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RADCLIFFE AND THE QUANTITY THEORY*

by

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I

Introduction

The first conference of what was to become the Money Study Group was held in the autumn of 1969 to mark the tenth anniversary of the publication of the Radcliffe Report and the first paper presented at that conference was Victor Morgan's "The Radcliffe Report in the Tradition of Official British Monetary Documents" (Morgan 1970). One of Morgan's principal themes was the Radcliffe Committee's rejection of the Quantity Theory of Money, and his paper was presented at just about the time at which a revival of interest in the Quantity Theory, under the guise of what Kaldor (1970) was soon to call "The New Monetarism", was getting underway.

A question naturally arises as to what is the relationship between the Quantity Theory which the Radcliffe Committee rejected, and the "New Monetarism". It is my purpose in this paper to make a start at answering that question. First, I shall set out the position on monetary theory and policy which the Radcliffe Committee expounded in its Report, and then I shall describe the Quantity Theory approach to these same issues as put to the Committee by some of its witnesses. At the same time, in the course of this account, I shall from time to time point up the differences and similarities between the views under debate in 1958-59 and the Monetarism of the 1970s and 80s. As we shall see, the latter doctrine is far from being a simple replica of the Quantity Theory which Radcliffe rejected.¹

Before I begin my narrative, a few words of warning are perhaps in order. First, the phrase "Quantity Theory" is a vague one. In what follows I shall use it, as does Patinkin (1969), to refer to a body of doctrine
in which the quantity of money is seen as an important determinant of the
general price level, but which nevertheless leaves room for independent
fluctuations in the velocity of circulation to play a role too. Adherence
to this viewpoint is my criterion for identifying the Quantity Theorists
among the Committee's witnesses; and such adherence lends a certain
coherence to the views of these witnesses on policy issues. All of them
regarded control of the price level as the central aim of monetary policy,
and all of them regarded control of the money supply as the key instrument
of monetary policy. Even so, as we shall soon see, the evidence of these
witnesses displays considerable variety of opinion about other matters.

Second, I shall largely confine my analysis to the text of the Report,
and of the Memoranda and Minutes of Evidence which were published along
with it. It is commonly agreed that, among the members of the Radcliffe
Committee, the main burden of writing the Report fell on Professor Richard
Sayers and Sir (then Professor) Alec Cairncross. These two eminent econo-
mists held academic appointments at the London School of Economics and the
University of Glasgow, respectively, at the time the Report was under pre-
paration. Many of the witnesses with whom they dealt were long-standing
friends and colleagues whose views had long been well known to them. More-
over, Sayers' and Cairncross' own views on many of the issues with which
the Report dealt were equally well developed and widely known before their
appointment to the Committee. In particular, Sayers' Modern Banking (1958)
was a treatise widely read at the time at which the Report was published,
and propounded many views which also appeared in the Report. It would thus
be a great mistake to regard the Radcliffe Report as being the outcome of
anything approaching a dispassionate consideration by its authors of views and facts of which they were unaware before they were put before them in evidence. Rather, the Report and its supporting documents provide a series of snapshots, taken at a particular time, of an ongoing debate.

The Memoranda and Minutes upon which I shall draw are in no sense research papers like those prepared for the United States "Commission on Money and Credit" at about the same time. Rather they are summaries of views based upon previous research and debate. In short, this paper is not about how the views of the Radcliffe Committee evolved in the light of evidence presented to it, nor is it about the development of the ideas presented by its witnesses. It is simply about what the Committee's views were, how they differed from those of the Quantity Theorists among its witnesses, and how both sets of views differ from that latest manifestation of the Quantity Theory tradition, known as "Monetarism".
II

The Radcliffe View

I am concerned in this essay with the Radcliffe Committee's views on Monetary Theory and Monetary Policy, and not with its entire Report, which devotes a good deal of space to such matters as the structure of the British financial system at the end of the 1950s, the role of Sterling as an international currency, and the need for systematic and comprehensive monetary statistics. The Committee's views about monetary theory and policy have been controversial since they were first published, and can, I believe, sensibly be discussed in relative isolation from the particular historical and institutional background against which they were evolved.

The Report provides a list of five goals for policy:

"(1) a high and stable level of employment. (2) Reasonable stability of the internal purchasing power of money. (3) Steady economic growth and improvement in the standard of living. (4) Some contribution, implying a margin in the balance of payments, to the economic development of the outside world. (5) A strengthening of London's international reserves, implying a further margin in the balance of payments." (R 69 p. 22)

and "acknowledge(s) that there are serious possibilities of conflict between them." (R 70 p. 23)

These goals are explicitly referred to as "...objects in pursuit of which monetary measures may be used" (R 69 p. 22) rather than as objects particularly amenable to attainment by monetary means. The Radcliffe Report's discussion of monetary policy, here as elsewhere, must be read with the idea firmly in mind that other devices, various fiscal policies and direct controls, are always available to the authorities. The Report does not have much to say about these other measures because the Committee believed that any such discussion was beyond its terms of reference (cf. R 515 p. 183), not because it regarded monetary policy as being the
most important tool available for the pursuit of any of the above-mentioned objectives. On the contrary, it is clear that the Committee thought of monetary policy as usually playing a supporting role, particularly to fiscal policy, in macroeconomic management. In normal times this is true even of policy towards the general price level. Only in the event of some rather unlikely emergency involving a "threat of headlong inflation" (R 529 p. 180) might monetary policy have some special claim to effectiveness, though here the relevant monetary measures are stated to be "controls of capital issues, bank advances and consumer credit" (R 524 p. 187), that is direct controls on credit markets, rather than any more traditional devices.

