The Structure of Monetarism (II)

By Thomas Mayer, Davis/Cal.

In Part I of this paper which appeared in the previous issue of this journal* I selected twelve propositions characterizing the monetarist outlook, and discussed six of them. I will now discuss the remainder, and then summarize both parts of this paper. Three of these propositions relate to monetary policy. They are the choice of an indicator, the choice of a target, and the use of a monetary growth rule[58].

VII. Monetary Indicators

A monetary policy indicator is a variable that measures the thrust, that is the direction and magnitude, of monetary policy. It should therefore be a variable which is closely controlled by the central bank rather than being endogenous to the economy. Accurate data on it should be available without delay, and it should have a very high correlation with the target, or goal, variables. These requirements rule out both the money stock and the long term interest rate as monetary indicators. To be sure, to a monetarist the stock of money is the ultimate indicator of monetary policy in a different sense, because changes in the money stock foretell changes in income. But, at least in the United States, accurate data on the money stock are not available quickly, and besides, the money stock is partly endogenous, being some distance removed from central bank actions. Hence, it cannot be used as an indicator as the term is defined in this context. Similarly, for the Keynesian the long term interest rate is not an adequate indicator because it is not under the close control of the central bank. Thus, neither monetarists nor Keynesians can use as their indicators those variables which would fit best into

* pp. 190.

[58] The indicators-targets dichotomy has recently been challenged by Benjamin *Friedman* ("Targets, Instruments and Indicators of Monetary Policy", Journal of Monetary Economics, forthcoming). However, since I am dealing here with the dispute between monetarists and Keynesians both of whom generally use this dichotomy, I am accepting it without questioning its validity.

their models. Both of them have to select other indicators which are closer to the tools used by the central bank.

Monetarists favor some measure of total reserves such as the reserve base adjusted for changes in reserve requirements or else unborrowed reserves. These are clearly under the control of the central bank, they are measured accurately without delay, and they have a powerful effect on the money stock, the monetarists' target variable. Keynesians, on the other hand, probably use the short term interest rate as their favored indicator[59]. The short term rate can then be related to one of their target variables, the long term interest rate, via term structure theory. And in addition, the short-term rate is a target in its own right to Keynesians since it affects flows into depository institutions, and hence residential construction. But this does not make it an indicator.

But it is important to note that the choice of a monetary policy indicator is to a considerable extent isolated from the rest of the Keynesian-monetarist dispute. The monetarist chooses a monetary base measure for two reasons. One is that his analysis of the money supply process tells him that this is the variable which best reflects monetary policy actions. The second is that he believes the monetary base (adjusted for reserve requirement changes) to be the best indicator of future changes in the money stock. As far as the first of these reasons is concerned this involves little dispute with Keynesians if only because few Keynesians have bothered to formulate a money supply hypothesis.

Turning to the second reason, the predictive power of a base measure, it is certainly true that one can predict the money stock fairly well in this way. But suppose that it were shown that changes in the short term interest rate are an even better indicator of changes in the money stock. In this case, the monetarist should use the short-term interest rate as his indicator to predict the money stock. And the possibility that the short term interest rate is a better predictor of the money stock than are various reserve measures is by no means farfetched[60]. Furthermore, if it

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[59] I have phrased this statement in such a tentative way because I am far from certain that most Keynesians really prefer the short term rate as their indicator. Unlike the monetarists, Keynesians have not written much on this topic.

[60] See Richard *Davis* and Frederick *Schadrack*, "Forecasting the Monetary Aggregates with Reduced Form Equations", in Federal Reserve Bank of New York, Monetary Aggregates and Monetary Policy (New York, 1974), pp. 60 - 71. See also Fred J. *Levine*, "Examination of the Money-Stock Control

were somehow shown that monetary policy changes are reflected better by the Federal Funds rate than by a reserve base measure, the monetarist could abandon his money supply hypothesis without thereby weakening his belief in any of the other monetarist propositions.

Conversely, a Keynesian could select total reserves as his policy indicator, and use this variable, rather than the short term rate, to predict long term interest rates. The unsettled state of term structure theory hardly provides us with much confidence in trying to predict the long rate on the basis of the short term rate. Empirically, David *Fand* has shown that while there is a fairly high correlation between long term and short term rates, "in a cyclical context, the long rate is relatively independent of the short-run movements in the short rates"[61].

In addition to its use in gauging policy, a monetary indicator can also be used to measure the thrust of the monetary impulse regardless of whether this arises in the private or public sector. For this a monetarist may want to use the money stock, while a Keynesian may want to use a short term interest rate. Thus, if the money stock is growing at, say, a 10 percent rate, while the Federal Funds rate is 12 percent, a monetarist would call this a situation of monetary ease, while a Keynesian would call it tight money.

This distinction has some superficial relation to the dispute about the transmission mechanism because the Keynesian is looking at an interest rate while the monetarist is using the money stock. But, as discussed above, this dispute is, in part, a matter of terminology rather than a genuine dispute. (And, as will be shown below, in part it is the result of many Keynesians not being faithful to their Wicksellian tradition.)

Another connection is that to the Keynesian the short term interest rate is a valid partial indicator because it affects the flow of funds into financial intermediaries, and hence residential mortgage lending and construction. (This is a channel stressed strongly in the FMP-model.)

Approach of *Burger, Kalish,* and *Babb*", Journal of Money, Credit and Banking, vol. V, November 1973, pp. 924 - 938; and James *Pierce,* and Thomas *Thomson,* "Some Issues in Controlling the Stock of Money", in Federal Reserve Bank of Boston, Controlling Monetary Aggregates II: The Implementation (Boston n. d.), pp. 115 - 136.

[61] David *Fand,* "A Time Series Analysis of the 'Bills-Only' Theory of Interest Rates", Review of Economics and Statistics, vol. XLVIII, November 1966, p. 369.

