

COMPARISON OF FISCALIST AND MONETARIST VIEWS  
ON THE ROLE OF MONEY

by

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## ABSTRACT

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The 1930's saw the rise of the Keynesian Revolution in economics emphasizing discretionary fiscal actions for stabilizing the economy. A counter-revolution has emerged in recent years to challenge the views of the Fiscalists. The proponents of the counter-revolution emphasize the importance of the quantity of money in actions to stabilize the economy. Their spiritual ancestors were the classical economists. Today the proponents of the importance of money are known as Monetarists.

The Fiscalists of the 1930's downplayed the role of money contrary to the accepted theory until that time. This paper traces the changes which have occurred in the views of Fiscalists and in the views of the spiritual heirs of the Quantity Theorists, the Monetarists, concerning the role of money in the economy.

A Wall Street Journal article of July 20, 1972 discussed the current importance of the Monetarist school in economic thought. At the Federal Reserve Bank of St. Louis, the headquarters of Monetarism in government, there is a

motto and a symbol of the Monetarists. The motto is "Under this sign we conquer." Underneath it is the symbol of the classical equation of exchange:  $MV = Py$ , which is the summary of the quantity theory of money of the Classicists. The Monetarist "counter-revolution" is based on a reconstructed version of the quantity theory. The unique characteristic of the reconstructed quantity theory is that a discrepancy between the demand for real money and supply of nominal money will be eliminated directly by increased or reduced spending which, as a result, changes prices and incomes. From this adjustment process it follows that stabilization actions should involve control of the money supply. Inflation is the result of an over-supply of nominal money assuming the demand for money to be relatively stable, and any framework for stability in an economy must be built around controlling the growth of the money supply.

This paper shows that the transmission mechanism from monetary impulses to economic activity is the key element leading to differences between the two schools of thought. Fiscalists do not subscribe to the theoretical underpinnings of the quantity theory. As a result monetary policy is not seen as being as powerful as fiscal policy. Fiscal measures are seen as having a direct income and spending effect while the effects of changes in money supply are indirect. The transmission mechanism from monetary impulses to economic activity is via raising or lowering interest rates which then causes portfolio, wealth, and credit availability effects.

These effects influence investment spending which in turn affects income. This adjustment process leads to the conclusion that stabilization actions involving money must be concerned with interest rates or money-market conditions. The money supply becomes secondary. Inflation is not caused by money if the economy is at less than full-employment. A framework for economic stability must build its main weapons around fiscal measures.

The paper examines the theoretical background and framework for each school. Then noting the theoretical differences as well as assumptions to make their models determinate, the paper proceeds to the issues that are logical consequences of their thinking. Thus the paper develops a comparison and contrast of the ideas of Fiscalists and Monetarists showing the debate as it stands presently.

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In the field of economics there has been a continuing debate between two schools of thought, the Monetarists and the Fiscalists. Monetarists, who inherit their framework from the Classicists, are also referred to as quantity theorists, neo-classicists, the new, new economists or proponents of the Chicago school of thought. Fiscalists are those whose framework for economic analysis is inherited from John Maynard Keynes. They may be known as new economists, New Viewers, the counter-revolutionaries of the Monetarist school, or income-expenditure theorists. The 1930's saw the establishment of Keynesian orthodoxy which "played down" the role of money and monetary policy implicit in the quantity theory of the Classicists. By the 1950's and 1960's debates centered on the techniques of fine tuning the economy through fiscal measures. By reconstructing a version of the quantity theory of money, the Monetarists have emerged in the 1960's and 1970's as the opposition school that again emphasized the importance of money and monetary policy.

In chapters I and II Classical and Keynesian concepts of the economic system inclusive of the modern reconstructed quantity theory and the Keynesian IS-LM theory are examined.

## CHAPTER I

### CLASSICAL AND SIMPLE KEYNESIAN CONCEPTS COMPARED

#### Introduction

In the field of economics there has been a continuing debate between two schools of thought, the Monetarists and the Fiscalists. Monetarists, who inherit their framework from the Classicists, are also referred to as quantity theorists, neo-classicists, the new, new economists or proponents of the Chicago school of thought. Fiscalists are those whose framework for economic analysis is inherited from John Maynard Keynes. They may be known as new economists, New Viewers, the counter-criticizers of the Monetarist school, or income-expenditure theorists. The 1930's saw the establishment of Keynesian orthodoxy which "played down" the role of money and monetary policy implicit in the quantity theory of the Classicists. By the 1950's and 1960's debates concentrated on the techniques of fine tuning the economy through fiscal measures. By reconstructing a version of the quantity theory of money, the Monetarists have emerged in the 1960's and 1970's as the opposition school that again emphasizes the importance of money and monetary policy.

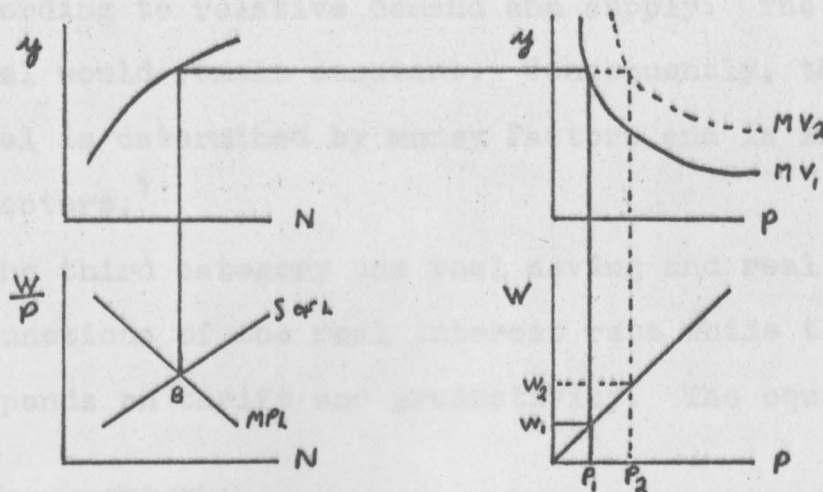
In chapters I and II Classical and Keynesian concepts of the economic system inclusive of the modern reconstructed quantity theory and the Keynesian IS-LM theory are examined.

This development will reveal the key differences between the schools in the conception of the role of money. In chapter III the transmission mechanisms from monetary and fiscal impulses to economic activity will then be developed for both Monetarists and Fiscalists. Finally, the logical consequences of these adjustment mechanisms are discussed in Chapters IV and V. These include the implications for unemployment and inflation as well as the implementation of monetary policy.

### Simple Classical Theory

Classical theory was separated into three categories: 1) employment and real wage theory; 2) absolute price level determination; and 3) interest rate, saving and investment determination. The first two categories are illustrated in figure 1.

FIGURE 1  
CLASSICAL MODEL



The real factors of output, employment, and real wage ( $y, N, W/P$ , respectively) were not considered as affected by



monetary factors. A disequilibrium on the left hand side of figure 1 would be restored by the adjustment of the real wage. Equilibrium is at the real wage where the marginal productivity of labor equals the supply of labor, i.e., point B in figure 1. Major assumptions in this model were that prices and wages were completely flexible thus assuring full-employment. The second category is embodied in the quantity theory of money with  $MV = Py$  where  $M$  is the money supply,  $V$  is the income velocity of money,  $P$  is the price level, and  $y$  is the real output. Velocity was always assumed to be constant as people never held idle money balances. As  $y$  was determined by real factors, an expansion of money to  $MV_2$  would cause prices and wages to increase in equal proportion such that the real wage  $W_2/P_2$  equals  $W_1/P_1$ . Changes in money will only change prices and wages proportionately. A change in real factors with money constant is reflected in a change in the real wage with prices of goods changing relative to each other according to relative demand and supply. The general price level would remain constant. Consequently, the absolute price level is determined by money factors and is independent of real factors.<sup>1</sup>

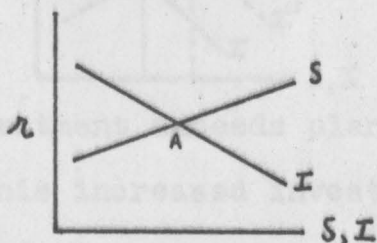
The third category has real saving and real investment as functions of the real interest rate while the real rate itself depends on thrift and productivity. The equilibrium

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<sup>1</sup>Gardner Ackley, Macroeconomic Theory (Toronto, Ontario: The Macmillan Company, 1969), pp. 149, 157-158.

interest rate is at point A in figure 2 where saving equals investment. The variables in this analysis are not financial but real and do not imply a capital market in the financial sense. The schedules were considered to be elastic with

FIGURE 2  
CLASSICAL SAVING AND INVESTMENT MODEL



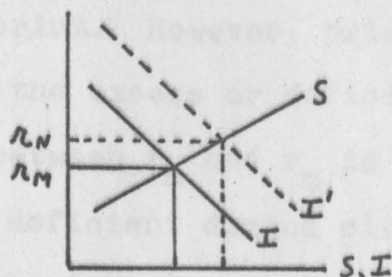
respect to the interest rate which maintained equilibrium by its fluctuation. Therefore, classicists viewed the maximum level of output assured by the automatic adjustment of relative prices and wages to real factors while the real interest rate equilibrated saving and investment, thus assuring full-employment at some general price level, determined by the money supply.

#### Wicksell's Sophisticated Classical Theory

Knut Wicksell's addition to classical theory was that money affected the price level by way of the interest rate. His conception of interest rates involved a natural rate determined by real factors and a market rate in financial markets as pictured in figure 3. The graph shows the saving and investment functions where  $I'$  is the new real investment schedule. Initially, the natural and market interest rates coincided at  $r_m$ . However, with the shift in the investment

curve, the new natural rate,  $r_n$ , is above the market rate,  $r_m$ .

FIGURE 3  
NATURAL AND MARKET INTEREST RATES



At  $r_m$ , planned investment exceeds planned saving. If the banking system meets this increased investment demand by expanding the money supply and thereby maintaining the market rate  $r_m$  below the natural rate,  $r_n$ , excess money demand for goods and services causes prices to be bid-up, assuming all resources were initially fully employed. A disequilibrium results causing inflation as long as the natural rate is greater than the market rate. With general prices higher, wages must also increase to maintain the real wage rate level at its equilibrium level. Had the situation been a deficiency in demand, i.e., with the investment curve shifted down and the market rate continuing to exceed the natural rate due to a contraction of the money supply, then prices would fall causing unemployment if wages did not also fall in proportion.<sup>2</sup>

Wicksell theorized that aggregate demand could be maintained without general inflation or deflation by a freely floating market interest rate that coincided with the natural

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<sup>2</sup>Ibid., pp. 155, 158.

rate at equilibrium. If the banking system did not permit the rates to coincide, by expanding or contracting the money supply, then the economy must rely on price and wage adjustments for equilibrium. However, price and wage adjustments do not eliminate the excess or deficient demand. Only when the discrepancy between  $r_n$  and  $r_m$  is eliminated is the source of the excess or deficient demand eliminated. If the banking system did not interfere in the financial markets,  $r_m$  was always considered to approach  $r_n$ . Thus, it was expected that with a situation of excess demand as in figure 3, investors would issue more securities causing prices of securities to fall and  $r_m$  to rise. In conclusion, Wicksell connected changes in money to changes in the price level through a discrepancy in the market and natural interest rates.<sup>3</sup>

It is implied in the above analysis that the natural rate is above the market rate when there is an inflation. Experience indicates a positive relationship between prices and market interest rates. When prices are rising, market interest rates also tend to rise. The rise in market interest rates is explained by the Fisher "price expectation effect." If lenders anticipate continued inflation, an inflationary price premium is added to the market interest rate which makes the market rate greater than the natural rate. This phenomenon is known as the Gibson paradox. It is a paradox because, according to the Wicksellian analysis, when the

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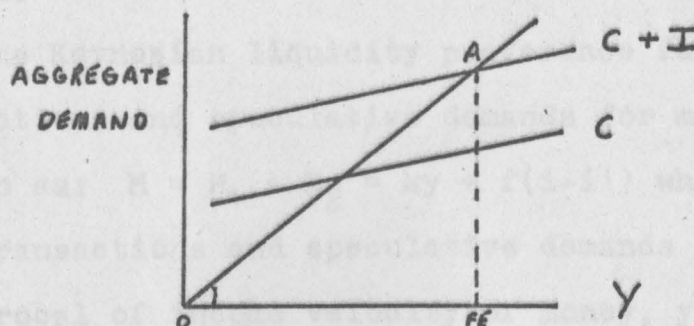
<sup>3</sup>Ibid., pp. 151-153.

natural rate exceeded the market rate inflation occurred.<sup>4</sup>The Wicksellian analysis is not used in modern thought because neither investment nor saving are considered to be functions of only interest rates. Wicksell's contribution is the addition of financial markets in the analysis and the distinction between market and natural rates of interest.

#### Simple Keynesian Theory

The simple Keynesian model is shown in figure 4 where aggregate demand equals consumption plus autonomous investment. The model assumes no government, no corporations, a closed economy, and constant money wages and prices, i.e.,  $NNP = DI$ . At point A aggregate demand and supply are equal where total income equals consumption plus investment. From 0 to FE (full-employment) all adjustments to attain full-employment are real while to the right of FE all adjustments are in prices.

FIGURE 4  
SIMPLE KEYNESIAN MODEL



<sup>4</sup>David I. Fand, "A Monetarist Model of the Monetary Process," Monetary Economics: Readings on Current Issues, ed. by William E. Gibson and George G. Kaufman (New York: McGraw-Hill, Inc., 1971), p. 77.