This lack of emphasis on the link between monetary policy and inflation is a matter of some importance. From at least the beginning of the 19th Century onwards, the Quantity Theory tradition gave price level stability pride of place among the goals of monetary policy, and also gave pride of place to monetary policy among the tools available for the attainment of price level stability. Hence even in its discussion of policy goals, let alone their means of attainment, the Radcliffe Committee separated itself from that tradition. The Quantity Theorists of course regarded inflation as very much (though usually not exclusively) a monetary phenomenon, and that is not a view which the Radcliffe Committee embraced. The Report is remarkably unforthcoming about just what the Committee thought the causes of inflation to be, but its reticence on this matter is quite understandable in the light of its views on how monetary policy affected the economy and in the light of the Committee's general reluctance, already noted, to interpret its terms of reference too broadly.
In more than one place the Report stated that "it is on the total pressure of demand that monetary measures should in the first place be expected to work" (R 383 p. 130) and thus it discusses the causes of inflation only to the extent that these might be related to the level of aggregate demand in the economy. It is worth quoting the Report at some length on this matter.

"It is sometimes argued that the rate of rise of wage rates is very closely related with changes in the percentage of unemployment. But it has also been argued to us with no less authority and force that over a significant range of variations in the demand for labour there is a "band of indeterminacy" within which the precise rate at which wage rates and prices rise depends upon institutional factors which, although variable from year to year, have little or no connection with the pressure of demand in that or the preceding year. All that can be asserted as agreed opinion is that, as the fullness of full employment rises, the risk of accentuating a rise of prices increases. How great that risk is at any time, whether it would be responsive to other measures, and whether it is a risk to be taken in preference to jeopardizing employment or technical progress, are all questions of political judgment that are not resolvable by any rules of monetary manipulation" (R 64 p. 21)

In short, aggregate demand was but one potential factor impinging upon the inflation rate, and monetary policy was but one way of influencing aggregate demand. Therefore a detailed discussion of the causes of inflation and the role of monetary policy in combatting it seemed to be of no special relevance to the Committee's task.

The Committee's treatment of monetary policy and inflation is but one aspect, albeit an important one, of its general tendency to downgrade the importance of monetary policy. As the Report itself puts it

"...When all has been said on the possibility of monetary action and of its likely efficacy, our conclusion is that monetary measures cannot alone be relied upon to keep in nice balance an economy subject to major strains from both without and within. Monetary measures can help, but that is all." (R 514 p. 183)
As we shall see more clearly in due course, this passage, and others like it in the Report, amount to an explicit rejection of an important aspect of the evidence given by "Quantity Theorists" to the Committee. However, the reader's attention is drawn to the fact that it is the efficacy of monetary policy as an instrument of short-run stabilisation policy, of what we would now call "fine tuning", that the Report here and elsewhere denies. It does so, not because its authors believed that monetary measures did not have effects, but because "Monetary measures...are incapable by themselves of having an effect sufficiently prompt and far reaching for their purpose, unless applied with a vigour that itself creates a major emergency." (R 980 p. 337) Thus, monetary policy should be used not "...as a major short-term stabiliser of demand..." but should instead be geared to longer term goals.

"...The authorities...should take a view as to what the long-term economic situation demands and be prepared by all the means in their power to influence markets in the required direction." (R 498 p. 177)

To downgrade monetary policy as a short-term stabilisation device by invoking the existence of time lags, and to urge that it be deployed to the achievement of longer-term goals, involve, as I have already noted, a rejection of the views of the "Quantity Theorists" who gave evidence to the Radcliffe Committee but, in retrospect, this element in its Report also looks very much like a step towards modern "monetarism". Indeed, as long ago as (1963) Harry Johnson pointed out the strong similarity between the views, on this very issue, of Milton Friedman on the one hand and the Radcliffe Committee on the other. But of course, and as Johnson also stressed, there is a major difference here as well. The Radcliffe Committee put rates of interest, rather than some monetary aggregate at the centre
of policy. It used phrases like "monetary measures" and "interest rate policy" almost interchangeably in its discussions of the issues involved, as the reader who cares to fill in the "dots" in the above quotations will soon discover.

I attribute prime importance to interest rates in the Committee's thinking, despite the stress that it laid on another factor, to which it referred as "liquidity", when discussing the means whereby monetary policy impinged upon aggregate demand. I do so for a number of reasons. To begin with, having pointed out that the authorities "can theoretically influence the total level of demand in two ways...by bringing about a change in interest rates..."and by"...bring(ing) about a change in the liquidity condition..." of economic agents, the Committee immediately went on to argue that

"The contrast...is incomplete, for movements in the rate of interest have a central part to play in bringing about changes in liquidity." (R 385 p. 130)

Thus the Committee itself here asserted the primary importance of interest rates. Furthermore, citing the evidence of Richard Kahn, the Committee explicitly insisted upon "the structure of interest rates rather than some notion of the "supply of money" as the centrepiece of monetary action" (R 395 p. 134)

The notion of "liquidity" as used by the Radcliffe Committee is ill defined, and is sometimes interpreted as referring to a broad spectrum of assets which included, but went far beyond the "money supply". In this interpretation, the Radcliffe Committee's views look similar to, but less rigorous than, those which were developed at about the same time in the United States by James Tobin and his associates. This interpretation of the
concept of "liquidity" certainly finds support in statements such as the following, of which there are a number in the Report:

"Though we do not regard the supply of money as an unimportant quantity...our interest in the supply of money is due to its significance in the whole liquidity picture." (R 389 p. 132)

However I do not believe that it is a satisfactory interpretation.

If "liquidity" referred to some ill-defined broad aggregate of the short-term liabilities of a complex financial system, the Radcliffe Committee would surely have argued along conventional textbook macroeconomic lines that changes in the amount of "liquidity" in the economy influenced interest rates, rather than vice versa. Moreover, it would hardly have said, in elaborating its views upon the role of the banks in "...the liquidity structure", that any special concern "...ought to be aimed at the banks as key lenders in the system and not at the banks as "creators of money"." Nor would it have asserted, in the same context, that "the behaviour of bank deposits is of interest only because it has some bearing...on the behaviour of other lenders". (R 395 p. 134). The interpretation of the concept "liquidity", which is most consistent with the main thrust of the Radcliffe Report as exemplified in statements like these, is as some index of the cost and availability of credit, rather than as anything resembling a broad monetary aggregate. If this interpretation of the idea is accepted, the central importance of interest rates in the Radcliffe view of monetary policy is surely established.