Thus, here we have a component of monetarism which has only a limited relationship to the other components. The dispute about the proper indicator is to a considerable extent an isolated technical issue. Its intrusion into the monetarist-Keynesian debate can perhaps be explained as an historical accident. In the past the Federal Reserve has used short term interest rates and money market conditions as its indicator in a different sense from the way the indicator concept is defined here. Instead of treating short term rates and money market conditions as an intermediate step on the way to long-term interest rates or to the money stock, it looked at short term rates and money market conditions as an immediate guide to how its policy is affecting income. In this way — which does not allow the money stock to be a recognized part of the process — the use of short term rates and money market conditions is, of course, contrary to monetarism. But as a result of the insights which monetarists have brought to this debate indicators are no longer thought of in this way.

VIII. Monetary Policy Targets

Obviously monetarists want to use the money stock as the target of monetary policy. Keynesians, on the other hand, prefer to use long term interest rates or, in some cases, bank credit or total credit. The extent to which each of these targets fits into the underlying theories of both schools can be seen best by considering the arguments for each of these targets.

To start with a comparison of the interest rate target and the money stock target there is again the measurement problem previously discussed in connection with the transmission process.

But with respect to the problem of chosing a target, the Keynesian is less worried about the difficulties of measuring the interest rate. This is so because one important Keynesian channel for the impact of monetary policy operates through the flows of funds into depository institutions. And since such flows depend upon a comparison of interest rates of depository institutions with open market rates, the problem of infering the expected real rate from the nominal interest rate does not arise. (And the problem of combining various observed and imputed rates into "the interest rate" is also less serious.) Furthermore, another channel is the effect of interest rates on the market value of the households' stock of securities, and hence on consumption. Here too, the problem of

measuring the interest rate is not serious. However, for the traditional "cost of capital" effect of interest rates on investment, the measurement problem still exists.

Apart from the measurement problem the choice of a target involves another issue which arises from our inability to predict precisely changes in the liquidity preference schedule and in expenditure incentives[62]. If we would know very accurately the liquidity preference curve as well as expenditure incentives, then the central bank could easily select the interest rate which would optimize its objectives. Since with a known liquidity preference curve we can infer a particular quantity of money for each rate of interest and vice versa, leaving aside the above discussed measurement problem, it would be a matter of complete indifference whether the central bank picks a particular interest rate target or a money stock target.

But in actuality the central bank does not know the liquidity preference schedule and the strength of the expenditure incentives accurately. Suppose that the liquidity preference curve shifts outward unexpectedly. All the central bank observes is a rise in the interest rate. If it uses an interest rate target it responds to this rise in the interest rate by increasing the quantity of money sufficiently to lower it back to its previous level[63]. What it does is to satisfy the increased demand for money, or in terms of the cash balance equation, it offsets the rise in the Cambridge "k" by raising "M", thus keeping "PT" constant. If it had used a money stock target instead of its interest rate target, it would have kept the money stock constant and allowed the interest rate to rise. This increase in the interest rate would then have reduced income below its previous (presumably optimal) level.

On the other hand, suppose that the liquidity preference curve is predictable, but that expenditure incentives increase unexpectedly[64].

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[62] For a detailed exposition of this argument see William *Poole*, "Optimal Choice of Monetary Policy Instruments in a Simple Stochastic Macro Model", Quarterly Journal of Economics, vol. 84, May 1970, pp. 197 - 216; and "Rules of Thumb for Guiding Monetary Policy" in Board of Governors, Federal Reserve System, Open Market Policies and Operating Procedures, Staff Studies, Washington, D. C., pp. 135 - 189.

[63] The assumption that the money growth rate and the interest rate are negatively correlated is justified by the analysis being only very short run.

[64] It is worth noting that what is relevant is not the stability of either the IS or LM curve, but its predictability since the central bank can readily offset predictable fluctuations.

This too raises the rate of interest. If the central bank has an interest rate target and counteracts this rise in the interest rate it allows income to rise in an unintended way. In other words, if expenditure incentives increase the interest rate should also increase, thus acting as an automatic stabilizer. Hence, if it is expenditure motives rather than the liquidity preference function which changes in an unpredicted way, then an interest rate target does harm, and a money stock target is preferable. But if it is the liquidity preference function which is the unpredictable one, then an interest rate target is superior[65].

On both of these issues a monetarist prefers a money stock target. Regarding the measurement problem, someone who accepts the monetarist transmission process believes that the money stock can be measured more accurately than can the interest rate. On the relative predictability of the liquidity preference function and the expenditure functions a quantity theorist considers the liquidity preference function (i. e. the demand for money) to be the stabler of the two[66]. Hence, the monetarist's preference for a money stock target over an interest rate target can be seen as an implication of the quantity theory and its transmission mechanism.

Apart from the money stock and the long term interest rate there is a third major potential target for monetary policy. This is a credit measure, such as bank credit or total credit. Here too, the quantity theory and the monetarist's version of the transmission process decide the issue for the monetarist. As a quantity theorist he believes that the effect of changes in the money stock on income is more imporant than the effect of changes in bank credit, for otherwise he would hold a quantity theory of bank credit rather than a quantity theory of money.

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[65] A third aspect of the choice between a money stock target and an interest rate target relates to the problem of lags in the effects of monetary policy. Since many types of expenditures respond only slowly to a change in the interest rate the effects of monetary policy tend to be delayed. But this delay can be offset if interest rates initially overshoot their new level. (See Donald *Tucker*, "Dynamic Income Adjustments to Money Supply Changes", American Economic Review, vol. LVI, June 1966, pp. 433 - 449.) Insofar as the central bank follows a money stock target such an overshoot occurs automatically. But with an interest rate target, the central bank may fail to allow for the required overshoot. And even if it aims for an overshoot, it does not know how large it should be.

[66] The monetarist looks upon expenditure motives as stable too, unless disturbed by variations in the money growth rate, since he treats the private sector as stable, but even so, he takes the demand for money as the stabler one.

Moreover, in his analysis of the transmission process the monetarist rejects a credit and borrowing cost interpretation[67].

The matter is more complex for a Keynesian. As indicated above, the problem of measuring the interest rate is of serious concern to him only with respect to the cost of capital channel. Since different Keynesians attach different weights to this channel, it is hard to say how significant the measurement problem is for the Keynesian's choice of a target. Furthermore, a Keynesian may — or may not — be concerned about the difficulties of measuring the money stock.