If a deficiency of demand exists, fiscal measures can increase aggregate demand and income via the multiplier until additional saving is generated to equate saving with the additional investment. Of particular importance in this model is autonomous investment as government spending for instance, which implies the liquidity "trap" and the possibility of the interest inelasticity of investment. The liquidity "trap" concept was the result of the addition by Keynes of a speculative demand for money in addition to the transactions demand of the classical quantity theory. The concept of liquidity preference suggested that the interest rate might not always be reduced sufficiently to stimulate investment and thereby raise aggregate demand. Furthermore, if investment is interest inelastic, reductions in the interest rate would not be effective. Consequently, Keynes concluded that there need not exist a long-run equilibrium characterized by full-employment, and there may be equilibrium below full-employment.<sup>5</sup>

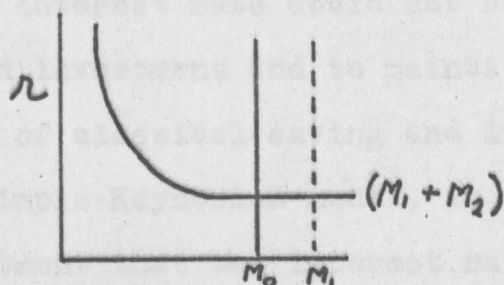
The Keynesian liquidity preference function consisted of transactions and speculative demands for money. This can be written as:  $M = M_1 + M_2 = ky + f(i-i')$  where  $M_1$  and  $M_2$  are the transactions and speculative demands for money,  $k$  is the reciprocal of income velocity of money,  $y$  is real income,  $i$  is the current market interest rate, and  $i'$  is the expected interest rate. The price level is excluded ala Keynes

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<sup>5</sup>Ackley, Macroeconomic Theory, pp. 171-173.

making the function a real demand for money because Keynes assumed prices to be constant. In the short-run Keynes believed peoples' expectations about the interest rate was fixed. Therefore  $M_2$  could be looked at as a function of  $i$  alone. The higher the current rate, the lower will be the money balances that people would desire to hold since they can obtain interest income by investing idle balances. The lower the current rate of interest, the more readily would people hold idle balances. They would lose little interest income and would not suffer capital losses since it is likely that rates would rise in the future from a low level. Consequently, the demand for a money becomes infinitely elastic at some low positive rate as pictured in figure 5.

FIGURE 5  
LIQUIDITY TRAP

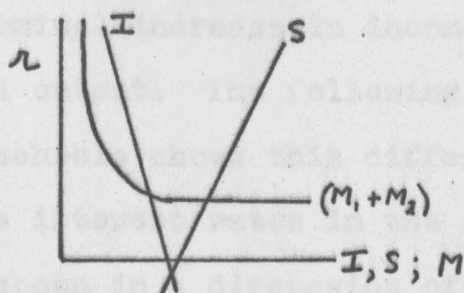


Should the authorities expand the money supply from  $M_0$  to  $M_1$ , the interest rate would not change. In such a case monetary policy is useless and as a result fiscal measures must be used to restore full-employment.<sup>6</sup>

<sup>6</sup>Milton Friedman, "A Theoretical Framework for Monetary Analysis," Journal of Political Economy, (March/April, 1970), 213-214.

A model with autonomous investment also implies the elasticity of the saving and investment schedules. If both schedules were inelastic, then the equilibrium interest rate may be very low or even negative as in figure 6. At the

FIGURE 6  
ELASTICITY OF CLASSICAL SAVING AND INVESTMENT SCHEDULES



negative rate equilibrium could never be attained. It is also possible that a low rate would not achieve equilibrium should the liquidity preference curve be infinitely elastic above the interest rate required to equilibrate saving and investment. The interest rate could not be relied upon to equate saving and investment and to maintain aggregate demand even in the case of classical saving and investment functions.<sup>7</sup>

In the Simple Keynesian model, it is implied in using autonomous investment that the interest rate is not important. Only changes in income through shifts in aggregate demand brought about by fiscal policy would bring equilibrium at desired levels. Also, in the absence of real balances (wealth) effects, price and wage flexibility downward does not guarantee increases in aggregate demand to achieve full-

<sup>7</sup>Ackley, Macroeconomic Theory, pp. 192-193.



employment.

### A Theoretical Model Common to Both Schools

In the previous analysis a basic difference between the Simple Classical model and the Simple Keynesian model was the different assumptions about full-employment and the division of a nominal increase in income between price increases and real output. The following aggregate model common to both schools shows this difference. In this model both schools use interest rates in the same equations. The difference, as shown in a discussion of the IS-LM analysis to follow, concerns liquidity preference and elasticity of investment with respect to interest rates. The model consists of the six equations:

$$1) \quad C/P = f(Y/P, r);$$

$$2) \quad I/P = f(r);$$

$$3) \quad Y/P = C/P + I/P;$$

$$4) \quad M^d/P = f(Y/P, r);$$

$$5) \quad M^s = f(r);$$

$$6) \quad M^d = M^s.$$

Equation 1 is a consumption function expressing real consumption as a function of real income and the interest rate. Equation 2 expresses real investment as a function of the interest rate while equation 3 is an income identity where real income equals real consumption plus real investment. Equation 4 is the demand for real money as a function of real income and the interest rate. The supply of nominal money  $M^s$  in equation 5 is a function of the interest rate while equation 6 is a market equilibrium definition making

money demanded equal to money supplied. The first three equations describe the adjustment of saving and investment while the last three describe money demanded and supplied.<sup>8</sup>

This model has six equations and seven unknowns:  $C$ ,  $I$ ,  $Y$ ,  $r$ ,  $P$ ,  $M^d$ ,  $M^s$ . The essential difference between quantity theorists and Fiscalists is clarified by noting the assumption of each to make the model determinate. Quantity theorists add the equation  $Y/P = y_0$  which is to say real income is determined exogenously. Fiscalists add the equation  $P = P_0$  which says the price level is exogenous. These assumptions have the same effect as the simple Classicist assumption of full-employment and the simple Keynesian assumption of price and wage rigidity at less than full-employment. Starting with the Monetarist assumption, equations 1-3 become a self-contained set of three equations and three unknowns. Substituting 1 and 2 into 3 gives:  $y_0 - f(y_0, r) = f(r)$ . This gives a value for  $r$ , say  $r_0$ . Thus by equation 5,  $M^s$  can be determined as well as  $M^d$  in equation 6, say  $M_0$ . Equation 4 can be rewritten as:  $M_0 = P \cdot f(y_0, r_0)$  which is the quantity equation  $MV = Py$  when multiplying and dividing the right hand side by  $y_0$  and replacing  $f(y_0, r_0)/y$  by its equivalent  $1/V$ . This can be seen by noting that  $f(y_0, r_0)/y_0$  is real consumption as a fraction of total real income. This quantity represents the transactions demand for money expressed

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<sup>8</sup>Friedman, "A Theoretical Framework for Monetary Analysis," pp. 217-218.

as a fraction of real income which is  $1/V$ .<sup>9</sup>

For the Fiscalists  $P = P_0$  and by substituting equations 1 and 2 into 3 gives  $Y/P_0 - f(Y/P_0, r) = f(r)$ . This is an equation in variables  $Y$  and  $r$  which is the Hicksian IS curve. Substituting equations 4 and 5 into 6 gives:  $f(r) = P_0 \cdot f(Y/P_0, r)$ . This is the LM curve. The simultaneous solution of both IS and LM equations determines  $Y$  and  $r$ . So it is the assumption about the "missing equation" that leads to the quantity theory or to the IS-LM analysis of modern Fiscalism. This model is highly simplified but shows that the quantity theorists assert that changes in nominal income will all be absorbed by quantity changes, on the assumption that resources are not fully employed. Friedman points out that the assumptions of changes in nominal income being absorbed totally in one way or the other (price or quantity), are the central common defects of both approaches as theories of short-run division of a change in nominal income between prices and output. Likewise, what is needed is the adjustment process showing how changes in fiscal and monetary actions affect income, prices, output, and employment.<sup>10</sup> This requires knowledge of the transmission mechanism. However, before proceeding to this topic, it is necessary to first compare the reconstructed (modern) quantity theory with the Keynesian IS-LM analysis. These theories represent

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<sup>9</sup>Ibid., pp. 219-220.

<sup>10</sup>Ibid., pp. 220, 222-223.

the generally accepted positions of Monetarists and Fiscalists of today.

CHAPTER II

DIVERGENCES IN CONCEPTION OF MONETARISM IN DIFFERENT COUNTRIES

Quantitative Theory

The quantity theory is the heart of the general approach upon which Monetarists base their economic analysis. Milton Friedman states in this way, "There is perhaps no other empirical relation in economics that has been observed to occur so uniformly under an wide a variety of circumstances as the relationship between substantial changes over short periods in the stock of money and in prices; the two are invariably linked with the other and in the same direction; the uniformity is, I suspect, of the same order as any of the uniformities that form the basis of the physical sciences."

The well-known quantity identity is  $MV = PY$  where  $M$  represents the money supply,  $V$  is velocity defined as the average number of times per unit of time that the stock of money is used in making income transactions for final goods and services,  $P$  represents the price level, and  $Y$  is national income in constant prices. It is also written as  $M = PY/V$  where  $1/V$  is the reciprocal of  $V$ . This identity states that the nominal money supply times the inverse velocity equals the

Milton Friedman, "The Quantity Theory of Money - A Restatement," Friedman, ed. by F.H. Mises, (New York) Holt, Rinehart and Winston, Inc. 1971, p. 139.

## CHAPTER II

## DIFFERENCES IN CONCEPTION OF IMPORTANCE IN DEMAND FOR MONEY

Reconstructed Quantity Theory

The quantity theory is the heart of the general approach upon which Monetarists base their economic analysis. Milton Friedman states it this way, "There is perhaps no other empirical relation in economics that has been observed to occur so uniformly under so wide a variation of circumstances as the relationship between substantial changes over short periods in the stock of money and in prices; the one is invariably linked with the other and is in the same direction; the uniformity is I suspect, of the same order as many of the uniformities that form the basis of the physical sciences."<sup>11</sup>

The well-known quantity identity is  $MV = PY$  where M represents the money supply, V is velocity defined as the average number of times per unit of time that the stock of money is used in making income transactions for final goods and services, P represents the price level, and Y is national income in constant prices. It is also written as  $M = kPY$  where k is the reciprocal of V. This identity states that the nominal money supply times the income velocity equals the

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<sup>11</sup>Milton Friedman, "The Quantity Theory of Money - A Restatement," Readings in Macroeconomics, ed. by M.G. Mueller (New York: Holt, Rinehart and Winston, Inc., 1971), p. 159.

price level times real income. With certain relationships, the identity becomes an equation and a theory. Velocity is assumed to be basically stable so that if the nominal money supply is greater than that desired, the result will be higher prices that will eventually adjust the real quantity of money to that demanded. The quantity theory rests on a distinction between the nominal quantity of money and the real quantity of money.<sup>12</sup> Thus, the key aspect of the quantity theory is that prices are the connection between the nominal quantity of money supplied and the real quantity of money demanded. If the quantity of money supplied is greater than that demanded, then prices will be bid up which then lowers the real quantity of money ( $M/P$ ) until supply and demand for real money balances are equal. It is the discrepancy between nominal and real quantities of money that serve as the basis for understanding the demand for money in the quantity theory. Changes in prices can be caused by changes in the demand for real money balances or by changes in the nominal supply. Empirical studies have convinced Monetarists that the real quantity of money demanded is quite stable or changes very slowly, i.e., velocity is relatively stable. Hence, it is not likely that observed price changes are caused by changes in real demand. What does change frequently is the nominal money supply via Federal Reserve actions. It is

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<sup>12</sup>Friedman, "A Theoretical Framework for Monetary Analysis," p. 194.

doubtful that Federal Reserve actions are the result of trying to meet changes in the demand for money because real demands are supposed to be stable. This leads to the conclusion that changes in prices or the price level are almost always caused by changes in the nominal money supply. Therefore the quantity theory, as reconstructed by Friedman, visualizes inflation as the consequence of increases in the nominal money supply via Federal Reserve actions.<sup>13</sup>

The quantity theory is a theory of demand for money, but it has implications for output, money income, and the price level. In Friedman's opinion the demand for money depends on four major sets of factors. These are total wealth, the division of wealth between human and non-human forms, the expected rates of return on money and other assets, and other random variables affecting tastes and preferences of individuals. Friedman, using these four factors, constructs his demand for money function. It is  $M/P = f(y, w, r_m, r_b, r_e, 1/P \cdot dP/dt, u)$  where  $M/P$  is the real supply of money demanded;  $y$  is real income,  $w$  is the fraction of wealth in non-human form;  $r_m, r_b, r_e$ , are the expected nominal rates of return on money, bonds, and equities respectively;  $1/P \cdot dP/dt$  is the expected rate of change of prices of goods or the expected nominal rate of return on real assets; and  $u$  stands for any variables that may affect the utility of money.<sup>14</sup>

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<sup>13</sup>Ibid., pp. 195-196.

<sup>14</sup>Friedman, "Quantity Theory of Money - A Restatement, " pp. 147-152.

In this function the partial derivatives of  $M/P$  with respect to variables  $y$ ,  $w$ , and  $r_m$  are positive while with respect to variables  $r_b$ ,  $r_e$ , and  $1/P \cdot dP/dt$  are negative. The partial derivative of  $M/P$  with respect to  $u$  can be either positive or negative.