None of the foregoing argument is to deny that the Radcliffe Committee believed that the "money supply" included too narrow a spectrum of assets
to be of much significance. It noted that "In a highly developed financial system the theoretical difficulties of identifying the "supply of money" cannot lightly be swept aside" (R 523 p. 187). Moreover, the Committee's views on the concept of the velocity of circulation are well known, to the point of notoriety; it declared itself unable

"...to find any reason for supposing, or any experience in monetary history indicating, that there is any limit to the velocity of circulation" (R 391 p. 133).

This line of reasoning could have led the Committee to do no more than argue that some broader aggregate of the short-term liabilities of the financial system than "the money supply" as conventionally defined, ought to be made the strategic variable for monetary policy. However, the Radcliffe Report went far beyond this. As I have just argued, it emphasised the lending, rather than borrowing, activities of the financial sector, and gave pride of place to credit market conditions in general and interest rates in particular, rather than to any money supply concept, however broadly defined. In this respect, then, the Radcliffe Committee's rejection of the Quantity Theory tradition could hardly have been more complete.

Now the Radcliffe Committee did not simply assert the importance of interest rates. It went into considerable detail in describing the ways in which they did (and did not) influence the level of demand, placing the major emphasis here on long rates. Though it conceded "...a considerable external significance..." (R 441 p. 153) to Bank Rate, the Committee did not regard fluctuation in short-term interest rates as being, in and of themselves, of any importance for domestic aggregate demand. As we shall see, in taking this position, it contradicted the views of such Quantity Theorists as Gregory and Hawtrey, while White (1961) later argued that it had in fact seriously misinterpreted the survey evidence, on
the influence of short rates on inventory investment, available to it. The Committee did, however, regard long rates of interest as of potential importance. Because it accepted an essentially Hicksian view of the role of expectations in determining the term structure of interest rates, the Committee frequently talked of the influence of the "structure" of interest rates on aggregate demand rather than that of long rates per se (cf. R 447 p. 155).

The Radcliffe conception of the connection between the level of interest rates and the level of aggregate demand was not one that could be described with a simple smooth functional relationship. Rather the Committee adopted

"...a "three gears" view of the level of interest rates.
At any given time people consider the current level as "high", "low", or "middle" (normal), and how they behave seems to be governed not so much by the precise percentage but whether that percentage fits into the high, low or normal bracket" (R 442 p. 153).

The Committee gave quantitative content to these notions. Citing the evidence of Sir John (then Professor) Hicks it placed the historical normal value for the interest rate on long-term government debt at about 3%, noting that this value had been "...an anchor to the whole rate structure (though the anchor could be dragged upon occasion)" (R 444 p. 153). It noted two factors in particular as being important in thus "dragging the anchor", namely a high level of government borrowing, (cf. R 571 p. 211) and "the continuing expectation of inflation...[which] has been a real force in the course of security markets in the post-war period."

(R 572 p. 211), in this paragraph even going so far as to illustrate the influence of inflation by suggesting that an expected inflation rate of 2% would raise the "normal" interest rate level from 3% to 5%.

The Committee stopped short of suggesting that this numerical example in fact described the situation in Britain at the end of the 1950s, but it
is of interest because the "Fisher effect" which it illustrates is usually thought of as being more a component of the quantity theory tradition in monetary economics than of a Keynesian approach, some of whose most distinguished adherents (including Keynes (1936) himself, pp. 141-43) explicitly denied it. Moreover the very suggestion that there exists a "normal" value for long-term interest rates, which is consistent with macroeconomic stability, implies that the Radcliffe Committee attributed considerable inherent stability to the private sector of the economy. That kind of attribution is more often found in "monetarist" writings (cf. Brunner (1971)) than elsewhere, although, of course, stable expectations about the long-run value of the rate of interest are an important ingredient of Keynesian monetary theory. The "Fisher effect" is one of the few matters on which the Radcliffe Committee agreed with the Quantity Theorists among its witnesses, but we shall see that some members of the latter group were sceptical indeed about attributing significance to a particular value of any interest rate.

Before we turn to these matters, some discussion of the Radcliffe Committee's views on the exchange rate is in order. It expressed itself "...strongly in favour of a fixed parity for Sterling rather than a system of fluctuating rates" (R 722 p. 260), a fixed parity that could be changed from time to time, to be sure, but only in exceptional circumstances, such as might arise when "...the failure of exports to make headway is plainly restricting the level of domestic activity and other countries are not experiencing similar difficulties..." (R 716 p. 259).
As a general matter, the Committee argued that "...it would be quite wrong to base policy on the expectation of a recurring need to devalue." Such an expectation would make it

"...more difficult...to keep domestic costs in line with costs abroad, and the need to devalue might result from the very ease with which the external value of the currency could be adjusted..." (R 721 p. 260).

Statements such as those just quoted have something of a "monetarist" overtone to them. A modern monetarist certainly would stress the stabilising influence on inflation expectations of a government's stated determination to maintain a fixed parity against a currency of rather stable purchasing power, which the United States dollar certainly was in the 1950s just as did the Radcliffe Committee. Moreover, he would also argue the impossibility of controlling the domestic money supply under such an exchange rate regime, and hence the irrelevance of the quantity of money as a policy tool.