With regard to the second issue, the relative predictability of the liquidity preference and expenditure functions, *Keynes* originally considered both the liquidity preference function and the investment function to be erratic without indicating which was the more unstable. Modern Keynesians, on the other hand, have deemphasized the speculative motive for liquidity preference which for *Keynes* was the source of its instability, and appear to believe that the liquidity preference function is fairly stable and predictable. On the other hand, Keynesians also believe that investment and consumption, while unstable, are predictable. It is therefore not really clear whether Keynesians typically consider the liquidity preference function or the expenditure functions to be the more predictable. Perhaps there is a presumption that, on the whole, they consider the demand for money to be the more predictable variable which should make them prefer a money stock target.

Moreover, insofar as they are the intellectual heirs of the Wicksellian tradition, Keynesians should prefer a money stock target to an interest rate target. It was *Wicksell* who taught us the dangers of keeping the money rate of interest fixed (as happens with an interest rate target) when the natural rate of interest changes. All in all, Keynesian theory is more or less neutral on the issue of the money stock versus the interest rate as the target.

The third potential target is the volume of bank credit, or total credit. Some Keynesians have accepted such targets and they, of course, differ sharply from the monetarists. But one can be a good Keynesian while rejecting the reasoning of the *Radcliffe* Report.

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[67] A fourth potential target, and money market conditions, is hardly taken seriously anymore, at least in the United States.

IX. The Monetary Growth Rule

The next component of monetarism is the constant money growth rule. Such a rule fits well into the monetarist framework on several counts. First, it is closely related to the quantity theory. If the demand for money is indeed constant when adjusted for trend, then a constant growth rate of the supply of money would result in income too growing at a constant rate[68]. Hence, someone who accepts the quantity theory of money is much more likely to favor constant money growth then is someone who believes either that the demand for money is unstable, or that fluctuations in income are largely due to nonmonetary factors, factors which the central bank can offset[69]. Second, a belief in constant money growth also fits in with the monetarist's belief that the private sektor is inherently stable. If this is the case there is at best a limited amount of good that could be accomplished by variations in the money growth rate. Third, belief in a constant money growth rate requires acceptance of a money stock target, for the monetary growth rule is really only a special version of the use of a monetary target; it merely sets a specific, unvarying target.

In addition, the constant money growth rule also has some connection, albeit a looser connection, with two other components of monetarism, the disinterest in allocative detail, and the monetarist view of the price level. Someone who is interested in allocative detail is likely to be concerned, from time to time, with the impact of financial stringency on a particular sector, such as residential construction. He is therefore likely to feel, at least occasionally, that the monetary growth

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[68] A monetary growth rule is supposed to provide a growth rate of money income which is stable, though this may be a stable rate of inflation or deflation.

[69] This conclusion is subject to the caveat that in their formal theory monetarists consider the demand for money to be stable only in a functional sense. Hence, if many of the variables in the money demand functions fluctuate, the demand for money, and therefore income, would also fluctuate under a constant money supply rule. But according to *Friedman*, and perhaps to most monetarists, this distinction between the functional stability and the constancy of the demand for money does not create a serious problem. Insofar as the demand for money is a function of permanent income or wealth it is likely to grow at a steady rate. To be sure, it is also a function of the nominal rate of interest. But fluctuations in the nominal interest rate are largely the result of previous fluctuations in the money growth rate and prices. Hence, given a constant money growth rule, velocity would tend to be fairly stable in a numerical, as well as a functional, sense.

rate should be changed to protect a particular sector. A monetarist who believes that allocative detail is outside the purview of macroeconomic stabilization policy is much less likely to feel this way. The monetarist view of the price level reinforces the case for a monetary rule by implying that one of the factors which might cause someone to favor variations in the monetary growth rate, cost-push inflation, does not ocour.

Having seen how the monetary growth rule fits into the rest of monetarism let us see to what extent it conflicts with Keynesian theory. It does conflict in one way because the Keynesian looks upon velocity as being variable; a belief connected with his view that the private sector is unstable, and with his emphasis on the interest elasticity of the demand for money. Hence, to the Keynesian a constant rate of monetary growth would not result in an acceptable degree of income stability. However, a Keynesian may well accept some of the other arguments mentioned above which cause a monetarist to favor a constant growth rate. Thus, a Keynesian need not consider it desirable to change the money growth rate to accommodate particular sectors of the economy. And similarly, he need not accept the likelihood of cost-push inflation, or he may feel that while cost-push inflation is a serious possibility it should be resisted by not creating the additional money stock demand at higher prices. Moreover, as pointed out above, a Keynesian may well accept the use of a money stock target.

Despite the fact that the monetary growth rule fits in so well with a large number of monetarist propositions it is in a very important way a separate issue, independent of the validity of all other monetarist propositions. This is so because the main arguments for a constant monetary rule are essentially quite different from what has been discussed so far. They are that monetary policy affects the economy with long and unpredictable lags, or that the central bank is likely to be inefficient and follow goals other than income stabilization[70]. These hypotheses are not derivable from other monetarist propositions, nor do they conflict in any important way with Keynesian propositions. Yet while, strictly speaking, these two hypotheses are neither necessary nor sufficient conditions for the desirability of a monetary rule, they are close to it[71].

[70] Another reason sometimes given for a monetary growth rule is that it reduces arbitrary government interference, substituting as it does the rule of law for the rule of men.

[71] They are not really necessary conditions, because someone might advocate the monetary growth rule solely on the basis that it curbs arbitrary government

Thus, if it were shown conclusively that the lags of monetary policy are so long and variable that discretionary monetary policy is likely to be destabilizing, or that the central bank is too inefficient to operate a successful stabilization policy, then many — probably most — Keynesians would support a monetary rule. And concern that a discretionary stabilization policy may be destabilizing is far from being a monetarist monopoly. In fact, a classic article warning of this danger was written by a Keynesian, A. W. *Phillips*[72].