Differences between Fiscalists and Monetarists over the function arises with respect to three issues: (1) the stability and importance of this function; (2) the independence of the factors affecting demand and supply; and (3) the form of the function itself. Monetarists interpret the empirical findings as a stable demand for money. It is not implied that money demanded or velocity is constant over time, however. Velocity can rise sharply as would be the case in a hyperinflation, but normally it can be predicted. Fiscalists, however, do not assume stability in the demand for money and do not attach great importance to it for determining the price level or income. The second issue revolves around the ability to control the money supply and the factors affecting the demand for money. Monetarists assert that the nominal money supply can be controlled but real demand for money cannot. For example, technical, political, or psychological conditions may cause the Federal Reserve to adopt specific policies which affect the money supply. Thus the money supply is exogenous. Fiscalists do not accept independence of supply and demand. The money supply is an endogenous variable determined by the interactions of the Federal Reserve, commercial banks, and the non-bank public. In this view the



demand for money affects supply, and it is not possible to trace out factors that affect only the money supply. Finally, the Fiscalists do not accept the form of the Monetarists' demand for money function. A basic difference of Keynesian analysis is the liquidity "trap" although both Monetarists and Fiscalists recognize liquidity per se. In the trap changes in the money supply have no effect on interest rates.<sup>15</sup>

### Keynesian IS-LM Theory

As the common model in chapter two revealed, modern Fiscalists use the IS-LM framework for analysis. The IS curve shows the various combinations of income and interest rate that are consistent with an equality between planned saving and investment. The LM curve shows the combinations of  $y$  and  $r$  that enable quantity supplied and quantity demanded for money to be equal. The analysis assumes prices are given which is typical of historical Keynesian analysis. Only at point F in figure 7 where the IS intersects the LM are both equilibrium conditions satisfied, i.e., saving equals investment and supply equals demand for money.

The IS curve will shift in response to changes in saving and investment and the elasticity of the curve depends on the elasticity of the saving (MPC) and investment functions. The LM curve will shift from changes in the money supply or changes in speculative balances held. The elasticity of the

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<sup>15</sup>Ibid., pp. 155-156.

LM curve depends on the elasticity of the  $M_1$  and  $M_2$  functions. For example, an expansion of the money supply will shift the LM curve to the right initially due to liquidity.<sup>16</sup> The position of the LM curve depends ultimately on three effects.

FIGURE 7  
IS-LM VIEW OF MONEY, INCOME, AND INTEREST RATES

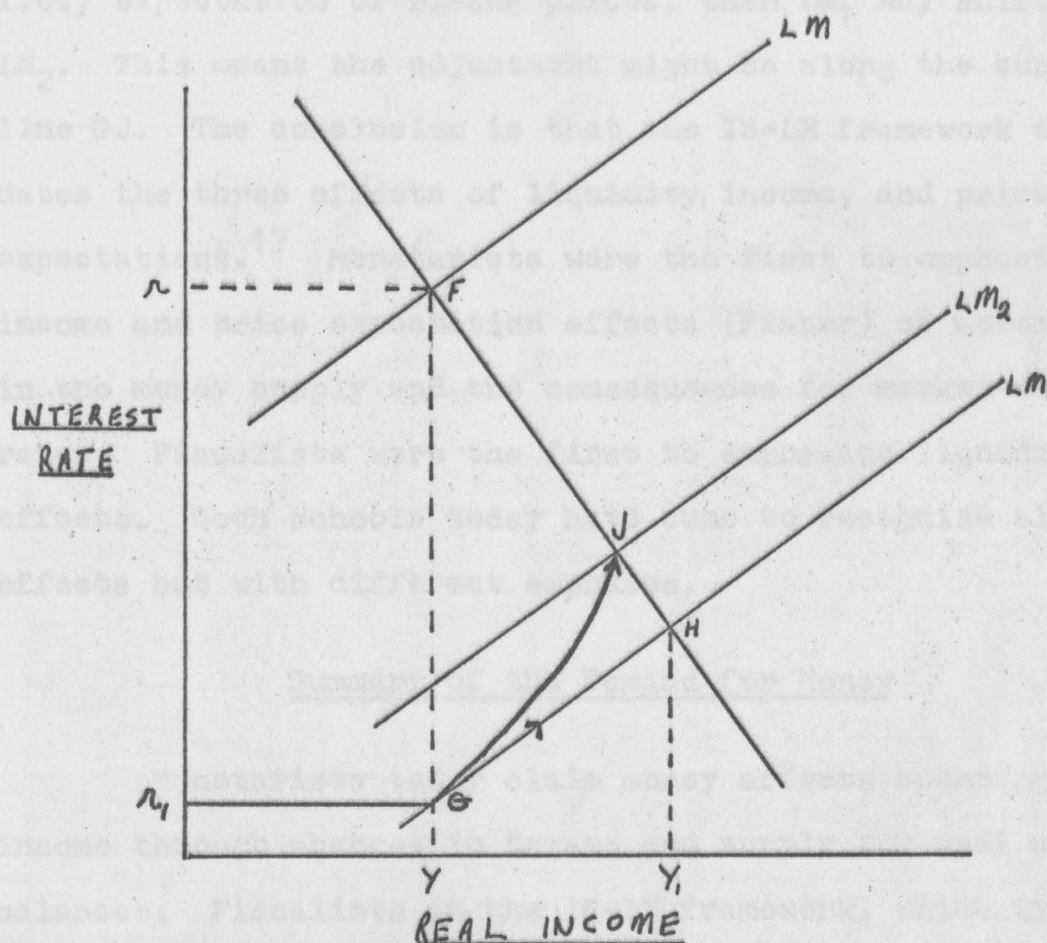


Figure 7 shows an IS-LM system at equilibrium at point F with income and interest rate at  $y$  and  $r$  respectively. Suppose

<sup>16</sup>Ackley, Macroeconomic Theory, pp. 373-375.

the curve shifts to  $LM_1$ . The liquidity effect would result in  $r$  being lowered to  $r_1$ . For Fiscalists this represents a movement along the liquidity preference function in response to a change in money supply holding income constant. Next, income will begin to respond so that both  $y$  and  $r$  rise along line segment GH. This is the income effect. Now should rising income be accompanied by a price expectation effect, i.e., expectation of rising prices, then  $LM_1$  may shift to  $LM_2$ . This means the adjustment might be along the curved line GJ. The conclusion is that the IS-LM framework accommodates the three effects of liquidity, income, and price expectations.<sup>17</sup> Monetarists were the first to emphasize income and price expectation effects (Fisher) of movements in the money supply and the consequences for market interest rates. Fiscalists were the first to emphasize liquidity effects. Both schools today have come to recognize all three effects but with different emphases.

#### Summary of the Demand for Money

Monetarists today claim money affects spending and income through changes in demand and supply for real money balances. Fiscalists in the IS-LM framework, which typically does not include a price level variable, have money affecting investment through the interest rate although investment may

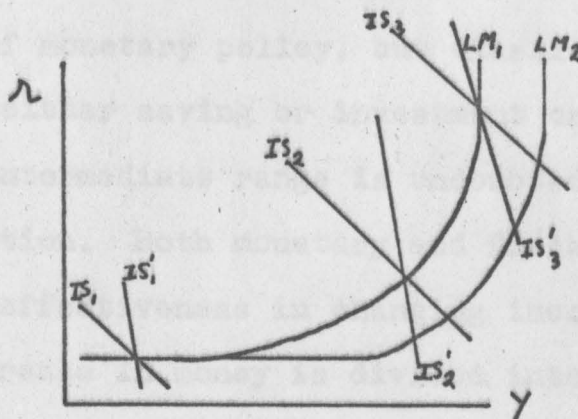
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<sup>17</sup>Ronald Teigen, "A Critical Look at Monetarist Economics," Review - FRB of St. Louis, Reprint Series No. 74 (January, 1972), pp. 19-20.

be inelastic with respect to interest rates and the liquidity "trap" may prevent reductions in the rate to stimulate investment.

Figure 8 summarizes the basic differences between Classical and Keynesian theory.<sup>18</sup>  $IS_1$  is the Keynesian case

FIGURE 8  
PRICE AND OUTPUT DIVISION



of the liquidity "trap" where  $LM_1$  is infinitely elastic. Any increase in the money supply will shift the LM curve to the right, say  $LM_2$ . However, the lower end of the curve still remains infinitely elastic. Consequently, monetary policy is useless because all increases in money go into speculative balances. There is no effect on interest rates or income. Prices were assumed constant. However, fiscal policy, by shifting the  $IS_1$  curve to the right can change income. The elasticity of the IS curve, is irrelevant in the Keynesian range however. The classical case is where the

<sup>18</sup>Edward Shapiro, Macroeconomic Analysis (New York: Harcourt, Brace and World, Inc., 1966), p. 472.

LM curve is infinitely inelastic. An increase in money that causes  $LM_1$  to shift to  $LM_2$  will result in price, income, and interest rate changes. Monetary policy is effective as all money goes into transactions balances. Fiscal policy, by shifting the IS curve, was ineffective in controlling the income level as only interest rates and prices could be changed. An inelastic IS curve would tend to reduce the effectiveness of monetary policy, but classical theorists always assumed either saving or investment or both to be elastic. The intermediate range is undoubtedly the most realistic situation. Both monetary and fiscal policy have some degree of effectiveness in changing income depending on how much an increase in money is divided into speculative and transactions balances and the elasticity of the IS curve. Monetary policy is more effective the closer the IS-LM intersection to the classical range while fiscal policy is more effective the closer to the Keynesian range. Consequently, in the intermediate range the effect of changes or shifts in either IS or LM is indeterminate as to the effects on prices, interest rates, and income.<sup>19</sup>

Both schools of thought have a different framework for their analysis due in part to basic premises. Keynesianism became popular during the Great Depression. One of its basic premises is that unemployment is a chronic problem and that the economy is basically unstable. Therefore, rigorous

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<sup>19</sup>Ackley, Macroeconomic Theory, pp. 370-372.

governmental action is needed to promote employment. There are three other premises basic to Fiscalism that reflect the inheritance from Keynes himself. First, Keynes proposed there need not exist a long-run equilibrium position characterized by full-employment with no tendency to return to full-employment. This theoretical matter has been placed in question by the Pigou Effect. The Pigou Effect is a wealth effect, where price flexibility is assumed such that a decline in prices increases wealth which may motivate spending. Even in the liquidity "trap", where the interest rate cannot equilibrate saving and investment, the wealth effect may cause additional spending without a change in the interest rate and thereby tend to full-employment.<sup>20</sup> However, the Pigou effect is not a practical means to achieve objectives since the extent of price declines necessary would seem to be excessive. It offers little as a means to solve less than full-employment problems. Secondly, Fiscalists assume prices are rigid for short-run analysis. No distinction between real and nominal quantities is made. The third premise is that due to the liquidity preference concept, velocity of money is considered as highly unstable. Modern Fiscalists no longer explicitly acknowledge absolute liquidity preference. However, the concept still plays a role when  $V$  is assumed to adjust to changes in money supply or when regarding the demand for

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<sup>20</sup>Friedman, "A Theoretical Framework for Monetary Analysis, pp. 206-207.

money as elastic with respect to interest rates.<sup>21</sup>

Darryl Francis, President of the St. Louis Federal Reserve Bank, has enumerated basic premises of Monetarism in contrast to premises of Fiscalists. First, there is the orientation for the market economy and a belief in the role of flexible prices. Thus policies are advocated consistent with a competitive market order rather than measures inconsistent with such a system as price and credit controls.<sup>22</sup> In contrast, in simple Keynesianism, prices and wages are considered to be inflexible. A second premise is the belief in a high degree of inherent stability in the economic system. The view is that growth in output is determined by factors that change slowly as population, capital formation, natural resources, and technology. These factors provide the underlying stability for output and employment trends. The effect of monetary actions on output and employment is considered to exert some influence in the short-run, but in the long-run only the price level is affected. A third premise is that prevention of inflation or deflation is the primary concern for stabilization policy rather than emphasis on unemployment, contrary to Fiscalism. Proper management requires influencing movements in total spending by controlling monetary aggregates. Monetary authorities should

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<sup>21</sup> Ibid., pp. 210-212, 214-215.

<sup>22</sup> Darryl R. Francis, "An Approach to Monetary and Fiscal Management," Review - FRB of St. Louis, Reprint Series No. 33 (November, 1968), p. 7.

promote a growth in money supply consistent with price level and employment goals.<sup>23</sup>

TRANSMISSION MECHANISM

Transmission Mechanism of the Federal Reserve

The transmission mechanism of the Federal Reserve from monetary actions to economic activity was considered by the Institute. Monetary policy by influencing money and capital market interest rates determines the cost of borrowing. This influences the desirability and profitability of investment and thus investment spending. Changes in investment then affect output and economic production. Monetary policy actions were considered to be directed at influencing aggregate saving, investment, or spending which in turn aggregate spending directly and therefore affect output and economic activity. For example, increasing government spending, increases the income of people. Depending on the marginal propensity to consume, income can increase further the the activities.

The modern Federalist view goes well beyond the original Fed view of interest rate. The modern view is also known as the "real business cycle" theory. This theory is the paradigm approach of government intervention.

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<sup>23</sup>Ibid., pp. 7-10.



