old system. This might be reduced if there is a reduction in the rôle of reserve currencies, but it is far from certain how or whether this change will occur, and it will certainly not happen in the near future. On the other hand, the bias will be increased insofar as the Fund succeeds in getting greater symmetry in the adjustment process.

The effect of the substitution of SDRs for gold is doubtful, since we do not know how new issues of SDRs will be determined. If, as seems probable, the total amount is related to the value of world imports, it would be likely at least to keep pace with inflation, and so would impose no constraint upon it. Moreover, even if the volume of SDRs were restricted, this would not necessarily produce restriction of domestic money supplies, any more than the shortage of gold did under the Bretton Woods system.

The prospective demonetisation of gold will probably not make much difference to the international monetary system, nor would its re-instatement in the limited rôle for which it was

cast at Bretton Woods. If gold is to have a major influence again, it would only be through the re-establishment of direct links with domestic money, and that is something no government has so far been willing to accept.

Governments in a world without gold

This amounts to saying that, unless individual governments are prepared to accept monetary discipline in their domestic affairs, gold has no part to play in the international system. Some people would go further and assert that if governments were prepared to accept monetary discipline there would be no need for gold, but this is rather like the statement that if there were no sin there would be no need for laws. In the effort to please (or bribe) their voters, governments are under constant temptation to do things that, directly or indirectly, lead to monetary expansion and inflation; and it may be easier to resist such temptations if the authorities are subject to some form of external discipline, even though it is one to which they have voluntarily submitted. Politicians cannot be expected to accept such a curb on their powers unless the public demand for it is so strong that acceptance is the only way to get elected.

At present, the climate of opinion that would make a renewed link with gold practical politics does not seem to exist. Meanwhile, the international monetary system will remain an instrument for the encouragement and transmission of inflation; and it is all too likely that the inflationary cycles of the past 25 years will continue. At best this will lead to repeated crises, only partly resolved by stop-gap measures, that will weaken the fabric of the international market economy. At worst the trend rate of inflation will continue to accelerate from cycle to cycle. If this happens it can only be a matter of time before a major currency or currencies are engulfed in hyper-inflation. When this has happened in the past (e.g. in the great European inflations of the 1920s), public opinion has demanded a return to a money limited in amount and backed by some asset of intrinsic value. If inflation becomes bad enough, such a demand would probably grow again and eventually become so strong that governments would be obliged to accept a curb on their power to create money.

Proposals have been made from time to time for linking money to commodities or 'parcels' of commodities other than

gold, but they have several disadvantages. Most commodities are more difficult to move and to transport than gold. Annual production is generally a much larger proportion of the total stock and hence the stock is more liable to short-run fluctuations. However, if more than one commodity is chosen there are problems of what weight shall be given to each one in the composite unit, and of changes in the relative values of different items. If a real international reserve asset is still required, gold has no serious competitor.

Are real reserve assets outmoded?

It can be argued that the world has now reached a stage of civilisation where such a real reserve asset is no longer needed, and that all that is required is a modification of the Group of Twenty proposals so as to provide an effective constraint on the volume of SDRs and ensure the phasing-out of reserve currencies. If a system could be devised that would ensure both a steady expansion of SDRs at about the rate of growth of world productive capacity and also a stable relationship between the world stock of SDRs and the world stock of domestic monies, such a system would be superior to a gold standard. But a decade of discussion among the world's leading experts has not produced a mechanism that fulfils the first of these conditions. As for the second, centuries of experience have yet to produce a case where a government has maintained the value of its currency for long without external discipline. The discipline imposed by a general norm of fixed exchange rates with provision for periodic adjustments and periods of floating is very different from that of a commitment to exchange one's currency for gold.

Moreover, there are severe technical difficulties about maintaining such a system. Once exchange-rate adjustments and periods of floating are given official recognition, confidence in the fixity of rates is impaired; any substantial deficit in a country's balance of payments creates speculation on a devaluation of its currency; and capital movements that are stabilising when there is confidence in the fixity of rates become destabilising.

The world has still a very long way to go before it learns to manage its money without gold, yet if gold does make a comeback it will not be as a result of another Bretton Woods-

style international agreement, but because one country or a small group decides to link its domestic currency to gold once more and others gradually follow. It could, but need not, take a bout of hyper-inflation to bring this about.

A return to gold?

