

“Post War Trends in Monetary Theory and Policy.” *National Banking Review* 2 (September 1964): 1-9. Reprinted in *The Optimum Quantity of Money and Other Essays*, by Milton Friedman, pp. 69-80. Chicago: Aldine, 1969. This paper is adapted from a talk given in Athens (Greece) in January 1963 under the auspices of the Center for Economic Research.

The post war period has seen a dramatic change in the views of academic students of economics about monetary theory and of governmental officials about monetary policy. At the end of the war most professional economists and most governmental officials concerned with economic policy took it for granted that money did not matter, that it was a subject of minor importance. Since then there has been something of a counter-revolution in both theory and policy.

In theory, the direction of change has been toward the earlier attitudes associated with the quantity theory of money, but with a different emphasis, derived from the Keynesian analysis, on the role of money as an asset rather than as a medium of exchange. In the field of policy, the direction of change has been away from what we might call “credit policy,” i.e., policy which emphasizes rates of interest and availability of credit, and toward monetary policy, i.e., policy which is concerned with the quantity of money. The emphasis has been away from qualitative controls and toward quantitative controls. And, finally, in the field of policy there has been renewed attention to the problem of relating internal stability to external stability. In examining these changes I shall outline briefly what the situation was at the end of the war; I shall then discuss in more detail the changes in theory that I have just sketched, and finally analyze the changes in policy.

I. The Postwar Situation

Economic thought at the end of the war was greatly affected by the Keynesian revolution which occurred in the 1930's. Keynes himself was much less extreme in rejecting the

importance of money than were some of his later disciples. Keynes stressed the particular problem of under-employment equilibrium. He argued that under such circumstances one might run into something he called absolute liquidity preference. His analysis concentrated on the relation between money, on the one hand, and bonds or other fixed interest securities, on the other. He argued that bonds were the closest substitute for money, and that in the first instance one could regard people as choosing between holding their wealth in the form of money or holding it in the form of bonds. The cost of holding wealth in the form of money was the interest that could otherwise be received on bonds. The higher the rate of interest, the less money people would want to hold and vice versa. But, Keynes said, there exists some rate of interest so low that if the rate were forced still lower nobody would hold any bonds.

At that interest rate, liquidity preference is absolute. At that rate of interest, if more money were introduced into the economy people would try to get rid of the money by buying bonds. This, however, would tend to lower the rate of interest. But even the slightest decline in the rate of interest would lead people to hold money instead. So, said Keynes, under such circumstances, with the interest rate so low that people were indifferent whether they held money or bonds, no matter what quantity of the one they held or what quantity of the other, changes in the stock of money would have no effect on anything. If the quantity of money were increased by buying bonds, for example, the only effect would be that people would substitute money for bonds. If the quantity of money were decreased by selling bonds, then the opposite effect would occur.

Keynes did not of course deny the validity of the famous quantity equation, $MV = PT$. That is an identity which is a question of arithmetic not of theory. What he said, in effect, was that in conditions of under-employment, V (velocity) is a very unstable, passive magnitude. If M (quantity of money) increases, V will go down and the product will not change. If M decreases, V will go up and the product will not change. I emphasize this point in order to make clear that the question at issue is an empirical question and not a theoretical question.

There was never any dispute on a purely theoretical level in this respect between Keynes and the quantity theorists.

Keynes himself felt that such a position of unstable velocity would occur only under conditions of under-employment equilibrium. He said that under conditions of inflation the quantity theory comes into its own. But some of his disciples went much farther. They argued that even under conditions less extreme than those of absolute liquidity preference, changes in the stock of money would not have any significant effect. It is true, they said, that under such circumstances changes in the stock of money would lead to changes in interest rates. But, changes in interest rates, they argued, would have little effect on real flows of spending: the amount of money people want to invest in projects is determined by considerations other than the rate of the interest they have to pay; in technical language, the demand for investment is highly inelastic with respect to the interest rate. And consequently, they argued that, even under conditions of full employment or of inflation, changes in the quantity of money are of minor importance. An increase in M would tend to lower the interest rate a little, but this in turn would have very slight effect in expanding investment. And hence, they argued, one would find again that V of the MV equation fluctuated widely, tending to offset changes in M .