## CHAPTER III

## TRANSMISSION MECHANISMS

Transmission Mechanism of the Fiscalists

The transmission mechanism of the Keynesian tradition from monetary actions to economic activity was considered to be indirect. Monetary policy by influencing money and capital market interest rates determined the cost of borrowing. This influences the feasibility and profitability of investment and thus investment spending. Changes in spending then affect output and economic production. However, fiscal actions were considered to be direct. The government by taxing, borrowing, or spending could influence aggregate spending directly and therefore affect output and economic activity. For example, increasing government spending, increases the incomes of people. Depending on the marginal propensity to consume, incomes are increased further via the multiplier.<sup>24</sup>

The modern Fiscalist view goes well beyond the original adjustment process of Keynes. The modern view is also known as the "weak Monetarist" thesis. This thesis is the portfolio approach of adjustment through interest

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<sup>24</sup>Karl Brunner, "The Role of Monetary Policy," Review-FRB of St. Louis, Reprint Series No. 30 (July, 1968), pp. 18-19.

rates and the effect on yields and supply prices of assets and new production. As opposed to the Keynesian tradition, monetary and fiscal impulses are both considered as indirect in affecting economic activity. The monetary mechanism is not dominated by borrowing costs as in simple Keynesianism. Rather monetary impulses through the operations of the Federal Reserve change relative yields on securities in the money and capital markets which then induce businesses and individuals to revalue or reconsider their portfolios. Suppose the Federal Reserve buys Treasury securities. Prices of bonds go up with the corresponding decrease in yields. By arbitrage other financial asset yields tend to decrease. Business and individual portfolios will now be in dynamic disequilibrium. With lower interest rates some firms may issue more securities to acquire more capital. The reason for this action is that the capitalized value of present capital increases when interest rates fall. That is, the present value of existing capital is calculated by:  $W_n / (1-r)^n$  where  $W_n$  is the net worth of the capital in year  $n$ ,  $r$  is the interest rate, and  $n$  is the year. Therefore, if  $r$  decreases, the net value of the existing capital rises. This will raise the price of existing capital relative to the production of new capital. The differential will tend to be eliminated as firms expand and increase the production of new capital. Consequently, accelerations and decelerations of monetary actions will change relative prices or yields of financial assets causing adjustments in portfolios, leading

to a differential in prices of capital goods which then results in production changes with its effect on the prices of output. The process just described has an indirect impact on economic activity.<sup>25</sup> A direct effect would be a wealth effect, which in the case of a monetary expansion, causes bond prices to rise thereby increasing the wealth of the holders of such securities. This effect may stimulate consumption. Fiscalists typically do not emphasize this effect, however. Another effect is credit availability. Continuing with the assumption of expansionary monetary action, the result is to provide the banking system with additional reserves. Banks will have more funds to lend which will cause a tendency to increase their lending and borrowing activity.<sup>26</sup> Consequently, investment spending is encouraged which would promote employment and capital formation. Incomes received in these new endeavors are spent by the recipients depending on their marginal propensity to consume. Incomes will be increased according to the multiplier. Fiscalists also recognize an acceleration effect. With higher production and greater profitability of capital goods, entrepreneurs are encouraged to invest even more.

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<sup>25</sup>Warren L. Smith, "A Neo-Keynesian View of Monetary Policy," Monetary Economics: Readings on Current Issues, ed. by William E. Gibson and George G. Kaufman (New York: McGraw-Hill, Inc., 1971), pp. 63-64.

<sup>26</sup>Frank De. Leeuw and Edward M. Gramlich, "The Channels of Monetary Policy," Monetary Economics: Readings on Current Issues, ed. By William E. Gibson and George G. Kaufman (New York: McGraw-Hill, Inc., 1971), pp. 154,155,159.

This fortifies investment spending. A side effect is set in motion as additional incomes increase the demand for currency and demand deposits. This would tend to raise interest rates.<sup>27</sup>

In summary, the monetary impulses produced by the Federal Reserve have their primary effects on economic activity by raising or lowering the spectrum of interest rates with the indirect portfolio adjustments and direct wealth effects and by influencing credit availability. All three effects generate a change in spending. How the change in spending is divided into real output or price level changes depends upon the amount of slack in the system and upon institutional factors that make for price-wage flexibility or for cost-push rises in prices and wages.<sup>28</sup>

#### Monetarist Transmission Mechanism

The strong Monetarist thesis is consistent with the forementioned weak Monetarist thesis. However, the strong thesis in addition to recognizing monetary and fiscal forces is supplemented with real forces which include technological innovation, expectations adjustments, capital accumulation, population changes, et cetera. All three forces affect economic activity via the relative price process. However, the adjustment process differs initially from the weak thesis.

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<sup>27</sup>Smith, "A Neo-Keynesian View," pp. 63-65.

<sup>28</sup>Ibid., p. 65.

First, a monetary action is viewed as the most important force affecting economic activity through changing yields on both financial and real assets. These changes in yields occur not only through the indirect portfolio effect, but through the direct demand for real money balances. As Milton Friedman has stated, "The key insight of the quantity theory is that a discrepancy between the demand and supply of money will be manifested primarily in attempted spending, thence in the rate of change in nominal income." That is, banks and individuals adjust their demand for money by their expenditures in order to equate the nominal supply with the real demands for money. As will be recalled in the reconstructed quantity theory, the adjustment of spending will change the price level which finally adjusts the real value of the money supply to that of the nominal supply. Consequently, the adjustment process is viewed as a dynamic relation between the demand for real money and the nominal money supply.<sup>29</sup>

Monetarists stress a transmission mechanism of portfolio, wealth, credit availability and most importantly the adjustment of real money to nominal balances. Monetarists emphasize the wealth effect while Fiscalists "play down" the effect. Nevertheless, the major difference is the adjustment of the demand for real balances to a change in money supply. It should be pointed out, however, that this process has never

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<sup>29</sup>Brunner, "The Role of Monetary Policy," p. 19.

been demonstrated or proven by Monetarists. Should the effect be demonstrated, the strong thesis may become the dominant view of how money affects economic activity.

Monetarists have a different view of the effects of fiscal actions on economic activity compared to the Fiscalists. Fiscal actions have their primary effect on the allocation of resources between private and public sectors assuming no change in money supply. The only effect is to transfer private spending to public spending, or vice versa. Monetarists distinguish between a mutatis mutandis tax action where government expenditures and money supply vary in the same direction, and a ceteris paribus tax action where government expenditures and money supply are held constant. Likewise, the analysis can be carried out for mutatis mutandis or ceteris paribus expenditure actions. There is disagreement between the schools over both effects. Monetarists feel that the mutatis mutandis effect is of special relevance. They question that an increase in taxes depresses aggregate demand, as Fiscalists assume, when both government expenditures and monetary aggregates are allowed to rise. Monetarists maintain that movements in money aggregates dominate fiscal actions. That is, unaccompanied by accommodating monetary policy, fiscal measures have little influence on the economy. Consequently, a mutatis mutandis effect with accommodating changes in money is more realistic than a ceteris paribus effect without a change in money. Policy prescriptions must be based on monetary actions to determine whether a fiscal

action will be stimulative or not.<sup>30</sup>

Fiscalists subscribing to the weak Monetarist transmission mechanism have no a priori reason for believing that fiscal impulses are more direct or powerful than monetary impulses. However, Fiscalists typically assume that fiscal forces are more direct than monetary forces. Perhaps this is due to traditional emphasis or the assumption has been added as an hypothesis in subscribing to the weak Monetarist thesis. Their explanation of an increase in government purchases of goods and services reveals two main effects assuming a ceteris paribus action. First, there is an income effect resulting from the purchase of private output. Secondly, there is a wealth effect for the private economy due to the addition of more securities held by the public as the government would borrow from the public to spend more. Together these income and wealth effects would set-off the multiplier process.<sup>31</sup> Monetarists see a ceteris paribus increase in government spending as only transferring private spending to public spending. Therefore, the fiscal expansionary effect is cancelled. Even under a mutatis mutandis condition, Monetarists doubt that the fiscal action would have the effect Fiscalists claim since monetary actions dominate fiscal actions.

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<sup>30</sup>Fand, "A Monetarist Model of the Monetary Process," pp. 78-80.

<sup>31</sup>Smith, "A Neo-Keynesian View," pp. 65-66.

## CHAPTER IV

## IMPLICATION FOR UNEMPLOYMENT AND INFLATION COMPARED

Monetarist View of Unemployment

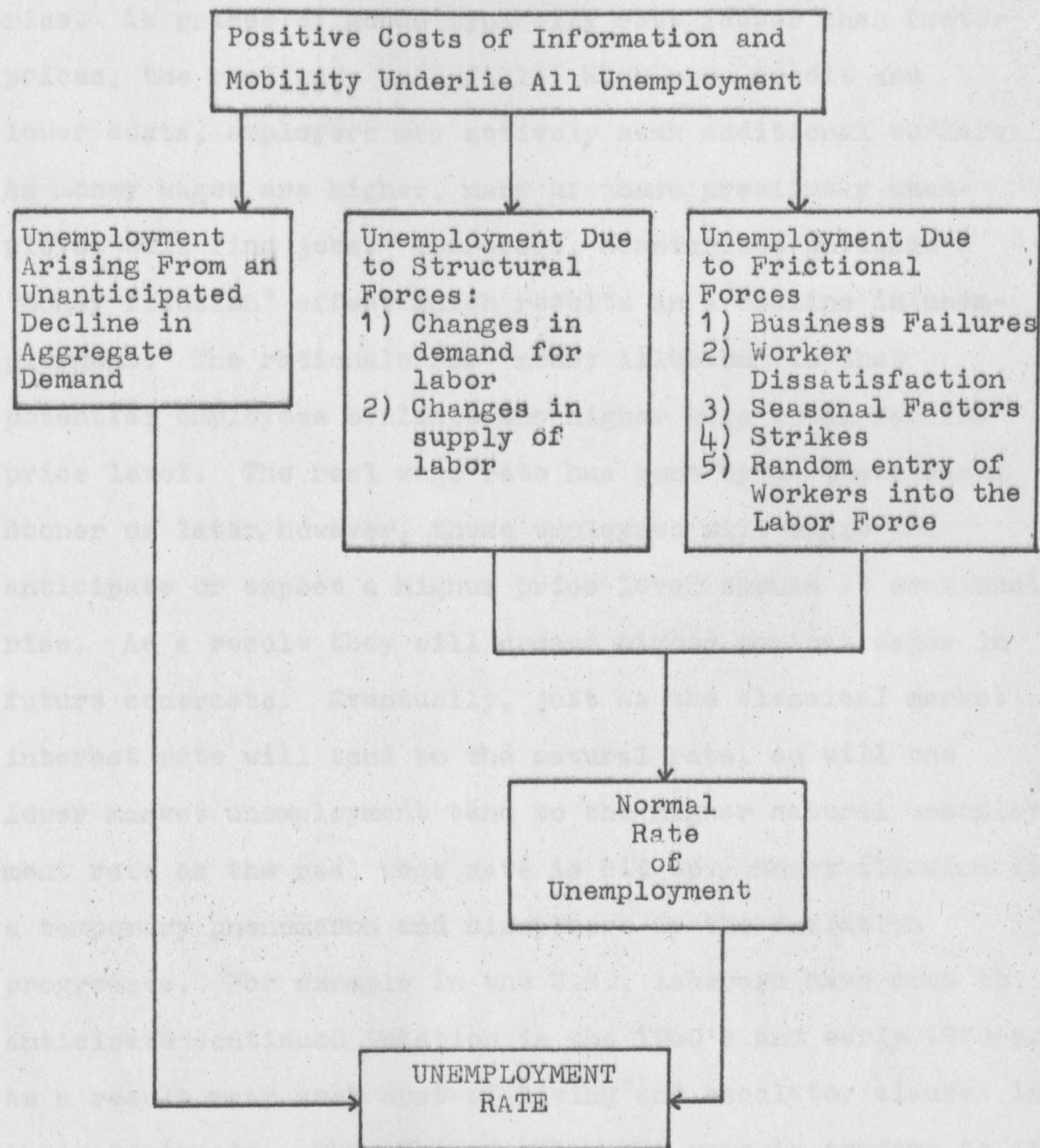
It is the Monetarist position that a change in money supply can influence real quantities in the short-run, but in the long-run only the price level is influenced. Similarly efforts to reduce unemployment, a real quantity, are not effective in the long-run. This emphasis on the long-run rather than the short-run is a major difference between the two schools. It is in the long-run that the normal rate of unemployment occurs. In the short-run, employment can be affected but not permanently. The normal rate reflects the adjustment of firms and workers to changing economic conditions in any economy. As figure 9 shows, different economies may have different normal rates of unemployment due to differences in costs of information, mobility of the labor force, frictional and structural factors.<sup>32</sup> These non-monetary forces determine the normal rate. Therefore, to have a trade-off between prices and unemployment in the short-run, it must be the result of changes in aggregate demand which are the result of changes in prices and wages not correctly

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<sup>32</sup>Roger W. Spencer, "High Employment Without Inflation: On the Attainment of Admirable Goals," Review - FRB of St. Louis, Reprint Series No. 71 (September, 1971), p. 16.



FIGURE 9  
NORMAL RATE OF UNEMPLOYMENT



anticipated by firms and workers.<sup>33</sup> To illustrate this concept, assume monetary actions are expansionary which via the Monetarist transmission mechanism causes prices to rise. As prices of goods typically rise faster than factor prices, the real wage will fall. With more credit and lower costs, employers may actively seek additional workers. As money wages are higher, many of those previously unemployed will find jobs. Therefore, Monetarists envisage a "money illusion" effect which results in a decline in unemployment. The rationale for "money illusion" is that potential employees evaluate the higher wage at an earlier price level. The real wage rate has gone up in their view. Sooner or later, however, these employees will begin to anticipate or expect a higher price level should it continually rise. As a result they will demand higher nominal wages in future contracts. Eventually, just as the classical market interest rate will tend to the natural rate, so will the lower market unemployment tend to the higher natural unemployment rate as the real wage rate is bid up. Money illusion is a temporary phenomenon and disappears as the inflation progresses. For example in the U.S., laborers have come to anticipate continued inflation in the 1960's and early 1970's. As a result many seek cost-of-living and escalator clauses in their contracts. Thus the unemployment rate is tending to its

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<sup>33</sup>Roger W. Spencer, "The Relation Between Prices and Employment: Two Views," Review - FRB of St. Louis, Reprint Series No. 36 (March 1969), pp. 18-19.

normal rate. It is only unexpected changes in prices and wages that enables the market rate to differ from the normal rate.<sup>34</sup>

The classical real wage theory asserted that equilibrium was always maintained at full-employment by the adjustment of the real wage to real factors. This is still the modern Monetarist view. In the long-run only real factors determine full-employment defined to exclude the normal unemployment rate. Monetarists recognize that changes in monetary and fiscal policies can cause discrepancies which produce a short-run trade-off between employment and prices. However, in the long-run actual values must equal anticipated values. Consequently, in the long-run no trade-off exists, and any trade-off in the short-run is temporary. The trade-off ends after the factors influencing the unemployment rate adjust to the trend established by monetary and fiscal actions. Consistent with Monetarism, real, not nominal, economic factors determine the normal rate of unemployment.<sup>35</sup>

Policy implications from the normal unemployment concept are important. The normal rate can be lowered by increasing labor mobility or reducing frictional and structural bottlenecks. Endeavors to use monetary and fiscal actions for short-run trade-offs must eventually fail. Continuation

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<sup>34</sup>Spencer, "High Employment Without Inflation," pp. 21-22.