Conversely, if it were shown conclusively that discretionary policy can stabilize the economy, then probably most monetarists would reject the monetary growth rule. To be sure, a monetarist with his beliefs in a stable demand for money, and in the inherent stability of the private sector, is likely to expect that even a successful stabilization policy will do relatively little good, but it could still do some good. Hence, it is not surprising that belief in a stable monetary growth rule is not a component of *Friedman's* definition of monetarism[73]. Thus, the debate about a monetary growth rule transcends the issue of monetarism versus Keynesianism[74].

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power. They are also not really sufficient conditions because someone might reject the rule, even though it would stabilize income, because he believes that monetary policy should be used to stabilize particular sectors of the economy, to help government finance, or to obtain balance of payments equilibrium, etc.

The belief that stabilization policies are actually destabilizing may appear to conflict with one Keynesian proposition, the instability of the private sector. If the government sector has been a net contributor to instability it would seem that the private sector must be relatively stable. But this reasoning is questionable. At least in the United States, discretionary fiscal policy has frequently not behaved countercyclically; government expenditures have frequently risen at times of high activity. Similarly, if one accepts a money stock measure of monetary policy it also has usually not been countercyclical in the post-war period.

[72] "Some Notes on the Estimation of Time-Forms of Reactions in Interdependent Dynamic Systems", Economica, Vol. 23, May 1956, pp. 99 - 113.

[73] The Counter-Revolution in Monetary Theory (London 1970), p. 26.

[74] In any case, the debate about stable money growth versus discretionary policy is in the process of becoming technologically obsolete. Recent work suggests that an intermediate position, a stable central bank reaction function to changes in income, may well be superior to both a fixed money growth rule and to ad hoc discretionary policy. (See J. Phillip *Cooper*, Development of the Monetary Sector, Prediction and Policy Analysis in the FRB-MIT-Penn Model, Lexington, Mass., 1974.)

X. Absence of an Inflation-Unemployment Trade-Off

Having looked at the basic theory of the monetarists, their choice of estimation procedures, and their views on monetary policy there remain three monetarist propositions having to do with economic policy in general. One of these is the monetarists' belief that, except in the short run, the *Phillips*-curve is in real terms, so that, at most, there exists a very limited trade-off between inflation and unemployment.

The real *Phillips*-curve is related to three of the previously discussed monetarist propositions, the quantity theory, the stability of the private sector, and the stable monetary growth rate. If the *Phillips*-curve (over the time span relevant for analysis) is in real terms, then an increase in the quantity of money does not affect real income, but affects only prices since it merely changes the wage unit. Moreover changes in Keynesian variables such as fiscal policy then have no lasting effect on real income[75].

But a Keynesian could accept the real *Phillips*-curve and still claim that changes in the marginal efficiency of investment are more important than changes in the monetary growth rate in explaining short run fluctuations in real income. This is so because, with his belief in the instability of the private sector, a Keynesian believes that much of the time the economy is in a situation where the marginal efficiency of investment has changed, and the nominal wage has not yet adapted to this change, so that real income is affected.

The stable money growth rate rule too has a connection with the real *Phillips*-curve. One objection to it is that it would not allow the central bank to intervene when unemployment becomes too high. But if there exists only a very short-run trade-off between unemployment and inflation such intervention would do little good, and hence a monetary growth rate rule becomes more acceptable[76].

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[75] Cf. Jerome *Stein*, "Unemployment, Inflation and Monetarism", American Economic Review, Vol. LXIV, December 1974, pp. 867 - 887. Two other ways in which the real *Phillips*-curve fits in well with the quantity theory are the quantity theory's emphasis on the distinction between real and nominal magnitudes, and the use of adaptive expectations in both the modern quantity theory and the real *Phillips*-curve analysis.

[76] The direction of the connection between the real *Phillips*-curve and the monetary growth rule is from the real *Phillips*-curve to the growth rate rule rather than vice versa.

Having seen that the real *Phillips*-curve fits into the monetarist framework, to what extent is it inconsistent with the Keynesian framework? One obvious inconsistency arises in an historical context. In the "General Theory" *Keynes* sharply rejected *Pigou's* assumption that workers bargain for a real wage (which is what the real *Phillips*-curve says), and argued instead that workers bargain for a certain money wage.

A second inconsistency relates to the current Keynesian, or neo-Keynesian, model. In this model the *Phillips*-curve fixed in nominal terms is used to determine the price level. If a real *Phillips*-curve is substituted for the nominal *Phillips*-curve a Keynesian has no way of determining the equilibrium price level[77]. In this way, the acceptance of the real *Phillips*-curve would weaken Keynesian theory.

But despite this, the debate about the real or nominal nature of the *Phillips*-curve is to a considerable extent independent of the Keynesian-monetarist debate. It is essentially an empirical issue which has to be resolved by detailed studies of the labor market, rather than by settling the monetarist-Keynesian debate in some other way, and then deducing the nature of the *Phillips*-curve from the result reached in the monetarist-Keynesian debate. If empirical studies were to show conclusively that the *Phillips*-curve is in real terms a Keynesian could surely accept this result without abandoning Keynesian theory in favor of monetarism. Conversely, if the empirical evidence were to show that the *Phillips*-curve is fixed in nominal terms, a monetarist could easily live with this conclusion.

XI. Concern about Inflation

Monetarists appear to be more concerned than are Keynesians about the disadvantages of unanticipated inflation, and to be relatively less concerned about the disadvantages of unemployment[78]. This choice

[77] Insofar as prices are changing a Keynesian could use an expectational adjustment model to derive a modified *Phillips*-curve which would then allow him to determine the price level. But if the inflation rate stays constant long enough for expectations to have fully adapted a Keynesian could predict neither the price level nor the unemployment rate unless he has independent information on what the natural rate of unemployment is. However, the same is true for a monetarist. He also needs a specialist in labor markets to tell him the natural rate of unemployment.