The general presumption among most economists at the end of the war was that the postwar problem was going to be depression and unemployment. The problem was going to be to stimulate sufficient investment and sufficient consumption to prevent substantial unemployment. The appropriate monetary policy in their view was very simple. The monetary authorities should keep money plentiful so as to keep interest rates low. Of course, interest rates according to this view did not make much difference, but insofar as they had any effect it would be in the direction of expanding investment slightly and hence contributing to the investment that would be urgently needed to offset deficiencies of demand. Nearly two decades have elapsed since then, and it is hard now to remember how widespread these views were and how strongly they were held by people in responsible positions, as well as by

economists in general. For example, in 1945, E. A. Goldenweiser who at the time was the Director of Research of the Federal Reserve Board's Division of Research and Statistics wrote:

This country will have to adjust itself to a 2½ per cent interest rate as the return on safe, long-time money, because the time has come when returns on pioneering capital can no longer be unlimited as they were in the past.¹

This whole approach was shattered by the brute evidence of experience. In the first place, and most important, the problem of the postwar world turned out to be inflation and not deflation. Country after country which adopted an easy money policy because of the views I just described discovered that it was faced with rising prices. Equally important, no country succeeded in stopping inflation without taking measures which had the effect of controlling the quantity of money. Italy stopped inflation in 1947. How? By measures designed to hold down the quantity of money. The experience was repeated in Germany after the monetary reform in 1948; in the U.S., after the Federal Reserve-Treasury Accord in 1951; in Britain, when it restored orthodox monetary policy in 1951 to keep prices down; in Greece; and in France, a recent (1960) addition to the list. Those countries which continued to follow low interest rate policies or continued to increase the quantity of money rapidly, continued to suffer inflation, whatever other measures they took.

Though this experience was in many ways the most important single factor that produced a radical change in attitudes toward money, it was reinforced by several other factors. One was the developments which were proceeding in the world of economic theory in the analysis and re-examination of the body of doctrine which had emerged out of the Keynesian revolution. The most important element here was the emphasis on the role of real cash balances in affecting flows of expenditures, first pointed out by Haberler and then by Pigou in several articles which received more attention. An essential element of the Keynesian approach has been the view that only substitution between money and bonds is important, that real goods or real expenditures are not an important substitute for cash balances, and that when cash balances are larger than people desire to hold, they alter solely their desired

holdings of other securities. The intellectual importance of the forces brought to the fore by Haberler and Pigou was the emphasis they placed on the possibility of substitution between cash on the one hand and real flows of expenditures on the other. This contributed to a re-emphasis on the role of money.

Another development that had the same effect, in a negative way, was the disillusionment with fiscal policy. The counterpart of the Keynesian disregard for money was the emphasis placed on fiscal policy as the key element in controlling the level of aggregate demand. In the U.S. in particular, governmental expenditures have proved to be the most unstable element in the economy in the postwar years, and they have been unstable in a way that has tended to increase fluctuations rather than to decrease them. It has proved to be extremely hard to change expenditures and receipts in advance in such a way as to offset other forces making for fluctuations. This led to re-emphasis on monetary policy as a more flexible instrument which could be used in a sensitive way.