<sup>35</sup>Spencer, "The Relation Between Prices and Employment," pp. 20-21.

of expansionary measures will cause a higher rate of inflation which will ultimately become fully anticipated and thereby shift the short-run unemployment curve to the normal curve for that particular economy. Should the expansion continually accelerate, then it would be possible to keep the unemployment rate below the normal rate since actual price rises exceed anticipated rises. This implies the authorities must give up any goal of price level stability. Monetarists conclude that an expansionary policy is neither a necessary nor a sufficient condition for the objective of high levels of employment. Therefore, Monetarists stress shifting the normal rate or even shifting the short-run curve via monetary and fiscal actions. However, in the long-run unemployment occurs at the normal rate.<sup>36</sup>

#### Fiscalist Trade-off View

The trade-off view is also known as the Phillips curve analysis. Money wage changes are related to the unemployment rate in the short-run through regression analysis to obtain a Phillips curve as seen in figure 10.<sup>37</sup> In this relationship the unemployment rate is inversely related to wage changes. The inverse relationship is due to the level of demand for goods and services at various rates of unemployment. When aggregate demand and employment are rising,

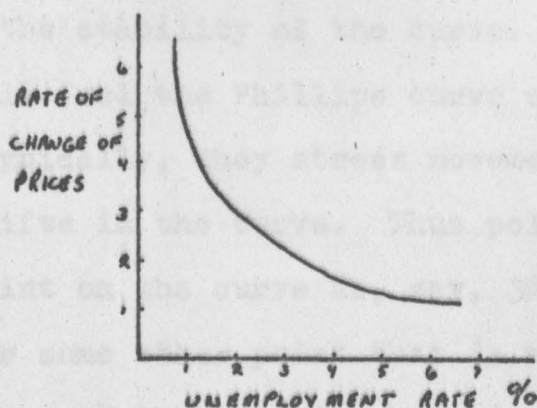
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<sup>36</sup> Ibid., pp. 18-21.

<sup>37</sup> Ibid., p. 17.

demands for labor will raise wages. Factors other than demand determining wage changes are profits, cost-push, productivity, and the cost-of-living. As these increase,

FIGURE 10  
PHILLIPS CURVE



wages will tend to rise.<sup>38</sup> However, the rate of unemployment may not drop. Rather, the curve may shift. Movements along the curve are associated with changes in demand.<sup>39</sup>

In the Phillips analysis all relevant variables are expressed in nominal rather than real terms, contrary to the Monetarists' position. This implies the operation of "money illusion" where people will work for a higher nominal wage even though it is lower in real terms, i.e., if prices rise faster than wages. This is not necessarily a weak point although "money illusion" has never been demonstrated conclusively. That is, people may realize that prices are rising faster than wages but still take a job because they need the

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<sup>38</sup>Ibid., p. 16.

money to support their family or for some other reason. Another major problem is the stability of the curve. It has been shown that using the same data, different curves can be obtained depending on variables used in the regression equation, behavioral assumptions, and the form of the variables.<sup>39</sup> Consequently, there is considerable doubt about the shape and the stability of the curve. Nevertheless, Fiscalists still feel the Phillips curve analysis is relevant and useful. Typically, they stress movements along the curve rather than shifts in the curve. Thus policymakers attempt to obtain a point on the curve as, say, 3% unemployment and 3% inflation or some other point that is more desirable.

The issue of the relationship of prices to employment narrows down to differences in short and long-run analysis. Monetarists and Fiscalists agree that in the short-run there can be a trade-off between unemployment and prices. However, the Fiscalists implicitly assume that such a trade-off can continue into the future while the Monetarists claim there is no trade-off in the long-run.<sup>40</sup>

#### Causes of Inflation

The inflation of the 1960's has done more to further Monetarism than any other event. It is rather ironical it should do so for the modern quantity theory does not have an

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<sup>39</sup>Ibid., p. 18.

<sup>40</sup>Ibid., p. 21.

explicit theory of the price level. As has been explained previously, it does assume a link between money and prices. Simply, movements in the money supply cause movements in the absolute price level. Monetarists claim the cause of inflation is an over-production of the nominal money supply. That is, there is production of more money than the public is willing to hold at the anticipated rate of price change. This excessive expansion of money is translated into higher prices as the public reduces its holdings of nominal money. Until the rate of growth of the nominal money supply is slowed by the authorities, inflation will continue to plague the U.S. economy.<sup>41</sup>

Like the quantity theorists, the theories of the Fiscalists do not provide an explicit theory of the price level either. Actually the approach is a non-monetary theory of the price level. As Monetarists stress demand-pull inflation, Fiscalists stress supply or cost-push inflation. Typically, their explanations stress autonomous increases in factor costs, shifts in demand, administered prices and market power, trade-off between unemployment and price changes, and market disequilibrium. As such, monetary variables are not seen as causal forces determining prices, output, or employment. As a result they advocate fighting

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<sup>41</sup>David I. Fand, "Some Issues in Monetary Economics," Review - FRB of St. Louis, Reprint Series No. 51 (January, 1970), pp. 20, 23.

inflation by incomes policies, wage-price guidelines, and other controls.<sup>42</sup>

Policy-makers are concerned with the process of implementing policy. They must decide on their ultimate objectives as stable prices or a certain unemployment rate, and they must decide how to manipulate instruments at their disposal to achieve those goals. That is, they need an indicator or variable to provide information of past actions on the future course of the economy so as to know if the objective is being approached. Also needed is an operational target or short-run variable to control daily in their operations. Albert Wurgler indicates a needed criterion for an indicator is that a change in the indicator is followed by a predictable change in the objectives. Also a good target should satisfy the following: 1) The ability to accurately measure daily or weekly; 2) The ability to manipulate by policy instruments; and 3) Changes in the target should indicate changes in the indicator over time. With this knowledge it is possible to evaluate the two hypotheses over this implementation issue.

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<sup>42</sup>Ibid., pp. 22-23.



## CHAPTER V

## MONETARY POLICY COMPARED

Implementation of Monetary Policy

Policymakers are concerned with two phases when implementing policy. They must decide on their ultimate objectives as stable prices or a certain unemployment rate, and they must decide how to manipulate instruments at their disposal to achieve these goals. That is, they need an indicator or variable to provide information of past actions on the future course of the economy so as to know if the objective is being approached. Also needed is an operational target or short-term variable to control daily in their operations. Albert Burger indicates a needed criterion for an indicator is that a change in the indicator is followed by a predictable change in the objectives. Also a good target should satisfy the following: 1) The ability to accurately measure daily or weekly; 2) The ability to manipulate by policy instruments; and 3) Changes in the target should dominate changes in the indicator over time. With this knowledge, it is possible to evaluate the two hypotheses over this implementation issue.<sup>43</sup>

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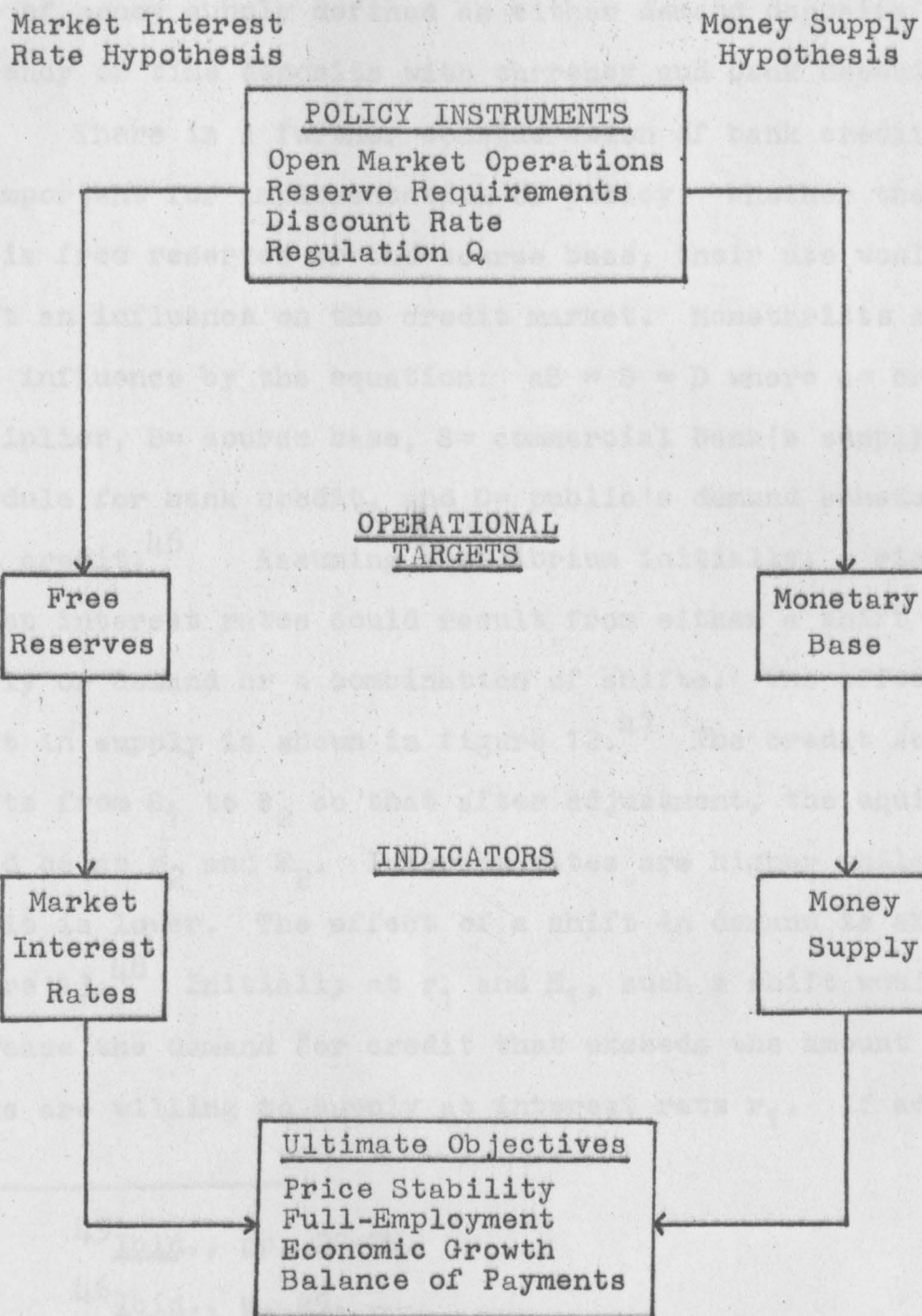
<sup>43</sup>Albert E. Burger, "The Implementation Problem of Monetary Policy," Review - FRB of St. Louis, Reprint Series No. 66 (March, 1971), pp. 20-22.

The Fiscalists' adhere to the market-interest-rate hypothesis which involves a money-market strategy. The Federal Reserve should control movements in interest rates because a rise or fall in interest rates will result in a slow-down or speed-up in real economic activity. Monetarists contend that the public's demand for credit causes movements in nominal interest rates and therefore interest rates cannot be controlled without losing control of the money supply through the money-market strategy to control interest rates. Monetarists maintain that the Federal Reserve can dominate the public's demand for credit through control of the monetary base. Monetarists also maintain that real quantities, which reflect real activity, such as the real interest rate, cannot be controlled by the authorities. Thus changes in market rates of interest might give false information about the effect of monetary policy should nominal and real rates not move together. Figure 11 shows both hypotheses.<sup>44</sup> The money-market strategy has free reserves as its target. (Free reserves = excess reserves - member bank borrowings). Other frequently used targets are the Treasury bill rate or the Federal Funds rate. The indicator is obviously market interest rates. Monetarists would have their operational target either the source base or the monetary base. These bases are derived from a combined balance sheet of the Federal Reserve and the U.S. Treasury. These bases are monetary aggregates

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<sup>44</sup>Ibid., p. 23.

FIGURE 11  
IMPLEMENTATION HYPOTHESES



used to measure the influence of monetary actions on the economy. The concepts will be discussed in detail later. Finally, as an indicator, Monetarists would use the growth rate of money supply defined as either demand deposits plus currency or time deposits with currency and bank deposits.<sup>45</sup>

There is a further consideration of bank credit that is important for implementation of policy. Whether the target is free reserves or the source base, their use would exert an influence on the credit market. Monetarists show this influence by the equation:  $aB = S = D$  where  $a$  = credit multiplier,  $B$  = source base,  $S$  = commercial bank's supply schedule for bank credit, and  $D$  = public's demand schedule for bank credit.<sup>46</sup> Assuming equilibrium initially, a rise in market interest rates could result from either a shift in the supply or demand or a combination of shifts. The effect of shift in supply is shown in figure 12.<sup>47</sup> The credit supply shifts from  $S_1$  to  $S_2$  so that after adjustment, the equilibrium would be at  $r_2$  and  $E_2$ . Interest rates are higher while bank credit is lower. The effect of a shift in demand is shown in figure 13.<sup>48</sup> Initially at  $r_1$  and  $E_1$ , such a shift would increase the demand for credit that exceeds the amount the banks are willing to supply at interest rate  $r_1$ . If adjustment

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<sup>45</sup>Ibid., pp. 23-24.