[78] And there are monetarist objections even to fully anticipated inflation. As *Friedman* has pointed out (The Optimum Quantity of Money, op. cit., Ch. 1)

between these two evils can be related to several of the foregoing characteristics of monetarists. One is that the quantity theorist pays much more attention to the likelihood of price changes than does the Keynesian. Indeed, one of the standard criticisms which monetarists make of Keynesians is to accuse them of assuming that the price level is constant[79]. And someone who considers price level changes to be a serious possibility will obviously be concerned much more about potential inflation than someone who more frequently takes the price level as constant.

Second, there is the belief in the inherent stability of the private sector at an acceptable rate of unemployment. While the modern Keynesian may readily concede that underemployment cannot be an equilibrium, he still stresses that serious underemployment may occur frequently, and continue for a very long time. The monetarist, by contrast, has a stronger belief in the corrective forces that bring the private sector close to full employment if it is left undisturbed by government policy. Hence, the monetarist worries less about unemployment than the Keynesian does.

Third, there is the monetary growth rule. A stable monetary growth rule would limit the potential inflation rate by denying the economy the additional liquidity needed during an inflation. Hence, someone who is very concerned about inflation, and the inflationary bias of the political process, might be led by this to favor the monetary growth rule[80]. On the other hand, if velocity falls or productivity increases to an extent unanticipated when the monetary rule is instituted, substantial unemployment might result. Hence a Keynesian who is very concerned about unemployment may, for this reason, reject a stable money growth rule.

A fourth, rather tenuous, connection is that, by accepting a real *Phillips*-curve the monetarist abandons any hope of being able, except in the short run, to lower unemployment at the cost of inflation. And while this may not make the monetarist more concerned about inflation,

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the price level should be falling to induce the public to hold the optimum quantity of money.

[79] See, for example, Milton *Friedman*, "Comments on the Critics", op. cit., pp. 917 - 918.

[80] Admittedly, a constant monetary growth rate, if set at too high a level, might result in inflation. But this would be a fully anticipated inflation.

it causes him to oppose as essentially useless inflationary policies which aim at raising employment.

But again, the issue under discussion is far removed from the main area of monetarist-Keynesian contention. For example, if we had conclusive evidence on the validity of the quantity theory and the monetarist transmission process, it would probably do little to change our relative degree of concern about inflation and unemployment. This depends much more on other issues, such as the effects of inflation on income distribution, and on fundamentally ethical judgments.

XII. Dislike of Government Intervention

The final characteristic of monetarists, at least in the United States, is a dislike of government intervention. This is not limited to macroeconomics; in general monetarists appear to be much more satisfied with the outcome of market processes than most Keynesians are. There is, of course, no way of proving that this attitude should be considered a component of monetarism, rather than a characteristic which those economists who are monetarists happen to have for extraneous reasons. However, a dislike of government regulations fits very well with most of the previously discussed components of monetarism. Thus, a belief in the quantity theory implies that there should be no countercyclical fiscal policy. Moreover, a countercyclical fiscal policy might result in the government sector expanding in a recession more than it shrinks in the expansion, so that it grows secularly[81]. In any case, if the private sector is inherently stable no countercyclical policy may be needed or be desirable. Someone who objects to government regulations is less likely to be interested in allocative detail than someone who has to have information about various sectors to plan government policy. And conversely, if the behavior of various sectors does not matter for macroeconomic policy, some government regulations should be abolished. Furthermore, if the behavior of the price level is essentially independent of the pricing policies and wage policies followed in "strategic industries" then this is another reason why some government regulations are unnecessary.

Using the money stock rather than interest rates or bank credit as the target of monetary policy means that the government can leave the

[81] See James *Tobin*, op. cit., p. 63. However, *Tobin* also points out a negative relationship; insofar as fiscal policy has little, or no, effect on income, inflation cannot be used as an excuse for cutting the budget.

determination of interest rates and bank credit to free market, and can confine its attention to the stock of money, something just about always considered outside the domain of the private market. A monetary growth rule, obviously reduces the need for discretionary policy. And if the *Phillips*-curve is such that one cannot successfully trade off unemployment and inflation then here is another task the government should not attempt.

Finally, there are several links between a concern about inflation and concern about the growth of government. One is that inflation can easily lead to political pressures for the imposition of wage and price controls. A second is that, given a progressive tax system, inflation raises the share of the government sector with the resulting temptation to increase government expenditures. A third link is that since one way government expenditures have risen is through inflationary finance, prevention of inflation may indirectly limit government expenditures. Fourth, deficit expenditures when financed by newly created money, as is so often the case, tend to be inflationary.

A critic of monetarism might therefore be tempted to claim that monetarism is basically an "ideological" doctrine; that it consists of finding seemingly technical reasons to hide a basic commitment in favor of unfettered capitalism. But this temptation to play amateur psychoanalyst should be firmly resisted. A monetarist can reply to it very easily by reversing the argument, and claiming that the ideological element in the debate rests with the Keynesians; that it is their ideological commitment to government regulations and the growth of bureaucracy that makes them reject the monetarist's sound arguments on various technical issues of monetary economics.

On a more worthwhile level than such name-calling it should be noted that while opposition to government regulations fits in well with monetarism, it is still a very loose connection in one important sense[82]. One can be a radical and yet accept all the other monetarist propositions discussed above. Thus, a radical might even accept the constant monetary growth rule on the basis that this is the best one can do under capitalism[83]. In fact, a planner in an almost totally controlled economy,

[82] See *ibid.*, p. 63.

[83] A radical, unless he is Marxist, need not reject the monetarist's belief in the inherent stability of the private sector since his objection to capitalism could be founded on grounds other than instability.

such as China, should find the quantity theory more useful than the Keynesian theory[84]. Conversely, one can be a right-wing extremist without being a monetarist.

XIII. Some Other Differences

If one wants to look for a common thread connecting various monetarist propositions one need not confine oneself to an ideological consideration since there is a methodological element available.