II. Developments in Monetary Theory

Let me turn now to the developments in monetary theory that have followed this postwar experience and the re-emphasis on money as an important economic magnitude. One development has been that many economists who continue to use the Keynesian apparatus have revised their empirical presumptions. These economists now say that liquidity preference is seldom absolute, that there is some elasticity in the demand for cash balances, and that if there are changes in the stock of money there will be changes in interest rates. They say also that investment is not completely insensitive to interest rates, that when borrowing becomes more expensive, the amount spent on investment is reduced, and conversely. This view goes along with the attitude that, while money is more important than these economists used to think it was, monetary policy still can influence income only indirectly. A change in the stock of money may affect the interest rate, the interest rate may affect investment, the change in investment may affect income, but it is only by this indirect route, the argument runs, that monetary changes have an effect on economic change.

This is purely a semantic question of how one wants to describe the channels of influence. The crucial issue is the empirical one of whether in fact the links between money and income are more stable and more regular than the links between investment and income. And it is on this empirical issue that the postwar evidence spoke very strongly and led to a re-examination of the role of money.

A more fundamental and more basic development in monetary theory has been the reformulation of the quantity theory of money in a way much influenced by the Keynesian liquidity preference analysis. That analysis emphasizes money as an asset that can be compared with other assets; its emphasis is on what is called "portfolio analysis," analysis of the structure of peoples' balance sheets, of the kinds of assets they want to hold. This emphasis looks at monetary theory as part of capital theory, or the theory of wealth. This is a rather different emphasis than that derived from earlier approaches, particularly that of Irving Fisher, which put major emphasis on transactions and on money as a mechanical medium of exchange somehow connected with the transactions process.

The emphasis on money as an asset has gone in two different directions. On the one hand, it has led to emphasis on *near moneys*, as an alternative source of liquidity. One example is the work of Gurley and Shaw and their analysis of financial intermediaries as providing money substitutes. Another example, in its most extreme form, is in the Radcliffe Committee report which attempts to widen the concept of money to make it synonymous with the concept of liquidity, itself an undefined term which covers the universe. My own view is that this particular trail toward widening the range of reference of the concept of money is a false trail. It will peter out and will not in fact be followed. The reaction which the Radcliffe Committee analysis has received among academic economists and others seems to suggest that my opinion is widely shared.

The other direction in which the emphasis on money as an asset has led is toward the development of a theory of the demand for money along the same lines as the theory of the demand for other assets and for commodities and services. In such a theory, one asks what

determines the amount of cash balances that people want to hold. Here it is essential to distinguish between cash balances in two senses: nominal cash balances, the nominal quantity of money as defined in terms of monetary units such as drachmas, dollars, and so forth; and real cash balances, the real stock of money as defined in terms of command over goods and services.

The essential feature of the quantity theory of money in both its older versions and its more recent and modern version is the assertion that what really matters to people is not the number of things called drachmas or dollars they hold but the real stock of money they have, the command which those pieces of paper give them over goods and services. In talking about the demand for money, one must ask what determines the command over goods and services that people want to keep in the form of money. For example, take a very simple definition of money as consisting only of currency, of the pieces of paper we carry in our pockets. We must then ask what determines whether the amount that people hold is on the average equal to a little over six weeks' income, as it is in Greece, or a little over four weeks' income, as it is in the U.S., or five weeks' income, as it is in Turkey. Thus, when we talk about the demand for money, we must be talking about the demand for real balances in the sense of command over goods and services, and not about nominal balances.

In the theory of demand as it has been developed, the key variables include *first*, wealth or some counterpart of wealth, for example, income or, preferably, something like permanent income which is a better index of wealth than measured income. Because the problem is one of a balance sheet, the first restriction is that there is a certain total amount of wealth which must be held in the form of money, or bonds, or other securities, or houses, or automobiles, or other physical goods, or in the form of human earning capacity. Hence, income or wealth acts as a restraint in determining the demand for money in exactly the same way that the total income people have operates to determine their demand for shoes or hats or coats by setting a limit to aggregate expenditures. The *second* set of variables that is important is the rates of return on substitute forms of holding money. Here, the most important thing that has

happened has been a tendency to move away from the division of assets into money and bonds that Keynes emphasized, into a more pluralistic division of wealth, not only into bonds but also into equities and real assets. The relevant variables therefore are the expected rate of return on bonds, the expected rate of return on equities and the expected rate of return on real property, and each of these may of course be multiplied by considering different specific assets of each type. A major component of the expected rate of return on real property is the rate of change in prices. It is of primary importance when there is extensive inflation or deflation.