<sup>46</sup>Ibid., p. 25.

<sup>47</sup>Ibid., p. 26.

<sup>48</sup>Ibid., pp. 26-27.

FIGURE 12  
SHIFT IN BANK CREDIT SUPPLY

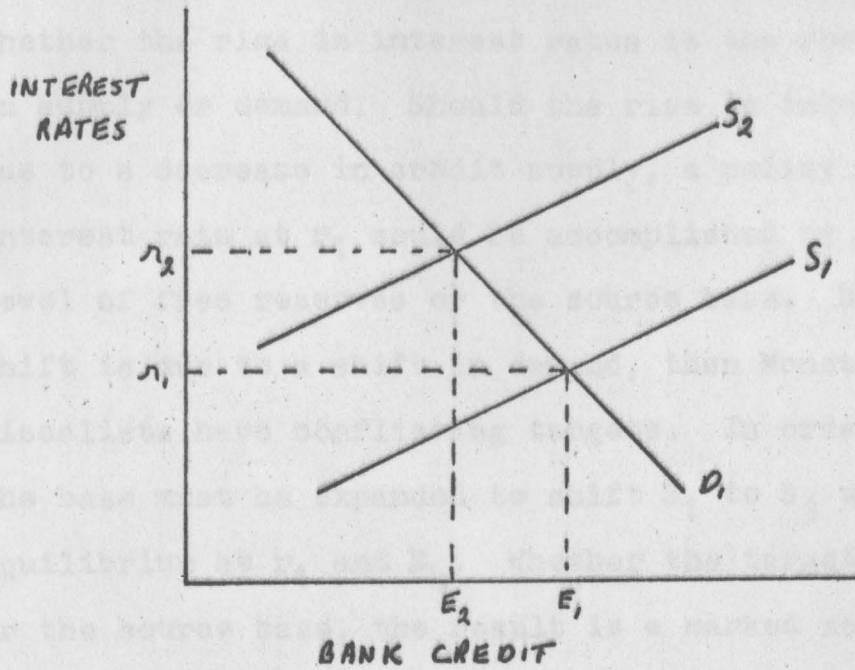
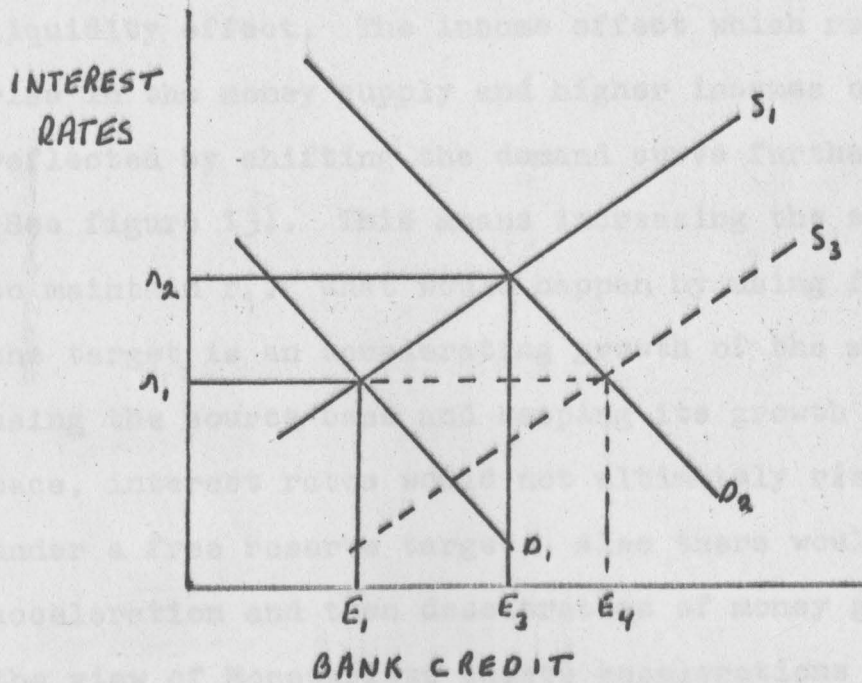


FIGURE 13  
SHIFT IN BANK CREDIT DEMAND



is permitted, then the result would be a higher interest rate  $r_2$ , and higher quantity supplied of credit  $E_3$ . However, policymakers do not observe such shifts and do not know whether the rise in interest rates is the result of shifts in supply or demand. Should the rise in interest rates be due to a decrease in credit supply, a policy maintaining the interest rate at  $r_1$  could be accomplished by raising the level of free reserves or the source base. However, if the shift is due to a shift in demand, then Monetarists and Fiscalists have conflicting targets. In order to maintain  $r_1$ , the base must be expanded to shift  $S_1$  to  $S_3$  with a resulting equilibrium at  $r_1$  and  $E_4$ . Whether the target is free reserves or the source base, the result is a marked acceleration in bank credit. The Monetarists feel that supplying the credit would be self-defeating. This is because the rapid expansion of the base reduces interest rates only temporarily via the liquidity effect. The income effect which results from the rise in the money supply and higher incomes of the public is reflected by shifting the demand curve further to the right. (See figure 13). This means increasing the source base again to maintain  $r_1$ . What would happen by using free reserves as the target is an accelerating growth of the money supply. By using the source base and keeping its growth at a predetermined pace, interest rates would not ultimately rise as high as under a free reserve target. Also there would not be the acceleration and then deceleration of money growth which in the view of Monetarists causes accelerations and decelerations

in economic activity. Consequently, the Monetarists insist that since changes in interest rates cannot be distinguished from changes in demand and supply of bank credit, keep the money supply stable to avert errors.<sup>49</sup>

#### Monetarist Model

The transmission mechanism of Monetarism and its implications for policy has lead to the development of models consistent with the adjustment process. Anderson and Carlson have developed such a Monetarist model similar to the St. Louis Federal Reserve Bank model. Their model consists of eight endogenous variables with four exogenous variables. The model in algebraic form is presented in figure 14. The workings of the model can be viewed via the flow diagram in figure 15. The diagram shows only the current time period with lagged variables omitted except for the exogenous variable of past changes in the price level. Following the flow of the diagram, one can see that changes in exogenous monetary and fiscal actions produce changes in total spending. Demand pressure is then determined by changes in total spending and in potential output. Step three shows changes in the price level determined by demand pressure and anticipated changes in the price level. Step four shows changes in total spending and changes in the price level producing changes in output. The fifth step has the market interest rate the outcome of

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<sup>49</sup>Ibid., p. 27.

FIGURE 14  
MONETARIST MODEL IN ALGEBRAIC FORM

$\Delta Y_t = f(\Delta M_t \dots \Delta M_{t-n}, \Delta E_t \dots \Delta E_{t-n})$	Total Spending Equ.	1
$\Delta P_t = f(D_t \dots D_{t-n}, \Delta P_t^a)$	Price Equation	2
$D_t = \Delta Y_t - (X_t^f - X_{t-1})$	Demand Pressure Identity	3
$\Delta Y_t = \Delta P_t + \Delta X_t$	Total Spending Identity	4
$R_t = f(\Delta M_t, \Delta X_t \dots \Delta X_{t-n}, \Delta P, \Delta P_t^a)$	Interest Rate Equation	5
$\Delta P_t^a = f(\Delta P_{t-1} \dots \Delta P_{t-n})$	Anticipated Price Equ.	6
$U_t = f(\mathcal{G}_{t-1} \dots \mathcal{G}_{t-n})$	Unemployment Rate Equ.	7
$G_t = (X_t^f - X_t) / X_t^f$	GNP Gap Identity	8

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Endogenous Variables

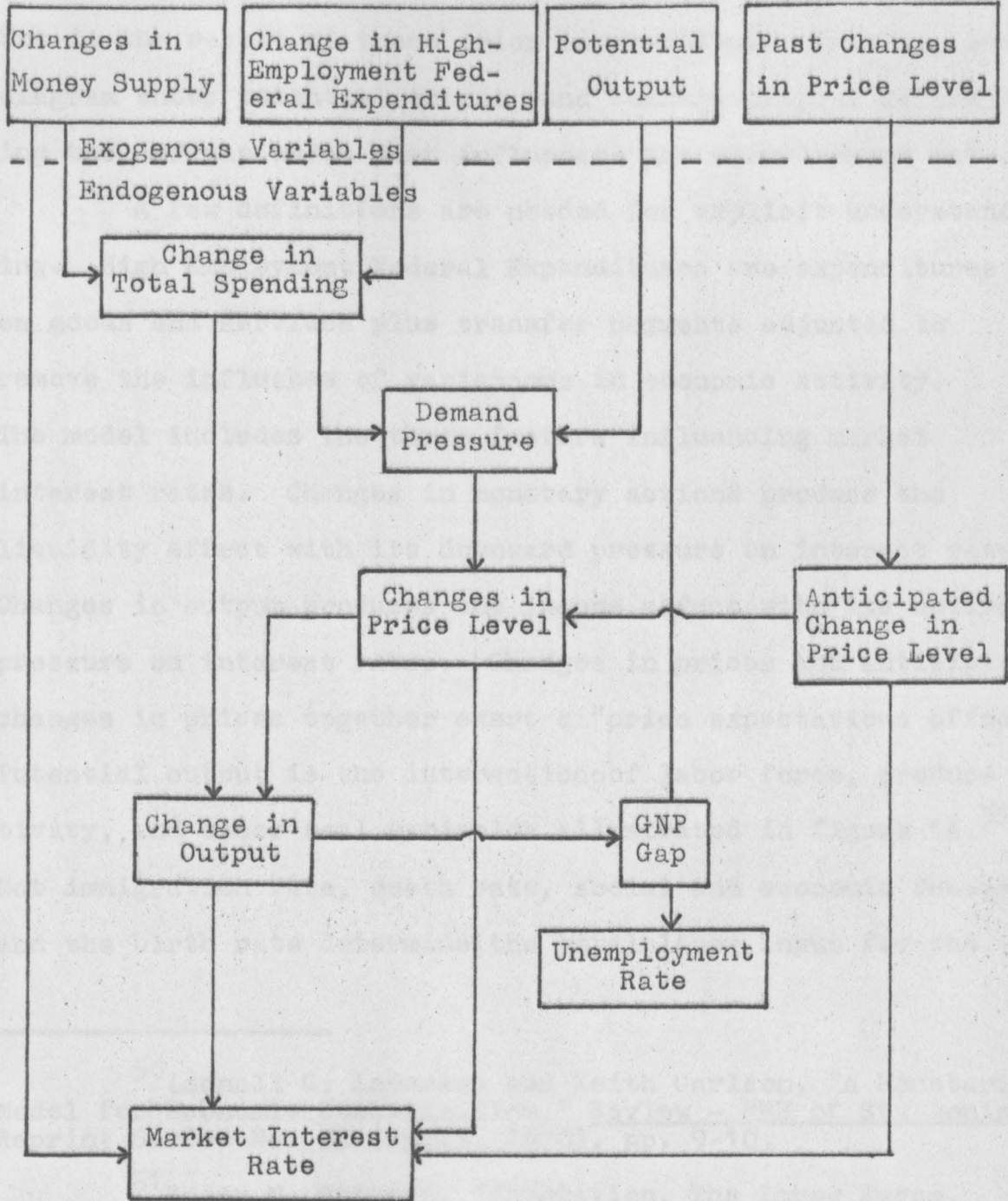
$\Delta Y_t$  = change in total spending  
 $\Delta P_t$  = change in price level  
 $D_t$  = demand pressure  
 $\Delta X_t$  = change in output  
 $R_t$  = market interest rate  
 $\Delta P_t^a$  = anticipated change in price level  
 $U_t$  = unemployment rate  
 $G_t$  = GNP Gap

Exogenous Variables

$\Delta M_t$  = change in money supply  
 $\Delta E_t$  = change in high employment Federal expenditures  
 $X_t^f$  = potential output (full-employment)  
 Past changes in price level



FIGURE 15  
MONETARIST MODEL FLOW DIAGRAM



changes in the money supply, changes in output, changes in price level, and anticipated change in price level. Thus the market interest rate does not exercise a direct role in the model in the determination of spending, output, or prices but is the result of these prior interactions. Finally, the diagram shows potential output (and current output) determining the GNP gap which then influences the unemployment rate.<sup>50</sup>