However, the Radcliffe Committee did not base their views on the irrelevance of the quantity of money on the existence of a particular exchange rate regime, and anyone looking for a more explicit approach to a monetarist analysis of the influence of fixed exchange rates on domestic monetary policy than that which I have already quoted in the pages of its Report will be disappointed. Indeed he should note that the Committee's views on the effectiveness of exchange rate depreciation in enabling exports "to make headway" as anything more than a transitory phenomenon are distinctly non-monetarist. The Committee based its rejection of the importance of the quantity of money, first of all, and mainly, on the view that velocity was
hopelessly unstable, and also upon a denial that the authorities could control the volume of Bank Deposits in contemporary Britain, because of the existence of a large outstanding stock of short-term government debt operating in conjunction with a "...deliberate policy on the treasury bill rate..." which prevented "...any statutory or other restraint on the supply of cash" (R 376 p. 127) and hence on what the Report refers to as the "credit base" of the banks. 7

Such arguments were advanced quite independently of any discussion of the exchange rate regime. Furthermore there was no attempt on the part of the Radcliffe Committee to relate its views on the long-term stability of interest rates to the nature of the exchange rate regime, though monetarist analysis naturally leads to such a connection. In short, although, with benefit of hindsight, it might be possible to erect a "monetarist" defence of certain propositions to be found in the Radcliffe Report; there is no systematic evidence to support the view that the Committee itself considered such a defence, let alone subscribed to any element of it.

In its support of a fixed exchange rate regime, or rather of an exchange rate peg that was movable only with difficulty, while still according domestic significance to monetary policy, the Radcliffe Committee reflected the views of the majority of its witnesses, not least of the Quantity Theorist Lord (then Professor Lionel) Robbins (cf. M 57 p. 216). Only two witnesses took a different view, namely James Meade and Sir Ralph Hawtrey, and with the exception of the latter's statement that

"In view of the economic preponderance of the United States in the world, and the concentration of gold in American reserves, a fixed dollar parity means a complete subordination of British monetary conditions to American" (M 73 p. 122)
there is little more trace of what we might term "open economy monetarism" in the evidence that the Committee took than there is in their Report; and as we shall see Hawtrey's Quantity Theory approach to monetary policy was, in other respects, far removed from modern monetarism.

In any event, the Committee does not appear to have taken much notice of Hawtrey's evidence. If it had, it is hard to see how it could have stated that "...Professor Meade was the only one of our witnesses who entertained the idea [of a fluctuating rate of exchange]" (R 719 p. 259), when Hawtrey also explicitly had advocated an, albeit heavily managed, floating rate. Nevertheless, it did, more generally, consider a "Quantity Theory" approach to the analysis of the issues with which it was confronted, and received much evidence based upon that approach. As we have seen the Radcliffe Committee self-consciously and comprehensively rejected the Quantity Theory. I shall now turn to a more detailed account of the particular version of that Theory whose validity the Committee so explicitly denied.
III

The Quantity Theory Position

The adherents of the "Quantity Theory" approach which the Radcliffe Committee rejected were far from being a tightly knit school. Nevertheless, a group of witnesses, prominent among whom were Mr. W. Manning Dacey, Sir Theodore Gregory, Sir Ralph Hawtrey, Professor Frank Paish and Professor Lionel Robbins, are readily identifiable as the main protagonists of the alternative viewpoint to which the Radcliffe Committee so often referred and so decisively rejected in its Report. The evidence of these witnesses, though far from homogeneous, does state certain important common themes as we shall now see.

As I have already suggested, the key common characteristic of the evidence given by this group is that it put control of inflation at the centre of things when dealing with the aims of monetary policy. Dacey focussed "...attention upon inflation as the main danger" (M 3 p. 65); Gregory thought that "the fundamental objective of monetary policy should be the maintenance of confidence in the unit of account..." (M 4 p. 106) and identified "a measurable stability of value" as a necessary condition for the maintenance of such confidence; for Robbins "...the first objective...[of monetary policy]...is the objective of stable money" (M 6 p. 211); while for Paish "...the main function of monetary policy is to help to maintain internal price stability..." (M 4 p. 183); and so on.

We have already seen that the Radcliffe Committee attached no special significance to monetary policy in the control of inflation, and we have also seen that its position stemmed from the view that aggregate demand was only one, perhaps not very important, influence upon the behaviour of money wages and prices. The Committee's disagreement here with the
Quantity Theorists was above all a practical matter rather than a theoretical one because, although the Committee was acutely sceptical of the quantitative importance of the influence of demand on wages and prices, not to mention the importance of monetary policy as an influence on demand, it never denied in principle the existence of some such influence. On the other hand, the question of monetary policy having a direct effect on inflation by an expectations mechanism was not considered by the Committee, though it was raised in Lionel Robbins' evidence, as we shall see in a moment.

Whether the Committee was right or wrong about these matters is even now a matter of controversy. However a dispassionate reading of the evidence available at the time at which it produced its Report makes it hard indeed to be unequivocally critical of the Radcliffe Committee for reaching the conclusion that it did. A. W. Phillips' celebrated (1958) article on the influence of unemployment on wage inflation only appeared while the Committee was at work, and thus it should not be blamed for failing to appreciate its significance. Moreover, Professor A. J. Brown, who had examined much the same evidence as Phillips in considerably more detail in his book The Great Inflation (1955) only a few years earlier, had explicitly told the Committee that "It is extremely difficult to reach firm conclusions about the extent to which wage increases are sensitive to...changes in the level of unemployment..." (M 11 p. 49). However he had been willing to be more definite about the ability of monetary policy to cope with inflation:

"...monetary policy alone cannot stop inflation of the kind which we have experienced since the war without a relatively high level of unemployment" (M 12 p. 49).