We live in a world too complex for our intellectual apparatus. We must therefore do either of two things. One is to take account of a great many factors at the cost of being able to see their interrelations only in a vague, clouded way. The other is to simplify drastically, and to look at only a few factors. Along these lines one can classify economists into "cloud makers" and into "oversimplifiers", to use two derogatory terms. Using this dichotomy the Keynesian is a cloud maker while the monetarist is an oversimplifer[85]. Thus the quantity theory is simpler than the Keynesian theory in the sense of taking account of fewer variables[86]. The picture is less obvious as far as the monetarist transmission process is concerned. The monetarist view of this process is certainly more cloudy and less clear than the Keynesian one, since the monetarist believes that it works through a large number of channels, some of which he cannot specify. However, a vague transmission

[84] The Keynesian's marginal efficiency of investment and the multiplier play little, or no, role in determining income in a controlled economy. On the other hand, since the public has freedom to adjust its money holdings the quantity theory is relevant.

[85] This does not imply that the quantity theorist thinks we live in a simple world. One may want to use simple models precisely because the world is so complex that no complex, but still manageable, model can do it justice. This can be seen readily on an empirical level. If we try to forecast a variable which has determinants of only moderate complexity we tend to use a standard "explanatory" regression. But if we try to forecast a variable with extremely complex determinants were are more likely to use a naive model or some other autoregressive scheme.

[86] The *Brunner-Meltzer* version of the quantity theory gives the impression of being more complex than the Keynesian theory since it criticizes Keynesian theory for ignoring some important effects. But this appearance is due, in part, to the fact that when *Brunner* and *Meltzer* criticize the Keynesian model they focus on the greatly oversimplified IS, LM diagram which does not give the full Keynesian story. Although they introduce some additional variables, they omit some of the Keynesian variables.

process, when combined with *Friedman's* methodological views results in a simple, rather than a complex, view of the world. *Friedman* finds a close relationship between changes in money and in nominal income, and presumably does not feel greatly worried by the fact that it is difficult to specify the transmission process[87]. He stresses predictive power rather than descriptive realism[88].

The monetarist's hypothesis that the private sector is inherently stable also helps to simplify the analysis, since, if true, this means that we do not have to concern ourselves in macroeconomics with fluctuations in expenditure motives. Hence, one can dispense with the detailed Keynesian analyses of consumption and investment, as well as many complex business cycle theories. The monetarist's disinterest in allocative detail obviously also simplifies macroeconomics. The same is true for his use of small, rather than large, econometric models, and for his focus on the overall price level rather than on the prices charged in individual industries.

Using total reserves rather than a combination of short term interest rates and money market conditions as an indicator of monetary policy helps to simplify the analysis of monetary policy. Indeed, monetarists have criticized the use of money market conditions because of the complexity and vagueness it introduces[89]. The use of a stable money growth rate also obviously simplifies the conduct of monetary policy. Indeed, one of the leading monetarist arguments for it is that we do not have the required information, such as knowledge of lags, to do better with discretionary policy than a simple growth rate rule does. And a *Phillips*-curve that does not allow for any unemployment-inflation trade-off simplifies macroeconomics by removing one very difficult

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87 To be sure, *Friedman* believes that the mere correlation of money and income is not enough to establish the quantity theory, that a plausible transmission process is needed. (See Milton *Friedman* and Anna *Schwartz*, "Money and Business Cycles", Review of Economics and Statistics, Vol. XLV, February 1963, Supplement, p. 59.) However, a vague, generalized sketch of the transmission process may suffice for this.

88 Karl *Brunner* too, has rejected the type of descriptive realism that tests theories by evaluating the validity of their assumptions. (See his "Assumptions' and the Cognitive Quality of Theories", Synthese, Vol. 20, 1969, pp. 501 - 525.

89 See Karl *Brunner* and Allan *Meltzer*, Some General Features of the Federal Reserve's Approach to Policy, U.S. Congress, House, Committee on Banking and Currency, Subcommittee on Domestic Finance, 88th Congress, 2nd Session (Washington, D.C. 1964).