The idea of a voluntary and unilateral return to gold will seem far-fetched to many people; but there would be a parallel here with what happened in the past. The classical gold standard was not established by international agreement but grew up because Britain allowed the free import and export of gold, made other forms of money convertible into gold, and established a rule relating the Bank of England's note issue to its holding of gold. Other countries then found it convenient to follow similar behaviour patterns, but these were never enshrined in any treaty or articles of agreement.

It is not easy to discern any country that is likely to give such a lead at present. France, which was in the past the leader of the gold lobby, is hardly in a sufficiently strong economic position to do so. There is, however, one country that could give a lead: Germany, with its strong economy, large gold holdings and a pivotal position in the EEC 'snake',¹ is in a good position to do so if it wished. If it did, several other EEC countries might follow and gold could provide the basis for what would, in effect, be a European monetary union.

If any country or countries were to make a successful return to gold in this way, a number of conditions would have to be satisfied. They would need to have a strong international payments position and a substantial gold stock with which to start. The price at which the monetary authorities would buy and sell gold for domestic currencies would have to be fixed near to the current market price at the time convertibility was established. The countries concerned would have to accept constraints on their domestic money supply, whether by formal rule or otherwise, that would ensure that they could always honour their convertibility obligation. Governments would have to confine their own expenditure to levels that could be financed within the limits of the permissible growth of the

¹ The arrangement by which certain EEC countries agree to keep fluctuations in their exchange rates against one another's currencies within narrow limits, while allowing larger fluctuations between the group as a whole and the rest of the world.

domestic money supply. Rates of exchange between countries that made their currencies convertible into gold would, of course, be determined by their gold parities, but rates with other countries would have to be freely floating.

In the meantime, to consider what is immediately practicable as well as desirable, we believe that it would be very unwise for any country or for the IMF to pursue policies (e.g. large gold sales or purchases) that would cause big fluctuations in the world gold price. In this connection the wisdom of the current gold sales by the IMF appears very doubtful. If it were certain that the world could get along permanently on paper money, the sale of gold on the private market would be the only sensible course. Since this is still very doubtful, there is much to be said for retaining official stocks, both in the IMF and in national central banks, in case the paper system breaks down and governments are forced back, as they have so often been in the past, to a metallic standard.

QUESTIONS FOR DISCUSSION

1. What were the advantages and disadvantages of the pre-1914 gold standard?
2. What went wrong with the attempt to return to gold in the 1920s? Can this be blamed for the Great Depression of the 1930s?
3. What were the objectives of the Bretton Woods system? In what respects did it resemble and differ from a gold standard?
4. What part did gold play in the Bretton Woods system?
5. What would have been the effect of a substantial rise in the dollar price of gold in the 1950s or early 1960s? Why was the US government opposed to such a rise?
6. Why should people wish to hoard gold when they could put their money into securities that would earn interest?
7. What are the advantages and disadvantages of 'reserve currencies'?
8. Why is it important to have some external constraint on the growth of countries' domestic money stock? How can such a constraint be imposed?
9. Has the international monetary system helped to cause inflation in the past 20 years? Or has inflation caused the difficulties that have arisen in the international system?
10. What would be the likely consequences of replacing gold by SDRs?

NOTES ON FURTHER READING

The study of the international payments system cuts across two areas of economics, international trade and monetary theory, that are often treated separately. Two good general texts on international trade are

Kindleberger, C. P., *International Economics*, Irwin, Chicago, 4th Edn., 1968, and

Scammell, W. M., *International Trade and Payments*, Macmillan, London, 1974.

Newlyn, W. T., *The Theory of Money*, Clarendon Press, Oxford, 2nd Edn., 1969,

gives a concise treatment of the main issues in monetary theory. A more advanced study is

Patinkin, Don, *Money, Interest and Prices*, Harper & Row, New York, 2nd Edn., 1966.

Johnson, Harry G., *Essays in Monetary Economics*, and *Further Essays in Monetary Economics*, George Allen & Unwin, London, 1967 and 1972,

are good examples of the modern 'monetarist' approach; the essay on 'The Monetarist Approach to the Balance of Payments' in the second volume is particularly relevant.

The most up-to-date study of the system is

Scammell, W. M., *International Monetary Policy, Bretton Woods and After*, Macmillan, London, 1975.