I should like to stress the significance of the emphasis on money as one among many assets, not only for the kinds of variables that people consider as affecting the demand for money, but also for the process of adjustment. According to the earlier view of money as primarily a medium of exchange, as something which is used to facilitate transactions between people, it was fairly natural to think of a short link between changes in the stock of money and changes in expenditure and to think of the effects of changes in the stock of money as occurring very promptly. On the other hand, according to the more recent emphasis, money is something more basic than a medium of transactions; it is something which enables people to separate the act of purchase from the act of sale. From this point of view, the role of money is to serve as a temporary abode of purchasing power. It is this view that is fostered by considering money as an asset or as part of wealth.

Looked at in this way, it is plausible that there will be a more indirect and complicated process of adjustment to a change in the stock of money than looked at the other way. Moreover, it seems plausible that it will take a much longer time for the adjustment to be completed. Suppose there is a change in the stock of money. This is a change in the balance sheet. It takes time for people to readjust their balance sheets. The first thing people will do is to try to purchase other assets. As they make these purchases, they change the prices of those assets. As they change the prices of those assets, there is a tendency for the effect to spread further. The ripples spread out as they do on a lake. But as prices of assets change, the *relative*

price of assets, on the one hand, and flows, on the other hand, also change. And now people may adjust their portfolios not only by exchanging assets but by using current income to add to, or current expenditures to subtract from, certain of their assets and liabilities. In consequence, I think that this reformulation of monetary theory with its emphasis on monetary theory as a branch of the theory of wealth has very important implications for the process of adjustment and for the problem of time lags.

III. Developments in Monetary Policy

Policy does not always have a close relation to theory. The world of the academic halls and the world of policy makers often seem to move on two wholly different levels with little contact between them. The developments in postwar monetary policy have not been the same throughout the world. However, the makers of monetary policy in different countries have been in closer and more systematic touch with one another than the monetary theorists. As a result, I think one can speak to some extent of general trends in policy without necessarily referring to the country.

As I indicated earlier, I think two features dominate and characterize the trends in postwar monetary policy. The first is the shift of emphasis away from credit policy and toward monetary policy. I think this is a distinction of first rate importance, and yet one which is much neglected. Therefore let me say a word about the meaning of this distinction. When I refer to credit policy, I mean the effect of the actions of monetary authorities on rates of interest, terms of lending, the ease with which people can borrow, and conditions in the credit markets. When I refer to monetary policy, I mean the effect of the actions of monetary authorities on the stock of money—on the number of pieces of paper in people's pockets, or the quantity of deposits on the books of banks.

Policy makers, and central bankers in particular, have for centuries concentrated on credit policy and paid little attention to monetary policy. The Keynesian analysis, emphasizing interest rates as opposed to the stock of money, is only the latest rationalization of that

concentration. The most important earlier rationalization was the so-called real bills doctrine. The belief is still common among central bankers today that, if credit were somehow issued in relation to productive business activities, then the quantity of money could be left to itself. This notion of the real bills doctrine goes back hundreds of years; it is endemic with central bankers today. It understandably derives from their close connection with commercial banking, but it is basically fallacious.

The emphasis on credit policy was closely linked with the emphasis at the end of the war on qualitative controls. If what matters is who borrows and at what rate, then it is quite natural to be concerned with controlling the specific use of credit and the specific application of it. In the U.S., for example, emphasis on credit policy was linked with emphasis on margin controls on the stock market, and with controls over real estate credit and installment credit. In Britain, it was linked with controls over hire purchase credit. In each of these cases, there was a qualitative policy concerned with credit conditions. The failure of the easy money policy and of these techniques of qualitative control promoted a shift both toward less emphasis on controlling specific rates of return and toward more emphasis on controlling the total quantity of money.