When asked to elaborate on this in his oral evidence, Brown suggested that an unemployment rate in the 4-5% range might be necessary to keep wage inflation down to the rate of growth of productivity (as opposed to 10-12% unemployment in the 1930s) (cf MN 9174 p. 591). Such an unemployment rate was quite unthinkable in 1959.
The Radcliffe Committee's downgrading of the role of monetary policy in dealing with inflation, and hence of the very lynchpin of the Quantity Theory approach to monetary policy, was, in this respect, consistent with the best quantitative evidence available at the time. Even so, the Quantity Theorists took a very different view of the relationship between inflation and unemployment, a view which, with the benefit of hindsight, seems well supported by evidence but which at the time was based mainly on a priori argument and an empiricism which was casual even by the standards of 1959. First, they suggested that the unemployment experience of the 1950s was unusual and unsustainable in the longer run. Thus Robbins argued that "...recent talk about the dangers of underemployment, with an unemployment percentage of under 2.5% seems...very unrealistic" (M 28, p. 213); while Hawtrey asserted that "British industry exhibits all the symptoms of over-employment" as a result of an undervaluation of sterling caused by the excessive (in his view) devaluation of 1949 (cf M 69 p. 121). Second, and more important, they suggested that the propensity of British labour market institutions to generate inflationary wage pressure, which underlay such pessimistic estimates as Brown's, was not independent of the pursuit of "full employment" in general, and of the conduct of monetary policy in particular. Robbins stated this view most fully and concluded that "there is nothing fundamentally incompatible between such an aim [price stability] ...[and that of providing] high levels of employment" (M 37 p. 214).

A modern reader of Robbins' evidence on this matter will as I have already noted find that it has much in common with the "rational expectations" approach to the
analysis of economic policy, with the stress which it puts on the endogenous response of behavior patterns and institutions to the conduct of policy; but although Robbins was in 1958-59 ahead of his time, at the time he appeared to be behind it; because such views were inherent in the Austrian economics which he had expounded in the 1930s and which by the 1950s appeared to have been superceded by a combination of Keynesian economics and econometrics whose basic premise was the independence of the structure of the economy to the conduct of policy. The Radcliffe Committee may be judged, with the benefit of hindsight, to have been unwise to reject the Quantity Theorists' views on this matter, but in doing so it did not take a stance that was in any way revolutionary. Rather, it placed itself in the mainstream of contemporary British macroeconomic thought.

Now there are (at least) three links in the causative chain that runs between the quantity of money and prices, and the foregoing discussion has concentrated on the Quantity Theorists' views on only two of them, that which connects aggregate demand to the behaviour of the price level and the expectation mechanism that connects the conduct of monetary policy to what nowadays are referred to as inflation expectations. On these matters, the Quantity Theory approach which Radcliffe rejected and modern "Monetarism" have a good deal in common. However, the same cannot be said in the context of the remaining link, namely that which relates the quantity of money to aggregate demand. The modern monetarist would place the hypothesis of an empirically stable demand for money function at the very centre of things here, and, with the possible exception of the evidence of Paish, this hypothesis is conspicuous by its absence from the Quantity Theory approach as it was put to the Radcliffe Committee by its proponents.
Among the Quantity Theorists, Hawtrey took the most extreme position on this matter:

"The only test of whether the supply of money is above or below requirements or just right, is the occurrence of an excess or deficiency of spending (M 42 p. 119). ...the proportion of the quantity of money to the flow [of expenditure] cannot be relied on as a guide to monetary policy" (M 52 p. 120).

For him, fluctuations in velocity were no more than manifestations of what, in another context, he referred to as "the inherent instability of credit" (M 80 p. 122). Though Hawtrey's fellow Quantity Theorists did not go quite that far, they left questions about the determination and stability of velocity surprisingly open in their evidence, both written and oral. Thus Dacey, in replying to a question from Cairncross about how "...one could judge whether the quantity of money had been reduced sufficiently" replied "By the state of the economy" (MN 10060 p. 661) while Robbins was careful to note that his evidence did "...not imply that variations in the supply of money are the only influence, either on prices or the level of activity" and J. L. Carr whose evidence on this issue falls in the Quantity Theory camp was willing to go no further than asserting "The argument that limiting the stock of money has no effect on the flow of money is fallacious" (M 24(iv) p. 54).

Now, none of this is to argue that the Quantity Theorists took as extreme a view about the instability of velocity as did the Radcliffe Committee itself. Among the witnesses who appeared before the Committee, it was Nicholas Kaldor -

"...the velocity of circulation...is not determined by factors that are independent either of the supply of money or the volume of money payments; it simply reflects the relationship between these two magnitudes" (M 2 p. 146).
and Richard Kahn -

"The velocity of circulation...is an entirely bogus concept... It is an effect and not a cause [of variations in the level of activity and prices]" (M 61 pp. 144-5).

- who came closest to setting out the position that the Committee itself embraced. In doing so they were simply reiterating views that they had propounded in the 1930s (see Tavlas (1981), pp. 326-28), a period when, incidentally, both Sayers and Cairncross had been closely associated with the circle of younger "Keynesians" at Cambridge. For the Quantity Theorists, velocity was an important parameter determining the behaviour of the system, although one whose value varied for largely unspecified reasons. It was not a "purely passive factor", as it was for Kahn (cf. M 61 p. 145) and the Committee.

If one takes the view that the quantity of money is an important determinant of the level of money income, but that the velocity of circulation is sufficiently flexible to permit other influences to play an important role here too, it immediately follows that the natural task of monetary policy is to attempt to iron out the effects of those other factors. In short, inherent in the Quantity Theory approach which was put to the Radcliffe Committee was the proposition that monetary policy was an important instrument of short-run stabilisation policy, for keeping the economy in "nice balance" as the Committee itself put it. Indeed, this position was explicitly defended by the Quantity Theorists, particularly Hawtrey and Gregory.
The former argued that

"...Bank rate can be altered to any extent at short intervals, can be used as a weapon in a very short period, and can stop the initial stages of any undesirable tendency towards inflation or deflation. Fiscal policy cannot do that" (MN 9356 p. 599).

thus directly contradicting the views of Professor James Meade and Mssrs. Little, Neild and Ross for whom just such flexibility was the most desirable characteristic of fiscal policy. Gregory in discussing the effect of interest rate changes conceded that "...as regards commercial borrowers...the effect tends to be delayed..." but he then went on to assert that

"...in certain parts of the monetary field...the effects are much more immediate and the psychological consequences much more marked than current thinking...has been prepared to admit" (MN 10786 p. 726).