Hirsch, F., *Money International*, Allen Lane, London, 1967, is a comprehensive analysis of the system in the mid-1960s, and

Horsfield, J. K., *The International Monetary Fund 1945-65*, International Monetary Fund, Washington DC, 1969,

is the definitive history of the first 20 years of the IMF's operations.

Parkin, J. M., and Zis, G. (eds.), *Inflation in the World Economy*, Manchester University Press, Manchester, 1975, and

Aliber, R. Z. (ed.), *Inflation, the Balance of Payments, Domestic Credit Expansion and Exchange Rate Adjustments*, 1974,

contain a series of papers on the international transmission of inflation.

IEA publications covering closely related topics include:
 Haberler, Gottfried, *Money in the International Economy*, Hobart Paper 31, 2nd Edn., 1969.
 Frankel, S. Herbert, *Gold and International Equity Investment*, Hobart Paper 45, 1969.
 Friedman, Milton, *The Counter-Revolution in Monetary Theory*, First Wincott Memorial Lecture, Occasional Paper 33, 1970 (3rd Impression 1974).
 Johnson, Harry G., and Nash, John E., *UK and Floating Exchanges*, Hobart Paper 46, 1969 (2nd Impression 1970).
 Powell, J. Enoch, *Exchange Rates and Liquidity*, Occasional Paper 18, 1967.

The *Annual Reports* of the International Monetary Fund and the Bank for International Settlements contain much detailed information, though the amount of space devoted to gold has been reduced in recent years.

[Students and other readers may also like to refer to two distinguished statements of methods of removing money from the control of government:

1. An argument for a return to gold by the Editor of *The Times*:
 W. Rees Mogg, *The Reigning Error: The Crisis of World Inflation*, Hamish Hamilton, London, 1974.
2. The case for a Currency Commission by the Economics Editor of *The Times*:
 Peter Jay, 'A Solution of the Last Resort', *The Times*, 15 April, 1976, and 'The Currency Commission Re-visited', *The Times*: 20 May, 1976. — ED.]

Other IEA Papers on Gold and International Exchange

Hobart Paper 45

GOLD AND INTERNATIONAL EQUITY INVESTMENT

S. Herbert Frankel

1969 40p

'... points out the consequences of the open hostility to using private capital as the basis for the effective exploitation of the resources of the under-developed territories. [He] advocates the extension of equity finance and rebuts the arguments used to justify its substitution by international loans. As evidence he analyses the experience of the South African gold mining industry and the role played in its development and growth by private industry.'

Accountant

Hobart Paper 46

UK AND FLOATING EXCHANGES

Harry G. Johnson and John E. Nash

1969 2nd Impression 1970 50p

'A very important contribution to the debate on a floating pound ...' Professor Harry Johnson of the London School of Economics argues the case for a floating exchange rate with Mr John Nash, a merchant banker of Samuel Montague, who favours a fixed parity for the pound.'

City Press

Hobart Paper 31

MONEY IN THE INTERNATIONAL ECONOMY

Gottfried Haberler

1965 2nd Edition 1969 40p

'... Prof. Haberler maintains that the present system gives rise to endless controversies between policy-makers about what should be done next ... Greater flexibility in rates would change all this ... Prof. Haberler feels that the so-called "crawling peg" ... has the worst of all worlds: speculation continues and may even be exacerbated.'

Daily Telegraph, in an Editorial

Occasional Paper 33

THE COUNTER-REVOLUTION IN MONETARY THEORY

Milton Friedman

1970 3rd Impression 1974 50p

'... a brilliant exposition of the theory which he has done so much to develop. In practical terms his message was one whose relevance was immediately apparent to his audience. You can only contain inflation, the argument ran, if you control the money supply.'

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Patrick Hutber, *Sunday Telegraph*
Director

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Samuel Brittan—*Financial Times*

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'Professor Blaug seeks to present and assess the ongoing controversy between the so-called "Cambridge School" and the economists of the Massachusetts Institute of Technology and to relate it to "the current 'crisis' in economics". The controversy is over the theories of growth, capital and the determination of income distribution.'

Ian Steedman—*The Times Higher Education Supplement*

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'No better short analysis has so far appeared of what went politically wrong with the Heath Government, 1970-74, than is given in [this] Hobart Paperback...'

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Liverpool Daily Post

9. THE VOTE MOTIVE GORDON TULLOCK

1976 £1.50

'It's an entertaining and illuminating thesis.'

Sunday Times