The distinction that I am making between credit and monetary policy may seem like a purely academic one of no great practical importance. Nothing could be farther from the truth. Let me cite the most striking example that I know; namely, U. S. experience in the great depression from 1929 to 1933. Throughout that period the Federal Reserve System was never concerned with the quantity of money. It did not in fact publish monthly figures of the quantity of money until the 1940's. Indeed, the first mention in Federal Reserve literature of the quantity of money as a criterion of policy was in the 1950's. Prior to that time there was much emphasis upon easy or tight money, by which was meant low or high interest rates. There was much emphasis on the availability of loans, but there was no emphasis and no concern with the quantity of money.

If there had been concern with the quantity of money *as such*, we could not have had the great depression of 1929–33 in the form in which we had it. If the Federal Reserve System had been concerned with monetary policy in the sense in which I have just defined it, it literally would have been impossible for the System to have allowed the quantity of money in the U.S. to decline from 1929 to 1933 by a third, the largest decline in the history of the U.S. in that length of time. In reading many of the internal papers of the Federal Reserve Board during that period, the communications between the various governors of the Federal Reserve Banks and the Board of Governors, and so forth, I have been struck with the lack of any quantitative criterion of policy. There are vague expressions about letting the market forces operate. There are comments about “easy” money or “tight” money but no indication of precisely how a determination is to be made whether money is “easy” or “tight.” This distinction between emphasis on credit policy and emphasis on monetary policy is a distinction of great importance in the monetary history of the U.S., and I think also in the monetary history of other countries.

The failure of the easy money policy was reinforced by another factor which promoted a shift in policy away from qualitative measures involving control of particular forms of credit, and toward quantitative measures involving concern with changes in the stock of money. This other factor was a reduction of exchange controls and quantitative restrictions on international trade, as in the postwar period one country after another began to improve its international position. There was a move toward convertibility in international payments. This shift toward convertibility led to a reduction of emphasis on qualitative direct controls and toward increased emphasis on general measures that would affect the course of events through altering the conditions under which people engaged in trade. In turn, this led to a final development in monetary policy—the renewed concern about the relation between internal monetary policy and external policy, the problem of the balance of payments. In this area we have had, most surprisingly of all I think, a return to an earlier era of something approximating a gold standard.

In the immediate postwar period, concern with the balance of payments tended to be centered in the countries of Western Europe that were having a so-called dollar shortage. Those countries were at that time facing the problem of recurrent drains of their international reserves. They were in the position of having somehow to restrain their residents from converting their local currencies into foreign currencies. Those were also the countries that emerged from the war with fairly extensive exchange controls and direct restrictions on trade. And thus in the first years after the war the solution to this problem took the form of direct control rather than of monetary policy.

At that time the U.S. was in a very different position. It was gaining gold and it was able to take the position that it could conduct its monetary policy entirely in terms of internal conditions and need pay no attention to the effects that its policies had abroad. Of course, that was not what happened. There is little doubt that during the immediate postwar period the ease in the U.S. gold position contributed toward a greater readiness to accept inflation than would otherwise have prevailed, so that the ease in the international balance produced a relatively easier monetary policy than we otherwise would have had. But once the U.S. started selling gold on net instead of buying gold on net, to use a more accurate term than the term “losing gold,” the situation changed drastically and the U.S. itself became much more concerned with the effect of monetary policy and much more driven toward a pre-World War I gold standard approach.

In recent years, the concern with the international balance of payments has given rise to greater co-operation among central banks. They have tried to develop techniques which will assure that any temporary drains on the reserves of one country will be matched by offsetting movements by central banks in the other countries. Despite the immense amount of good will and of human ingenuity that has gone into this effort to avoid payments difficulties through central bank co-operation, I must confess that I regard the tendency as an exceedingly dangerous one. The danger is that the arrangements developed will provide an effective

system for smoothing minor difficulties but only at the cost of permitting them to develop into major ones.