Not all of the Quantity Theorists were quite as enthusiastic as this about the scope for using monetary fine tuning, but Dacey apparently saw no great problem about "...determining the volume of bank deposits...by reference to the monetary situation..." (M 12 p. 97) while Robbins, for whom lags in the effects of monetary policy clearly could not be ignored, nevertheless concluded that

"...I do not think we go far wrong if...we liken the task of the monetary authorities to that of the driver of some wheeled vehicle. Now we all know that, in such matters, a small turn of the wheel, made quickly, is likely to be much more effective than a large turn, if action has been slow" (M 84 p. 218).

I have already remarked above (pp. 6-7) that the Radcliffe Committee, in assigning to monetary policy the role of contributing to the longer run stability of the economy, came, in some respects, rather close to modern monetarist ideas. It is now apparent that, on this matter, the Quantity Theorists who gave evidence to the Committee were a long way from their monetarist successors.
It is apparent that the two most confident advocates of monetary fine tuning, Hawtrey and Gregory, laid particular stress on the importance of short interest rates in the transmission mechanism for monetary policy, while the Committee itself saw short rates as important mainly to the extent that variations in them brought about changes in long term rates. On this particular issue, not all the Quantity Theorists agreed with Hawtrey and Gregory. Paish devoted much of his evidence to demonstrating statistically the influence of the quantity of money on long rates because, as he put it:

"It is doubtful whether any but the widest fluctuations in short term rates have much direct effect upon the willingness to borrow for investment, unless the new rates are expected to last for a long time, though they may well...have a substantial psychological effect. A change in long term rates is, however, likely to be more effective..." (M 4 p. 183).

while Robbins, though warning that it was "...unwise...to assume that movements of short term rates have no further function to perform" nevertheless conceded that "The recent emphasis on long term rates...serves to correct errors of perspective which may lead to important omissions of policy" (M 81 p. 218). In this respect, their views were only a little removed from those ultimately expressed by the Radcliffe Committee in its Report.

It is in this context that the weakness of the Quantity Theory case is most apparent. If, as the Committee concluded on the basis of much survey evidence (though not necessarily correctly as White (1961) argued), long rates of interest are the important ones as far as monetary policy is concerned, and if they affect expenditure only with a long and unpredictable lag, how can monetary policy be used for fine tuning? And if interest rates are the key factors in the transmission mechanism of the effects of changes in the money supply, and can themselves be manipulated directly, why is it nevertheless
important, as the Quantity Theorists asserted, to control the stock of money? The position thus stated is an easy one to ridicule, and Richard Sayers and Richard Kahn did not miss the opportunity to do so, albeit gently, as the following exchange shows.

"Professor Sayers: I wonder if we might have your comments on another view which has been put to us, for which mystique is not perhaps quite the appropriate word: that though it is through rates of interest and availability of credit and so on that monetary policy works on the level of economic activity, the appropriate way for the monetary authorities to work is not to make up their minds that such and such rates of interest and such and such availabilities of credit are appropriate in particular directions, but to operate in some way on the situation as a whole by increasing the quantity of money when demand needs to be stimulated, and decreasing the quantity of money in other circumstances, leaving it to the market to produce the effects on the particular interest rates? [Richard Kahn] Am I being asked not to apply the word "mystique" to that view? [Richard Sayers] I think that answers my question!"

(MN 10983 p. 742)

There is of course a readily available response to this criticism of the Quantity Theory approach, and its main ingredient was clearly stated by Robbins in his written evidence

"...In popular discussion there exists a habit of speaking as if the absolute height of rates of interest were the main criterion by which they should be judged...If the incentive to invest is very high, then rates of interest which are high but not high enough to prevent inflationary borrowing, may be too low. If it is very low, then rates which are low but not low enough to arrest a decline in borrowing may be too high.... It is just not true that there is any simple correlation between the absolute height of interest rates and prosperity and depression, growth and stagnation"

(M 83 p. 218).

Unfortunately, Sayers was not present when Robbins gave oral evidence to the Committee, so their difference of opinion on this crucial issue was not explored as, I would argue, it should have been.

Views such as Robbins expresses in the above quotation, and the Fisher effect, which Robbins also discussed, when taken in combination with the
existence of time lags, forms much of the basis for the modern monetarist case for treating the monetary growth rate as a built-in stabiliser. However, we have seen that even Robbins treated monetary policy as a device for stabilisation policy, though less uncritically than did some of his fellow Quantity Theorists. More to the point, we have also seen that, in taking their "three gear" view of the role of interest rates, the Radcliffe Committee in effect declared that the absolute height of interest rates was a reasonable criterion whereby to judge their significance. Given this view, which I certainly do not wish to defend, the position that the Committee took about the desirability of linking the conduct of monetary policy directly to interest rates, rather than operating indirectly through control of the quantity of money is quite understandable.

The Committee could here find support in the evidence of Paish, who showed with a time series chart in his written evidence, and a scatter diagram presented with his oral evidence, that there was a clearly discernible correlation between the ratio of the money supply to national income and the level of long interest rates in British data. A modern monetarist would argue that this correlation simply demonstrates the well-known influence of interest rates on the velocity of circulation, and would attach little direct policy significance to it, but Paish presented it as supporting his view that long interest rates could be controlled by manipulating the quantity of money (cf. M 6 p. 183). In fact, the Committee did not cite this evidence of Paish in support of its position for a reason which is surely obvious: whatever else he may have argued, Paish's statistical evidence on the relationship between velocity (or rather its inverse) and interest rates flatly contradicted
the Committee's own inclination to follow Kahn and Kaldor in attaching no significance whatsoever to the concept.