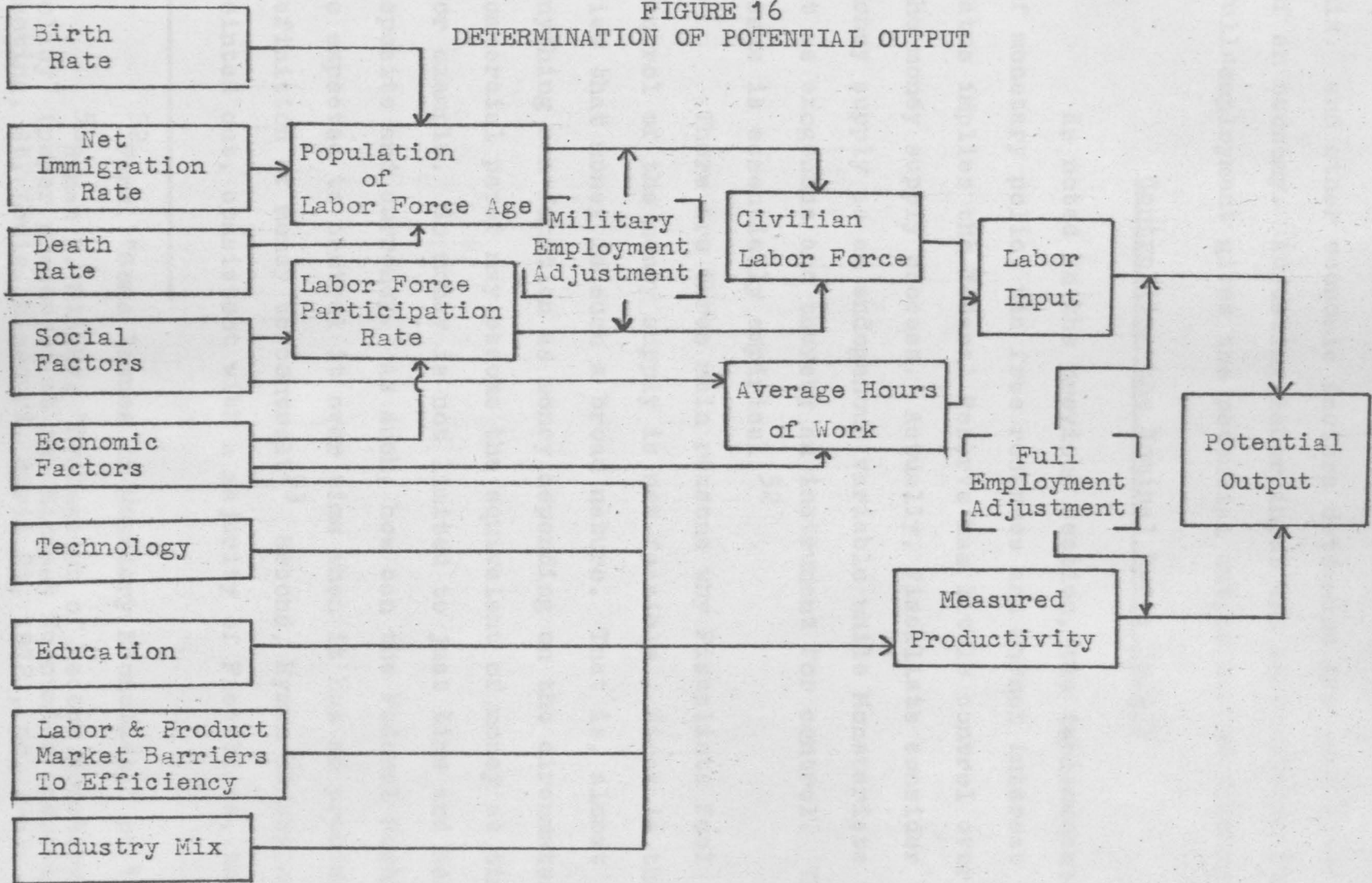
A few definitions are needed for explicit understanding. High Employment Federal Expenditures are expenditures on goods and services plus transfer payments adjusted to remove the influence of variations in economic activity. The model includes the three factors influencing market interest rates. Changes in monetary actions produce the liquidity effect with its downward pressure on interest rates. Changes in output produces the income effect with its upward pressure on interest rates. Changes in prices and anticipated changes in prices together exert a "price expectations affect." Potential output is the interaction of labor force, productivity, and other real variables illustrated in figure 16.<sup>51</sup> Net immigration rate, death rate, social and economic factors, and the birth rate determine the total labor input for the

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<sup>50</sup> Leonall C. Anderson and Keith Carlson, "A Monetarist Model for Economic Stabilization," Review - FRB of St. Louis, Reprint Series No. 55 (April, 1970), pp. 9-10.

<sup>51</sup> Roger W. Spencer, "Population, The Labor Force, and Potential Output: Implications for the St. Louis Model," Review, - FRB of St. Louis, Reprint Series No. 64 (February, 1971), p. 18.

FIGURE 16  
DETERMINATION OF POTENTIAL OUTPUT



economy. Technology, education, market efficiency, industry mix, and other economic factors determine the productivity of an economy. Adjusting labor input and productivity for full employment gives the potential output of the economy.

### Controlling the Nominal Money Supply

As noted in the previous section, the implementation of monetary policy via free reserves and market interest rates implies the Federal Reserve has little control over the money supply process. Actually, Fiscalists consider the money supply as an endogenous variable while Monetarists view it as exogenous and thereby an instrument for control. The issue is essentially empirical.<sup>52</sup>

There are three main reasons why Fiscalists feel control of the money supply is not feasible. First is the view that money is such a broad nature. That is, almost anything can function as money depending on the circumstances. Commercial paper may become the equivalent of money at times, for example. So money is not limited to just time and demand deposits and currency. As such, how can the Federal Reserve be expected to control it over time when it has no precise definition of money to control?<sup>53</sup> Second, Hyman Minsky has pointed out, consistent with a majority of Fiscalists, that

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<sup>52</sup>Fand, "Some Issues in Monetary Economics," p. 13.

<sup>53</sup>Hyman P. Minsky, "Evaluation of Recent Monetary Policy" (paper presented at the Midwest Economics Association Meeting, St. Louis, Missouri, April 21, 1972), pp. 3-5.

the Federal Reserve has support functions concerned with overall conditions of financial markets as well as supporting particular markets as housing or even-keeling for Treasury debt operations. As the Federal Reserve was created for these functions, it should not ignore them. Therefore, the authorities cannot really control the money supply explicitly since their supporting operations are constantly influencing the money supply. The money supply is of secondary importance to major support functions of the Federal Reserve. Finally, the money supply is considered to be an endogenous variable determined by the interaction of the Federal Reserve, commercial banks, and the non-bank public, a passive result of real forces.<sup>54</sup>

Monetarists see the money supply as an instrument that the Federal Reserve can control and whose behavior can be made to conform to policy objectives. The view is that the authorities can determine the size of the monetary base. Commercial banks determine the amount of loans and other assets in their portfolios as well as the amount of excess reserves. The non-bank public allocates their wealth into currency, demand deposits, time and saving deposits, and other financial assets. The money supply that emerges reflects the decisions of all three major groups. It is the contention that the link between the monetary base to bank reserves to money supply is fairly tight and predictable

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<sup>54</sup>Teigen, "Critical Look at Monetarist Economics," p. 21.

enabling the Federal Reserve to control the money supply via the monetary base. Research by David Fand using a reduced-form approach has provided evidence that the link is tight.<sup>55</sup>

Fiscalists do not accept a simplified reduced-form analysis. Robert Rasche has noted that a reduced-form equation should be a summary of a structural system.<sup>56</sup> Monetarists have omitted the structural equations concealing cause and effect. That is, the money-market strategy of the Federal Reserve accommodates demands for credit. Therefore, the monetary base follows changes in the money supply and not vice versa as Monetarists assume.<sup>57</sup>

The Monetarists' position is clarified by Allan Meltzer in showing that monetary base changes are the result of three basic actions: First are the actions of the Federal Reserve in open market operations; second are changes of market forces not offset by the authorities; thirdly are changes unforeseen due to errors in measurement or reporting. However, Fiscalists claim that changes in the ratio and composition of demand and time deposits, currency as well as gold flows and deposits held by foreigners are sources of

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<sup>55</sup>Fand, "Some Issues in Monetary Economics," pp. 12-13.

<sup>56</sup>Robert H. Rasche, "Comments on a Monetarist Approach to Demand Management," Review - FRB of St. Louis, Reprint Series No. 74 (January, 1972), pp. 31-32.

<sup>57</sup>Jack M. Guttentag, "The Strategy of Open Market Operations," Monetary Economics: Readings in Current Issues, ed. by William E. Gibson and George G. Kaufman, (New York: McGraw-Hill, Inc., 1971), p. 384.

change in the monetary base that are not controllable. Meltzer believes these conflicting opinions are based on various connotations of the word "control" that fail to distinguish between sources and uses of the base. It is his opinion that one should not describe changes that the authorities make as "controlled" and the changes that are permitted as "uncontrolled". The issue is to what degree can these so-called "uncontrolled" variables be offset if desired? To understand Meltzer's point-of-view, an explanation of the monetary base is in order.<sup>58</sup>

The Monetarists feel the authorities have almost complete control over the monetary base and that this base reflects their actions more directly than any other measure. There are two money base definitions used by Monetarists. First is the source base which is derived from a consolidated balance sheet of the Federal Reserve and U.S. Treasury. Figure 17 shows such a sheet for March 22, 1972.<sup>59</sup> By adding up the items that are the sources of the base, or the supply side, one obtains the source base. The uses side or demand side must balance and equal the source side. The second definition is the monetary base which is simply defined as the source base plus reserve adjustments. Reserve adjustments

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<sup>58</sup>Allan H. Meltzer, "Controlling Money," Review - FRB of St. Louis, Reprint Series No. 40 (May, 1969), p. 19.

<sup>59</sup>Leonall C. Andersen and Jerry L. Jordan, "The Monetary Base-Explanation and Analytical Use," Review - FRB of St. Louis, Reprint Series No. 31 (August, 1968), p. 7.

FIGURE 17  
SOURCE BASE DETERMINATION

Source Base - March 22, 1972

<u>Sources of Base (Supply)</u>	<u>Uses of Base (Demand)</u>
Federal Reserve Credit: Securities Held           70,677 Discounts & Advances     155 Float                     2,728 Gold Stock                 9,588 Treasury Currency Outstanding               7,882 Treasury Deposits at Federal Reserve         -886 Treasury Cash Holdings                    -406 Foreign and Other Deposits             -754 Other Federal Reserve Accounts           3,444 <hr style="border: 0.5px solid black;"/> Source Base                   92,428	Total Reserves     32,253 Currency Held by the Public     60,175 <hr style="border: 0.5px solid black;"/> Uses               92,428

allow for the effects of changes in reserve requirements on member bank deposits and for changes in the proportion of deposits subject to different reserve requirements.<sup>60</sup>

Monetarists contend that the base is under control of the authorities. Discounts and advances, gold flows, and float are not under direct control of authorities. However,

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<sup>60</sup>Ibid., pp. 7-8.



through defensive operations the Federal Reserve can offset changes in these variables to achieve a desired level of the source base. If there should be a gold outflow of \$100 million then the Federal Reserve offsets by replenishing lost reserves by buying \$100 million in open market operations. Also, by the Federal Reserve varying the supply of the monetary base, commercial banks and the public adjust their spending on real and financial assets to bring the amount demanded of the base into equilibrium with the amount supplied. During this process the pace of economic activity is affected via the transmission mechanism explained previously. The uses or the demand side of the base consists of demands by commercial banks, the government, and the non-bank public, but it is the sources side that enables the base to be a dependable target since this figure is computed daily and weekly. The uses side is not available directly or accurately. Monetarists believe that the base is more reliable and accurate than free reserves since important sources of error, as excess reserves and cash held by banks, is eliminated in the computation of the source base but are needed for computing free reserves. Since it has been established empirically, at least to the satisfaction of Monetarists, that the monetary base is the most important determinant for the money supply, it follows that the money supply, defined by the majority as currency plus demand deposits, should be the indicator of monetary policy.<sup>61</sup>

<sup>61</sup>Meltzer, "Controlling Money," pp. 22-24.

In summary, it can be said there is still considerable disagreement over the ability to control the money supply. However, as far as a target variable, the source base and free reserves are very similar in ability to control. Both schools would agree that changes in the monetary base lead to changes ultimately in the growth of total demand for goods and services. However, Fiscalists hold that other factors, such as fiscal actions or shifts in demand for goods and services, also influence economic activity to a large degree in the short-run. Consequently, the effects of monetary forces are not very predictable. The Monetarists, on the other hand, recognize these other factors but still maintain that these influences are minor compared to the effects of monetary forces that are dominant and highly predictable in the short-run. Finally, the whole issue of control reduces to empirical testing of the source base-money supply-economic activity link as well as other questions on just how well the Federal Reserve can offset variables that are not under their control directly.<sup>62</sup>

#### Relative Importance of Fiscal and Monetary Policy

The issue of relative importance of fiscal and monetary actions has particular significance for stabilization policy. Figure 18 reveals the monetary and fiscal actions for stabilization and frequently used measures for

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<sup>62</sup>Andersen and Jordan, "The Monetary Base,"  
p. 11.

FIGURE 18  
STABILIZATION ACTIONS AND THEIR MEASUREMENT

Stabilization Actions	Measurements of Actions
<p><u>Monetary Actions</u></p> <p>Federal Reserve System</p> <ul style="list-style-type: none"> <li>a. Open market operations</li> <li>b. Discount rate</li> <li>c. Reserve Requirements</li> </ul> <p>Treasury</p> <ul style="list-style-type: none"> <li>a. Cash Holdings</li> <li>b. Deposits at Reserve banks</li> <li>c. Deposits at commercial banks</li> <li>d. Treasury currency outstanding</li> </ul> <p><u>Fiscal Actions</u></p> <p>Government spending programs</p> <p>Government taxing provisions</p>	<p><u>Monetary Actions</u></p> <p>Monetary Base</p> <p>Money Supply - <math>M_1</math></p> <p>Money Supply - <math>M_2</math></p> <p>Commercial Bank <sup>2</sup>Credit</p> <p>Private Demand Deposits</p> <p><u>Fiscal Actions</u></p> <p>High-employment expenditures</p> <p>High-employment receipts</p> <p>High-employment surplus</p> <p>Weighted high-employment expenditures, receipts, and surplus</p> <p>National Income account expenditures</p> <p>National Income account receipts</p> <p>Changes in tax rates</p> <p>Net Government debt</p>

these actions.<sup>63</sup> A brief explanation of some of these measurements is in order. High-employment receipts include tax receipts and Social Security taxes adjusted for economic activity. The net of receipts and expenditures, being either a surplus or a deficit, is a measure frequently used to gauge the impact of fiscal actions. There are also

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<sup>63</sup>Leonall C. Andersen and Jerry L. Jordan, "Monetary and Fiscal Actions: A test of Their Relative Importance in Economic Stabilization," Review - FRB of St. Louis, Reprint Series No. 34 (November, 1968), p. 13.

other measures as weighted high-employment expenditures and receipts as well as national income account concepts. Using these accepted concepts for fiscal and monetary actions, Anderson and Jordan have tested the relative strength and reliability of fiscal and monetary actions using a reduced-form equation approach.<sup>64</sup>

The reduced-form approach summarizes all factors and causal relations into one equation. The equation for determining the influence of fiscal and monetary actions on total spending was:  $Y = f(E, R, M, Z)$  where  $Y$  = total spending,  $E$  = government expenditure actions,  $R$  = government taxing actions,  $M$  = monetary actions, and  $Z$  = all other forces. It was to be expected that total spending would be positively associated with changes in the money supply or monetary base as well as high-employment expenditures. The results of their studies showed monetary actions had fairly high coefficients of determination with statistical significance while fiscal measures had in most cases opposite signs (as to what was expected) and low statistical significance.<sup>65</sup> Consequently, this study supports the Monetarist view that Monetary actions are much more important relative to fiscal actions.