I am much struck by the analogy between what is now happening in this respect and what happened in the U.S. between 1919 and 1939. The U.S. in that earlier period developed a monetary system which turned out to be an effective device for smoothing minor difficulties. The system was highly successful in helping to make the years from 1922 to 1929 relatively stable. But this stability was purchased at the cost of major difficulties from 1920 to 1921, from 1929 to 1933, and again from 1937 to 1938. I very much fear that the same results may emerge from present trends toward international co-operation among central banks, because these measures do not go to the root of the problem of international adjustment.

In international financial arrangements, as in personal finances, the problem of having enough liquid assets to meet temporary drains must be sharply distinguished from the adjustment to changed circumstances. The central bank arrangements look only to providing liquidity for temporary drains. More fundamental adjustment to changed circumstances can come only through either: (1) domestic monetary and fiscal policy directed toward holding down or reducing domestic prices relative to foreign prices when the country is experiencing a deficit, or toward permitting domestic prices to rise relative to foreign prices when the country is experiencing a surplus; (2) changes in exchange rates to achieve a similar alteration in the relative level of domestic and foreign prices when expressed in the same currency; or (3) direct measures designed to alter the flows of receipts or expenditures, such as changes in tariffs, subsidies, and quotas, direct or indirect control of capital movements, restrictions on foreign aid or other governmental expenditures, extending ultimately to that full panoply of foreign exchange controls that strangled Western Europe after the war and remains today one of our most unfortunate gifts to many underdeveloped countries.

The great danger is that central bank co-operation and other means to enlarge liquidity, by providing palliatives that can at best smooth over temporary imbalances, will encourage countries to postpone undertaking such fundamental adjustments to changed circumstances.

The consequence will be to allow minor imbalances to accumulate into major ones; to convert situations that could have been corrected by gradual and minor monetary tightness or ease, or by small movements in exchange rates, into situations that would require major changes in monetary policy or exchange rates. The consequence is likely to be not only international financial crises, but also the encouragement of the use of the third method of adjustment, direct controls. Paradoxically, most economists and most policy makers would agree that it is the worst of the three; yet it is the one that has most regularly been resorted to in the postwar period.

These developments in monetary policy are much more difficult to pin down precisely than the developments in monetary theory, as may be expected from the fact that monetary policy is and must be much more a matter of opportunism, of day-to-day adjustment, of meeting the particular problems of the time. The theorist can sit in his ivory tower and make sure that his structure is coherent and consistent. This is, I must say, an advantage of the theorist and a great disadvantage of the policy maker, and not the other way around. But I think it is clear that we are likely to see in the future still further developments in monetary policy.

There is almost invariably a long cultural lag before developments in theory manifest themselves in policy. If you were to look at what is being proposed today in domestic policy in the U.S., you would say that my analysis of changes in the field of monetary theory must be a figment of my imagination. The policy proposals that are being made in the U.S. today are all reflections of the ideas of the late 1930's, or at the latest of the early 1940's. That is natural and widespread. The people who make policy, who are involved in policy formation, are inevitably people who got their training and their education and their attitudes some 20 or more years earlier. This is a special case of a much more general phenomenon. I am sure all are aware of that famous book by A. V. Dicey on *Law and Public Opinion in the 19th Century*, the main thesis of which is precisely that trends in ideas take about 20 years before they are effective in the world of action. What is happening in the U.S. today is a dramatic

illustration of his thesis. And so I expect that monetary policy will in the course of the next 20 years show some radical changes as a result of the changes I have described in monetary theory.

Notes

- ¹ “Postwar Problems and Policies,” *Federal Reserve Bulletin*, February 1945, p. 117.