It is tempting to read Paish's statistical evidence as demonstrating a vital link, in the form of the hypothesis of an empirically stable demand for money function, between the version of the Quantity Theory of Money rejected by the Radcliffe Committee and modern monetarism, but to do so would be a mistake. As we have seen, Paish agreed with the Committee on the strategic importance of the long interest rate, and presented his evidence on velocity as a component of his case for using the quantity of money as a means of controlling that rate. Moreover, though a monetarist would interpret Paish's evidence as bearing on the existence of a stable demand for money function, that is not how he presented it. A point of view very like Paish's, and supported with similar statistical analysis including a scatter diagram was presented to the Committee in evidence by another witness who did put matters explicitly in terms of the supply and demand for money, and who presented the following "reinstatement" of the Quantity Theory based on that analysis.

"It could be argued that a reduction in interest rates (brought about by an increase in the volume of money) would increase investment and that the consequent increase in demand would cause prices to rise. This in turn would increase the money value of the cash balance people want to hold...and gradually force security prices to [their] old level. ...If nothing else...changed...the price rise would be proportional to the increase in the volume of money" (M 58 p. 84).

These however are the words of the Keynesian, Christopher Dow, not of any Quantity Theorist among the witnesses, and he immediately concluded that this piece of analysis "...seems valid but not...of great practical importance" (M 58 p. 84).
Nevertheless, Dow's evidence is interesting for two reasons. First, the fact that it is there rather than anywhere else in the evidence put to the Radcliffe Committee that the notion of an empirically stable aggregate demand for money function appears is consistent with Patinkin's (1969) view that this aspect of modern monetarism has developed from Keynesian roots, rather than from the traditional Quantity Theory. Second, as Walter Newlyn (1970) noted in discussing Morgan's paper, the Committee rejected not just the Quantity Theory of Money, it rejected money as well. In the light of Dow's evidence (and that of Paish) the Radcliffe Committee's notions about the velocity of circulation cannot be excused on the grounds that relevant evidence concerning its determination was unavailable to it. The Committee's position on the influence of aggregate demand on inflation may have reflected the best available quantitative evidence on the issue; its views on velocity on the other hand reflected a willfull and inexplicable neglect of evidence of similar quality which was actually placed before it by witnesses, and involved the Committee in taking a position far more extreme than was necessary to defend the case for putting interest rates and credit conditions at the centre of monetary policy and thus reject the evidence of the Quantity Theorists.
Concluding Comments

At the outset of this paper, I raised the question of the relationship between the Quantity Theory approach to monetary theory and policy which the Radcliffe Committee rejected and contemporary Monetarism. I proposed to make a start at its investigation by giving an account both of the Radcliffe Committee's views, and of the positions taken by the Quantity Theorists among its witnesses. It is now possible to draw some tentative conclusions based on that account. Of course modern Monetarism has something important in common with the old Quantity Theory in emphasizing as it does the link between the quantity of money and the general price level. Moreover, as we have seen, for example in Robbins' emphasis on the responsiveness of behaviour and institutions to the policy regime, there are other important links between the older doctrine and the newer one, particularly in its more recent manifestations where the rational expectations hypothesis plays an important role. However, there are major differences as well, as we have also seen.

The Quantity Theorists who gave evidence to the Radcliffe Committee were all advocates of activist monetary policies—though Robbins less so than the others perhaps—and it was the Committee itself which, noting that monetary measures were subject to long and variable lags in their operation, proposed that monetary policy be assigned to longer run goals. The contrast between the views of the Quantity Theorists and those of modern monetarists is a sharp one in this instance. This is not to say that the Radcliffe Committee was, after all, an early proponent of Monetarism: its emphasis on interest rates and credit conditions as the key variables in monetary policy stands in too sharp a contrast to the monetarist emphasis on the quantity of money for it to be possible to sustain such an argument. Nor is there any trace
in the Radcliffe Report of an attempt to justify the proposition that the quantity of money is irrelevant as a policy variable in terms of the existence of a fixed exchange rate. Instead the Committee made its case for the irrelevance of money with two arguments: first that, since changes in the quantity of money work through interest rates anyway, it is better to operate directly on the latter variables; and second that the velocity of circulation is a statistical artifact of no economic significance. On the former point, Robbins' evidence again is the place to look for a contemporary alternative to the Radcliffe view which has much in common with Monetarist ideas. On the latter point, however, the Quantity Theorists' alternative view had little in common with Monetarism.

For all of them, the velocity of circulation of money was a variable capable of significant autonomous shifts. Among the Quantity Theorists, only Paish presented evidence to suggest that some of the variation in velocity might systematically be related to interest rate movements. Paish, however, did not put the point in terms of a stable demand for money function. It was, as we have seen, Christopher Dow who did that, and he was no early Monetarist: his evidence bears much more resemblance to the work of James Tobin, say, than to that of Milton Friedman. However, the presence of the concept of a stable demand for money function in Dow's evidence and its absence from the evidence of the Quantity Theorists, points, as I have already noted, to a Keynesian origin for this important aspect of Monetarist doctrine. In this respect, Monetarism is by no means the same doctrine as was the traditional Quantity Theory approach to Monetary Theory, whatever may be the other similarities.
As I pointed out above, Walter Newlyn, in his Discussion of Victor Morgan's 1969 paper, argued that the Radcliffe Committee not only rejected the Quantity Theory of Money, but also the very idea that money could be important. The Committee itself tended to treat these two very different matters as if they were the same, and this confusion was later reiterated by Nicholas Kaldor in his widely read (1970) paper. I believe that this fact goes a long way to explaining why the "Monetarist Controversy" of the 1960s and 1970s evolved along such different lines in Britain to those which it followed in the United States.
I have discussed "Monetarism" in considerable detail in Laidler (1981). There is therefore no need to go into a lengthy discussion of that doctrine's principal characteristics in this paper. In that paper, I suggested that Monetarism is best defined in terms of the following beliefs: that there exists a stable aggregate demand-for-money function; that variations in the quantity of money are the main cause of variations in the price level; that there is no important long-run trade-off between inflation and unemployment; that the monetary approach to balance of payments and exchange rate analysis is valid; and that the quantity of money should be used as a built-in stabiliser, rather than as an instrument of activist stabilisation policy.