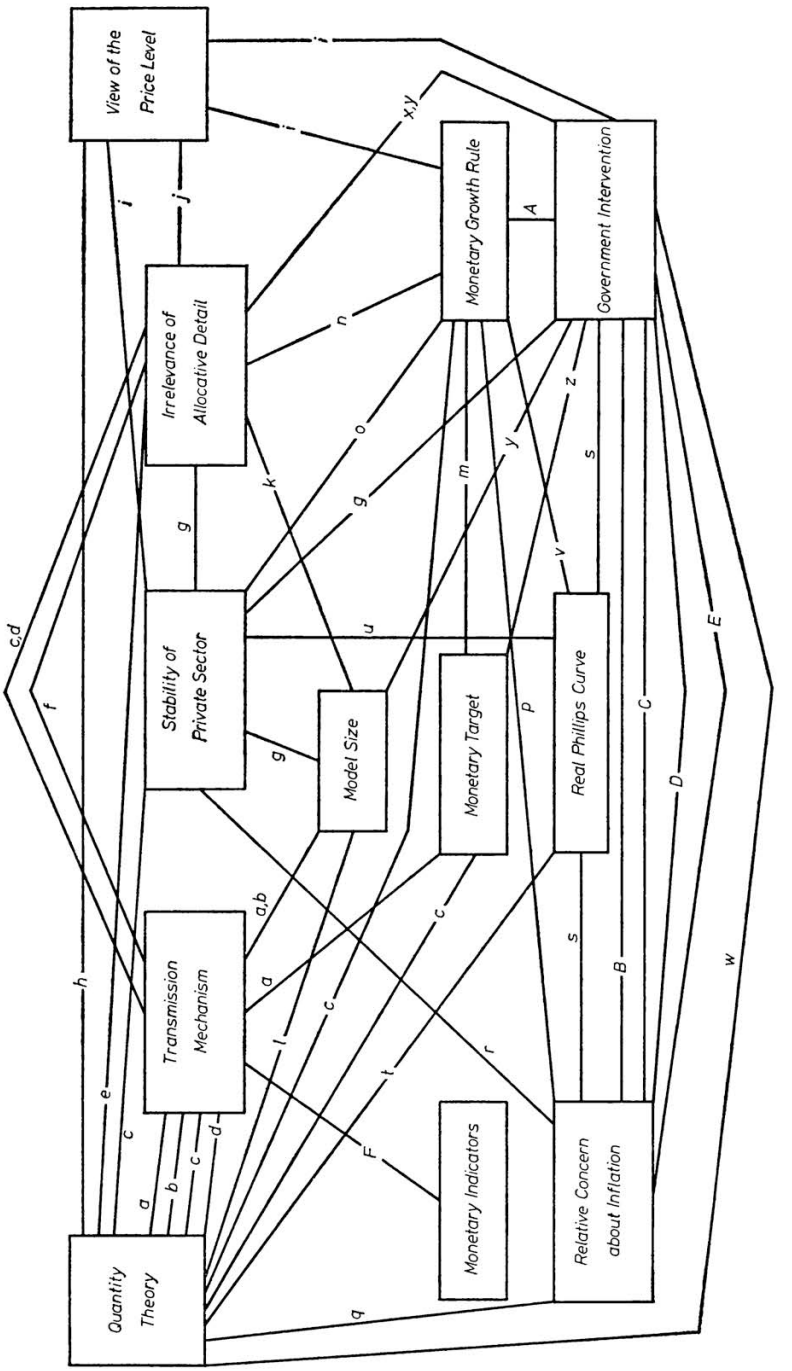

Figure 1: Interrelation of Monetarist Propositions

Notes:

a measurement problems
b range of assets considered
c stability of demand for money
d relative price and stock effects
e disinterest in expenditure motives
f unimportance of expenditure motives and of peculiarities of sectors
g little concern about instability
h aggregate demand determined by quantity of money
i immunity to cost-push inflation
j irrelevance of price behavior in individual industries
k disinterest in particular sectors
l results reached by models
m growth rule as special type of monetary target
n no need to help particular sectors
o little need to offset fluctuations
p prevent unanticipated inflation
q focus on price flexibility
r natural rate of unemployment
s absence of unemployment-inflation trade-off
t adaptive expectations and emphasis on distinction between real and nominal magnitudes
u real variables unaffected by inflation
v absence of trade-off ameliorates potential loss from monetary rule
w ineffectiveness of fiscal policy
x information on sectors not needed
y intervention in sectors not needed for macroeconomic policy
z no interference with interest rates or credit volume
A no discretionary monetary policy
B less danger of wage and price controls
C inflationary impact of government expenditures financed by new money creation
D inflation raises government receipts
E inflationary finance facilitates additional expenditures
F focus on the money stock rather than on interest rate and disregard of the financial intermediation-residential construction channel

question, selection of the optimal trade-off. Only two components of monetarism, the use of a money stock target, and the concern about inflation do not fit the picture of monetarism as simplification.

There exists also another element that links six monetarist propositions. This is the monetarist's skepticism about how much we really know about the short run workings of the economy. Monetarists generally seem to be less optimistic about this than are Keynesians. If we really do know little about the short-run behavior of the economy, then the monetarist transmission process is less subject to the criticism that it does not try to spell out the channels of monetary influence in any detail. Any attempt to do this could then be considered presumptuous. Second, if our knowledge of short-run economic behavior is limited, then we may not have an adequate framework for using information about allocative detail. Third, we then do not know enough to build useful large scale econometric models. Fourth, the less our knowledge, the weaker is the case for "fine tuning", and the stronger is the case for a monetary rule[90], and hence the use of a money stock target. Finally, the less we know about the economy the less likely are government regulations to improve it.

XIV. Conclusion

This paper has dealt with various propositions that make up monetarism, broadly defined, and showed that they form a coherent whole. With one exception (the use of a total reserve measure as the indicator of monetary policy) they fit together in the sense that definitive proof of the validity of one of the more basic propositions would increase the plausibility of some of the other propositions. Figure 1 shows relations which have been traced here between the various propositions.

But this does not mean that monetarism is a paradigm which must be accepted or rejected as a whole. As pointed out above, with the exception of the quantity theory itself, and perhaps its transmission process, every single proposition of monetarism is one which a Keynesian could accept while rejecting others, and still maintain his adherence to basic Keynesian theory. In particular, the policy propositions are

[90] This statement is subject to the objection that a great deal of knowledge is required to decide on the correct long run growth rate rule. But monetarists believe that the economy can adapt itself to any monetary growth rate as long as this rate is stable.

readily detachable from the theoretical propositions of monetarism, and can be accepted without qualms by a Keynesian. Conversely, someone who accepts some of the monetarist propositions, including the two most basic ones (the quantity theory and the monetarist version of the transmission process) need not therefore accept all the others.

Hence, a good case can be made for abolishing the term "monetarism" altogether, and for treating each proposition independently. This would reduce the unfortunate polarization of economists into monetarists and anti-monetarists, with the accompanying tendency to accept or reject various propositions on a basis other than the empirical evidence bearing on them[91]. Admittedly, this may well be the counsel of perfection since the term "monetarism" is now so well established and convenient. But eclecticism is fully justified[92].

Zusammenfassung

Die Struktur des Monetarismus (II)

In dem Aufsatz wird die Erörterung des Monetarismus fortgesetzt*, in dem sechs Regeln für eine monetaristische Politik aufgegriffen werden: (1) Der Gebrauch der Mindestreserven als ein Indikator für die Geldpolitik. (2) Die Ausrichtung der Geldpolitik auf das Geldvolumen als die geeignete Zielvariable. (3) Der Glaube an die Regel vom stabilen Wachstum der Geldmenge. (4) Ablehnung einer Alternative zwischen Inflation und Arbeitslosigkeit. (5) Große Besorgnis über Inflation, und (6) Abneigung gegenüber staatlichen Eingriffen. Es werden die Wechselbeziehungen dieser Punkte und ihre Beziehung zu den im ersten Teil des Aufsatzes behandelten sechs Thesen erörtert. Obwohl zumindest fünf von ihnen eindeutig mit anderen monetaristischen Forderungen verbunden sind, kann man dennoch einige anerkennen und andere ablehnen.

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* Siehe S. 190 ff.

[91] As Cyrus *Gordon* (Riddles in History, New York, 1974, p. 156) has put it, "all schools of thought are in reality 'schools of un-thought' to the extent that they prevent us from going to where the facts should lead us".