Fiscalists have attacked the above study. Disagreement is voiced over the reduced-form approach and the problem of reverse-causation that indicates the relationship between

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<sup>64</sup>Ibid., pp. 14-15.

<sup>65</sup>Ibid., pp. 16, 22, 24.

money and economic activity but gives no evidence as to the direction of causality.<sup>66</sup> The problem is that the independent variables on the right hand side of the equation must be exogenous. That is, these variables should not respond to current endogenous forces. The criticism is that the variables in the reduced-form equation do not meet this statistical requirement. The monetary base is cited as one such variable. Using unborrowed reserves rather than the monetary base as a measure of monetary actions, Leeuw and Kalchbrenner conducted similar regression studies. Their results show that fiscal policy is not inferior to monetary policy. Both exert a powerful influence.<sup>67</sup>

There is no conclusive evidence as to the relative merit of fiscal and monetary actions. However, one point of agreement is that Fiscalists at least recognize monetary policy as having more importance in stabilization actions than they did previously. What is needed is further empirical studies which meet theoretical and statistical requirements so there can be a "meeting of the minds" on this important issue.<sup>68</sup>

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<sup>66</sup>Richard G. Davis, "How Much Does Money Matter? A Look at Some Recent Evidence," Monetary Economics: Readings on Current Issues, ed. by William E. Gibson and George G. Kaufman, (New York: McGraw-Hill, Inc., 1971), pp. 138-140.

<sup>67</sup>Frank Leeuw and John Kalchbrenner, "Monetary and Fiscal Actions: A Test of Their Relative Importance in Economic Stabilization - Comment," Review - FRB of St. Louis, Reprint Series No. 37 (April, 1969), pp. 7-8, 11.

<sup>68</sup>Leonall C. Andersen and Jerry L. Jordan, "Monetary and Fiscal Actions: Reply," Review - FRB of St. Louis, Reprint Series No. 37 (April, 1969), p. 16.

Role of Monetary Policy-Monetarists

Both schools agree initially that policy has the task of promoting employment and preventing inflation. However, Fiscalists emphasize the employment goal more than price stability and vice versa for Monetarists.

Monetarists feel there are two major tasks monetary policy cannot accomplish. It cannot peg interest rates for more than short periods of time, and it cannot peg the rate of unemployment. Interest rates cannot be pegged since open market operations cause interest rates to rise or fall in the long-run. Due to the liquidity, income, and price expectations effects an expansion by the Federal Reserve will likely result in a higher rate than the initial interest rate. Monetarists have shown that countries with rapid acceleration of money supply growth also have very high market interest rates. Therefore their interpretation of the significance of interest rates may be directly opposite to that of the Fiscalists. That is, low interest rates may be a sign of tight money while high interest rates may be a sign of easy money! Therefore, Monetarists generally view market interest rates as a misleading indicator of monetary policy and place little emphasis on them. They would rather look at the change in the money supply.<sup>69</sup>

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<sup>69</sup>Milton Friedman, "The Role of Monetary Policy," Macroeconomics: Selected Readings, ed. by Walter L. Johnson and David Kamerschen (Boston: Houghton Mifflin Co., 1970), pp. 374-375.

Monetarists also feel that monetary policy cannot peg the rate of unemployment except for very short periods. The authorities can make the rate less than the normal in the short-run. If one assumes that the market rate is less than the normal initially, inflation will become entirely anticipated in the long-run and the market and normal rates of unemployment will once again coincide. According to Monetarists, the Phillips curve analysis has weaknesses due to a preoccupation with short-run changes and the failure to distinguish between nominal and real wages. There is a temporary trade-off between inflation and unemployment, but no permanent trade-off. However, Monetarists realize that the normal rate is not a constant. It can be reduced by improvements in labor mobility or raised by minimum wage laws and labor unions. Thus, they feel there is some level of unemployment which has the property consistent with equilibrium in the structure of real wage rates. In summary, the authorities can control nominal quantities but not real quantities like real interest rates, the real money supply, or the normal rate of unemployment.<sup>70</sup>

According to Friedman, there are three main things monetary policy can accomplish. First, it can prevent money itself from being a major source of economic disturbance. The Great Depression was one such major disturbance caused by contraction of the money supply by one-third. Major

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<sup>70</sup>Ibid., pp. 376-378.

inflations have been produced by monetary expansion. Second, it can provide a stable background for the economy by providing confidence for business and by acting in a stated manner in the future. That is, by keeping the money supply growth at a certain pace, the economy will not experience accelerations and decelerations in activity. Third, it can contribute to offsetting major disturbances in the economy arising from other sources. However, this offsetting ability is not considered that powerful.<sup>71</sup>

Monetarists state that monetary policy should be conducted by some stated rule or rules and that daily operation by the authorities should be guided by magnitudes it can control. The controllable variables are monetary aggregates, not price levels or interest rates. Of crucial importance is the necessity to avoid sharp swings in policy. That is why Monetarists desire the Federal Reserve to adopt publicly some rule as a 3% to 5% growth rate in the money supply defined as currency plus demand and time deposits. The particular percentage is not of major concern, just the adoption of the rule. Friedman believes the adoption of a steady growth rate would provide a "monetary climate favorable to effective operations of those basic forces of enterprise, ingenuity, invention, hard work, and thrift that are the true springs of economic growth."<sup>72</sup>

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<sup>71</sup> Ibid., p. 379.

<sup>72</sup> Ibid., pp. 380-381.



### Role of Monetary Policy-Fiscalists

Fiscalists' view of monetary policy originated with Keynes who felt the role of monetary policy was keeping interest rates low and stimulating investment. If the liquidity preference schedule was infinitely elastic, the interest rate could not be lowered by monetary actions. He also believed that investment and consumption were little influenced even by low interest rates. Therefore, only fiscal policy which had a direct impact on income and spending was effective in increasing investment and consumption. However, the Pigou effect undercut this view somewhat by showing that changes in the real money supply can affect aggregate demand even if interest rates remain unchanged. This helps explain why modern Fiscalists explain part of the unemployment via rigidities or imperfections in the system. At any rate, Fiscalists today view changes in the money supply as influencing interest rates but that total aggregate demand is influenced only slightly by these movements. So the money supply is basically a passive force determined endogenously by the system. As such, monetary policy is viewed as accommodating fiscal actions with little driving force of its own. However, the Fiscalists cited in the paper indicate a trend of assigning a more important role to monetary forces by way of the acceptance of the weak Monetarist thesis.<sup>73</sup>

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<sup>73</sup>Teigen, "Look at Monetarist Economics," pp. 21-23.

### Framework for Stability

In order to implement policy successfully, each school has developed a program or framework for economic stability. The Monetarist view will be dealt with first.

There are some specific propositions stated by Friedman which are common to a majority of Monetarists. First, it is felt that since the market is incapable of providing a monetary framework, the government must provide it. Second, the discretionary action of the Federal Reserve should be abolished in favor of a "rule of law". This proposition is directly opposite that of the Fiscalists. Thirdly, fiscal measures should be used to reduce inequality. In 1948 Friedman developed a sophisticated program for stability and structural reform. It included adoption of 100 % reserves for the banking system and a pre-determined program for transfer payments. Since then, Friedman has been persuaded that his proposal is more complex than is necessary. Consequently, he has had a "change of heart" for realistic considerations. He now proposes a simple rule where the money supply is to grow at a specific rate each year without any variation for cyclical needs. In order to adopt such a rule, one needs to determine the definition of the money supply and its rate of growth and possibly also determine the allowances in growth for seasonal movements. Once this is complete, the Federal Reserve would have a rule to follow

and would do so by open market operations.<sup>74</sup> To complete the framework, the Treasury should adopt a stable policy to reduce uncertainty in the market caused by its erratic debt operations. Friedman would have the Treasury sell only bills and bonds at regular intervals in stated amounts and by auction. Thus, the Treasury would not be a source of monetary instability.<sup>75</sup>

Fiscalists have no such sweeping proposals. As for the structure of the system, it would remain basically the same. Various Fiscalists, however, place different emphasis on the use of the Federal Reserve's policy techniques. Minsky, assuming Monetarist policies with a constant rate of growth in the money supply, would expand the discount window for secondary markets. This is so the authorities could maintain their support responsibilities.<sup>76</sup> Fiscalists on the whole view the present system as having sufficient discretionary power to cope with monetary problems and minimize business cycles. They do not want to be bound by rules of action. When it comes to cost-push inflation, the

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<sup>74</sup>Milton Friedman, "A Monetary and Fiscal Framework for Economic Stability," Readings in Macroeconomics, ed. by M.G. Mueller (New York: Holt, Rinehart and Winston Inc., 1971), pp. 338, 352.

<sup>75</sup>Milton Friedman, "A Program for Monetary Stability: Part One," Macroeconomics: Selected Readings, ed. by Walter L. Johnson and David Kamerschen (Boston: Houghton Mifflin Co., 1970), pp. 314-315.

<sup>76</sup>Minsky, "An Evaluation of Recent Monetary Policy," p. 23.

remedy includes price and wage regulation. Abba Lerner claims this is not price control but "regulation that would prevent prices and wages from being raised only in situations where they could not be raised if there were competition."<sup>77</sup> He therefore advocates a regulatory board to govern monopolies, cartels, or labor unions. This program of discretionary action and regulation would enable the economy to achieve goals of relative stability and full-employment with little inflation.

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<sup>77</sup>Abba Lerner, "Program for Monetary Stability: Part Two," Macroeconomics: Selected Readings, ed. by Walter L. Johnson and David Kamerschen (Boston: Houghton Mifflin Co., 1970), pp. 323-324.

## CHAPTER VI

## CONCLUSION AND SUMMARY

Differences between the schools can be traced to the Simple Classical and Neo-Classical theories and to the Simple Keynesian theory. Classical theory held that there always existed a full-employment equilibrium through real wage rate adjustments; that prices and wages were flexible; and that the demand for money was stable so that income velocity was also stable. Simple Keynesian theory held that there need not exist a long-run full-employment equilibrium even if prices and wages were flexible; and the the demand for money corresponded to absolute liquidity preference which made monetary policy ineffective.

The major differences between the schools today relate to the reconstructed quantity theory. The essence of this theory is the distinction between nominal and real money supplies. Real and nominal money supplies are equated by attempted spending which in turn changes prices and incomes. In my opinion, this adjustment process forms the "heart" of the conflicts between the schools. This transmission mechanism provides the rationale for some major conclusions. These, as discussed in the paper, include: (1) Monetary policy should be implemented by the monetary base and money supply. (2) Belief in the ability to control the nominal

money supply via the monetary base. (3) Fiscal policy is not as powerful as monetary policy for stabilization. (4) Monetary policy can provide confidence for businesses and offset and prevent economic disturbances. (5) Inflation is the result of an over supply of nominal money supply. (6) There is no trade-off in prices and unemployment in the long-run where there is a normal rate for any particular economy. (7) Models have been developed which imply that monetary and fiscal actions affect spending directly.

Fiscalism has traditionally not distinguished between real and nominal magnitudes. Along with this is the inheritance from Keynes of his assumptions and theoretical framework, such as liquidity preference. As a result the transmission mechanism is viewed as basically an interest rate adjustment process. This background leads to the logical conclusions in opposition to the Monetarists. These include: (1) Free reserves and market interest rates are the appropriate measures for implementation of monetary policy. (2) The nominal money supply cannot be adjusted as it is the outcome of the system. (3) Fiscal actions have a more direct and powerful impact for stabilizing the economy. (4) Discretionary fiscal and monetary actions are sufficient for regulating and stabilizing the economy. (5) Inflation is caused by supply factors at less than full-employment. Above full-employment inflation is caused mainly by excessive aggregate demand which can be reduced by monetary and fiscal restraint. (6) There is a trade-off between unemployment

and prices with no normal rate of unemployment. (7) Large econometric models have been developed where monetary actions have little direct effect on total spending. However, the FRB-MIT model simulations show a significant wealth and monetary effect which indicates that Monetarism has had an impact on Fiscalist thought.

On the positive side there have been some compromises. In particular there is agreement over the adjustment process from monetary actions to economic activity concerning the relative price process of portfolio and wealth effects. The theoretical frameworks are similar except for various assumptions. Both schools now recognize the liquidity, income, and price expectations effects of monetary impulses on interest rates. According to Ronald Teigen, Fiscalists today recognize the distinction between real and nominal quantities and also the role of anticipations in dynamic analyses. Fiscalists are now attempting to incorporate these distinctions as standard features in their theoretical and empirical models as the FRB-MIT model. Using these distinctions in their econometric models may in the future reduce some of the issues now debated. In conclusion, it is the transmission mechanism which leads to the differences separating the schools. Further studies which explicitly account for the differences between nominal and real variables leading to changes in output and employment will lead to reduction of many of the differences now separating the two schools.

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