In this paper I quote extensively from these three sources. Quotations from the Report are identified by R followed by a paragraph number and a page number. Quotations from Memoranda are prefixed with M and are similarly identified. Quotations from Minutes are identified with the letters MN.

At the Money Study Group Conference to which Morgan's paper was presented, there was some discussion of this very point; as an inspection of Croome and Johnson (1970, pp. 34-36) would indicate. If my memory serves me right, it was Richard Sayers himself who introduced this particular topic and made very much the same point as did Harry Johnson.

Note that among the witnesses to the Committee, Victor Morgan used the word "liquidity" to refer to a broader spectrum of assets than merely the money supply. See (M 10 p. 178). Paish also discussed the influence of "near money" on the demand for money. See (MN 10436 p. 694).
Robbins (1960) reprinted as Ch. 4 of Robbins (1971) criticises the Committee for confining its analysis of the effects of "liquidity" to lending, as opposed to spending, activities. See (1971), pp. 108-109.

The Committee could also have cited the evidence of Mr. (later Sir) Roy Harrod on this matter. Section V of his evidence was headed "Normal Long-Term Interest Rate in Britain Should Be 3%". He based this proposition on the same historical evidence that Hicks cited, but Hicks, of course, did not draw the policy conclusion that the rate should be held at 3% in the way that Harrod did. Harrod, the reader will recall, is one of those disciples of Keynes who always denied the relevance of the "Fisher Effect". See Harrod (1971).

Note that Dacey, in his written evidence, recommended the issue of indexed government bonds. He based his case on an analysis of the Fisher Effect. See (M 15 p. 67). The Radcliffe Committee explicitly rejected this suggestion on the grounds that a commitment to the issue of indexed bonds might itself create an expectations of inflation. See (R 573 p. 211).

Of course, this large stock of outstanding treasury bills was an important factor in the British financial system in the 1950s. It was the empirical basis for the proposition that the liquid assets ratio, rather than the cash ratio, was the effective constraint upon the creation of money. The Quantity Theorists who gave evidence to the Radcliffe Committee were all, therefore, proponents of funding the debt in order to bring the money supply back under control.
The reader might note that there are strong overtones of a monetary approach to balance of payments analysis in the evidence submitted to the Radcliffe Committee by the President of the Netherlands Bank, M. W. Holtrop. Holtrop's evidence, of course, reflects a long standing tradition in Dutch monetary economics, one to which Harry Johnson referred in his (1972) De Vries Lectures. For Holtrop's evidence see Memoranda of Evidence, Volume 1, pp. 260-268, and Minutes of Evidence, pp. 805-819.

But of course Phillips' paper had been widely circulated and discussed at the London School of Economics long before its publication. Richard Sayers must have been aware of it. Perhaps the reference to the close relationship between wage changes and unemployment in the quotation on p. 6 above is an oblique reference to Phillips' paper.

The evidence of Messrs. Little, Neild and Ross is to be found in Memoranda of Evidence, Volume 3, pp. 159-168. These proponents of fiscal policy apparently did not give oral evidence to the Committee. On the other hand, James Meade's evidence was presented to the Committee in the form of his inaugural lecture at the University of Cambridge, entitled "The Control of Inflation" and is therefore not included in the Memoranda of Evidence. Meade, however, did give oral evidence. See Minutes of Evidence, pp. 656-660.

Of course, in their evidence on the importance of short interest rates, Hawtrey and Gregory were simply reiterating views that they had propounded in the debates of the 1920s and 1930s. A realization of the importance of long rates of interest for fixed investment was a product of the Keynesian Revolution. The fact that Robbins and Paish, among the Quantity Theorists, put such emphasis on long rates of interest in their evidence to the Committee, shows how deeply Keynes's work had influenced the whole of British monetary economics by the 1950s.
Here again, however, Robbins is stating a position which is to be found in Austrian economics and which indeed can be found clearly stated in the works of Wicksell, on whose analysis of the role of interest rates in provoking economic fluctuations so much Austrian business cycle theory was built. On Wicksell, see Laidler (1976), Ch. 5.

Patinkin (1969) reached this conclusion when considering the relationship between Friedman's work and the Chicago Quantity Theory Tradition. Modern Monetarism, that is to say, is more closely affiliated with the old Quantity Theory Tradition in its emphasis on the role of the quantity of money in the conduct of economic policy than it is in its emphasis on the demand for money function as a foundation of a stable (but not constant) velocity of circulation. This is not, of course, to say that older Quantity Theorists never discussed the notion of velocity as reflecting behaviour which could be modelled in terms of a demand-for-money function. That is after all the essence of the cash-balance approach which is used explicitly by, for example, Robbins in (1971), Ch. 4. It is the hypothesis of empirical stability of the demand-for-money function which is the distinguishing characteristic of the Monetarist contribution, while the grounding of this hypothesis in a capital-theoretic approach to the analysis of the demand for money represents the Keynesian element in Monetarism.

Though it ought to be noted that one witness, Professor Thomas Wilson, whose views do not really warrant the label "Quantity Theorist", nevertheless advocated in his written evidence the adoption of a rule to govern the rate of growth of the note issue.
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