[92] Thus Karl *Brunner* has argued that: "... the four major issues [in the monetarist debate] allow a variety of combinations. ... The evolution of such a spectrum with a 'middle ground' should enrich our future research activities. Such activities should yield substantive results over the years to the extent that economists successfully avoid the 'media propensity' of equating all issues with ideological positions." "Commentary on 'The State of the Monetarist Debate' ", Federal Reserve Bank of St. Louis, Review, Vol. 55, September 1973, p. 14.

Es wird dargelegt, daß die Wahl der Mindestreserven als Indikator für die Geldpolitik nur eine nebensächliche Verbindung mit allen anderen monetaristischen Thesen hat. Allerdings sind für andere Punkte die gegenseitigen Verknüpfungen viel enger. So steht beispielsweise die Benutzung der Geldmenge als Zielvariable der Geldpolitik mit der Quantitätstheorie deswegen in enger Verbindung, weil die Qualitätstheorie eben auf die Geldmenge abzielt und davon ausgeht, daß das Geldvolumen genau gemessen werden kann — was unbedingt der Fall sein muß, wenn es als Zielvariable benutzt werden soll. Ähnlich besteht eine enge Verbindung zwischen dem Lehrsatz von der stabilen Wachstumsrate der Geldmenge und der Quantitätstheorie aufgrund der Annahme, daß die Geldnachfrage stabil sei. Und dies wiederum ist eine genauere Umschreibung der Geldmenge als Zielvariable. Die Ablehnung der Alternative zwischen Inflation und Arbeitslosigkeit paßt gut zur Quantitätstheorie, weil sich Preise und Geldmenge proportional entwickeln, wenn man die *Phillips*-Kurve in realen Größen ausdrückt. Noch zahlreichen anderen Verknüpfungen zwischen diesen Thesen wird nachgegangen.

Der Widerstand der Monetaristen gegen Staatseingriffe entspricht den meisten anderen monetaristischen Forderungen. Aber es wäre ein Irrtum anzunehmen, daß dies die Grundlage des Monetarismus wäre. Vielmehr dürften eine Neigung zur Unkompliziertheit und Skepsis gegenüber unserer Kenntnis der Zusammenhänge fundamentaler sein.

Summary

The Structure of Monetarism (II)

This paper continues the discussion* of monetarism by taking up six monetarist policy propositions. They are: (1) the use of a reserve measure as an indicator of monetary policy, (2) the use of the money stock as the proper target for monetary policy, (3) belief in a stable money growth rate rule, (4) rejection of an inflation-unemployment trade-off, (5) great concern about inflation, and (6) dislike of government intervention. The interrelations of these propositions and their relations to the six propositions taken up in Part I of this paper are discussed. Although at least five of them are clearly connected with other monetarist propositions, the connection is again such that one can accept some, without accepting the others.

It is argued that use of a reserve measure as an indicator of monetary policy has only a weak connection with all the other monetarist propositions. However, for the other propositions the interconnections are much closer. To give some examples, the use of the money stock as a target for monetary policy is connected to the quantity theory, since the quantity theory centers on the

* pp. 190.

money stock, and also implies that the money stock can be measured properly, something that is needed if it is to be used as a target. Similarly, the stable money growth rate is connected to the quantity theory by the belief that the demand for money is stable, and it is connected to the money stock target since it is a specification of that target. The rejection of the inflation-unemployment trade-off fits well with the quantity theory because, if the *Phillips*-curve is in real terms, prices and the stock of money move proportionately. Numerous other connections between these propositions are traced.

The monetarist's opposition to government interference fits well with most other monetarist propositions. But it would be misleading to consider this to be the basis of monetarism. Instead, a preference for simplicity, and skepticism about our knowledge seem more basic.

Résumé

La structure du monétarisme (II)

L'étude du monétarisme se poursuit (I)* par cette Section II, dans laquelle interviennent six règles de politique monétariste: (1) L'utilisation des réserves minimales comme indicateur de la politique monétaire. (2) L'alignement de la politique monétaire sur le volume monétaire considéré comme la variable finalisée appropriée. (3) La croyance à la règle de l'expansion stable du volume monétaire. (4) Rejet de l'alternative entre l'inflation et le chômage. (5) Vives inquiétudes au sujet de l'inflation, et (6) antipathie à l'égard des interventions étatiques. L'on examine les rapports d'échange entre ces divers points et leur relation avec les six thèses faisant l'objet de la Section I de l'étude. Et bien que cinq au moins de ces six thèses sont clairement liées à d'autres exigences monétaristes, l'on peut cependant en accepter certaines pour en repousser d'autres.

L'auteur explique que le choix des réserves minimales comme indicateur de la politique monétaire n'a qu'une liaison secondaire avec toutes les autres thèses monétaristes. Mais pour d'autres points, les jonctions sont nettement plus étroites. C'est ainsi par exemple que l'emploi du volume monétaire comme variable finalisée de la politique monétaire se trouve en étroite relation avec la théorie quantiative du fait précisément que la théorie qualitative s'oriente sur le volume monétaire et qu'elle postule que ce volume peut être mesuré très exactement — ce qui doit certainement être le cas lorsque le volume monétaire sert de variable finalisée. Pareillement, il existe une étroite relation entre la thèse du taux stable d'expansion du volume monétaire et la théorie quantitative pour autant que la demande monétaire demeure stable. Et ceci constitue inversément une description plus précise du volume monétaire

* p. 190.

comme variable finalisée. Le rejet de l'alternative entre l'inflation et le chômage s'adapte parfaitement à la théorie quantitative en raison du développement proportionnel des prix et du volume monétaire lorsqu'on exprime la courbe de Phillips en grandeurs réelles. De nombreux autres liens entre ces thèses sont également analysés.

L'opposition des monétaristes aux interventions étatiques correspond à la plupart des autres exigences monétaristes. Mais ce serait une erreur de croire que c'est là le fondement du monétarisme. Une tendance à la simplicité et au scepticisme à l'égard de notre connaissance des interconnexions devrait au contraire être fondamentale.