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A Layman's Guide to the Keynesian-Monetarist Dispute

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How curious it is that as American policy makers attempt to grapple with unemployment and rising federal deficits, one famous economist advocates more rapid increases in the money supply,[1] while another equally famous economist vigorously resists such suggestions.[2] And why should the economic profession be so sharply divided on the merits of a tax-based incomes policy or the merits of wage and price controls?[3]

The answer must surely lie in sharply differing views about the causal processes of our economy. Regrettably, the key areas of disagreement are almost impossible to detect in either the popular literature or the textbooks written by these men and women. The following brief survey attempts to remedy this defect.

The best place to begin is where Milton Friedman and other monetarists usually begin: with the quantity equation of exchange, or

$$MV \equiv PQ,$$

where M is the quantity of money in a society, V is its velocity of circulation (or the average number of times money changes hands in a year), Q is the quantity of real goods and services created and sold during that year,[4] and P is the average price of those goods. Every transaction in the marketplace is a two-way swap: the seller turns over goods or services valued at a price, and the buyer surrenders cash equal to that price. It must therefore *always* be true that the total value of cash turned over by buyers equals the value of goods and services received. That value, in turn, is nothing more than the sum of each commodity multiplied by its market price. This is why between the symbols MV and PQ one finds not an equals sign, but an equals sign plus a third line to indicate an identity. The relationship $MV \equiv PQ$ always holds.

A word of explanation concerning velocity. Economics has a long-standing tradition of illustrating complex mechanisms with oversimplified examples. Following in those footsteps, let us consider a medieval community in which the total sales in the village during a single year are as follows:

4,000 pairs of shoes at \$10 per pair = \$40,000
60,000 bushels of wheat at \$1 per bushel = \$60,000.

The value of PQ is thus \$100,000, or (\$10 × 4,000) + (\$1 × 60,000). Suppose that the total money supply in this community consists of 20,000 one-dollar bills. This is then the value of M. The implied velocity [5] is

$$V = \frac{PQ}{M} = \frac{\$100{,}000}{\$20{,}000} = 5.$$

Notice that V is calculated as a residual. We do not observe it directly in our medieval community (or anywhere else) but infer it from other data. If total transactions were \$100,000 and the money supply was only 20,000 one-dollar bills, then on the average each dollar bill *must* have changed hands five times in the course of a year. All perfectly straightforward, one might think. Except that it is not. Lurking in this simple mathematics is a complicated problem that will become more apparent later on.

With the above equation in hand we can easily summarize the basic tenet of the monetarists. They make two assertions and one obvious inference. The assertions are (1) that V is "stable," and (2) that Q is not affected—or not affected very much—by M. (In more technical language this second point might be rephrased to read that Q is determined exogenously.) If these two assertions are granted, one can hardly deny what monetarists continually assert: that the main determinant of changes in the price level are previous changes in the stock of money. In the equation $MV = PQ$, if V is stable and Q is unaffected by M, then P will tend to vary with M. Our problem is therefore to understand what is meant by the two assertions noted. If we can also understand why Keynesians challenge those assertions, we shall be well on our way to understanding the Keynesian-monetarist dispute.

What is meant by the statement "Velocity is stable"? This variable could change for several reasons. The most obvious relate to improvements in the financial institutions of a community. The development of the telegraph, clearinghouses, or commercial banks can accelerate the rate at which the stock of money changes hands. Monetarists readily concede this point—they could hardly deny it—but emphasize that the evolution of financial institutions takes time. No *sudden and large* change in velocity should result from this development if the institutions themselves do not change suddenly.

The main threat to the monetarists' position lies elsewhere. Consider again the example of the medieval village. Suppose that half of those 20,000 dollar bills were actually hidden away in mattresses as a means of storing wealth. In that case, while total velocity was 5, the actual velocity of active money (i.e., the money that is not in mattresses but out in the marketplace) would be (\$100,000 ÷ \$10,000), or 10. No problems arise for monetarists as long as roughly half of the money supply is held idle in mattresses. But suppose for some reason that 40 percent of this idle money, or \$4,000, suddenly becomes active *and* takes on the velocity of other active dollars. Then 14,000 dollar bills would change hands on the average of 10 times a year and the value of PQ would rise to (\$14,000 × 10) or \$140,000. *Total* velocity (that is, the V in $MV = PQ$), as noted previously, is calculated as a residual. Since the total money supply (M) is unchanged but the value of PQ has risen from \$100,000 to \$140,000, total velocity now becomes

$$V = \frac{PQ}{M} = \frac{\$140{,}000}{\$20{,}000} = 7.$$

How is this possible? In simplified terms, one can think of any community as having two "piles" of money, one idle and the other active. If some of the heretofore idle dollars are moved over into the active pile, then the supply of dollars bidding for goods and services increases, and the value of goods and services sold must also increase. In our example we achieved the seemingly odd result of an increase in total velocity (from 5 to 7) *not* because of an increase in the rate at which active dollar bills changed hands (that remained constant at 10), but rather because the proportion of the total money supply in active circulation increased [6] from 50 percent (\$10,000 ÷ \$20,000) to 70 percent (\$14,000 ÷ \$20,000).

The monetarists now have a problem. If large quantities of dollar bills jump back and forth between active and inactive piles, then clearly velocity will not be "stable." (In our example, when \$4,000 moved over, V rose from 5 to 7.) Similarly, if the money supply were doubled *and* all of that extra money were added to the inactive pile, then prices would not tend to increase as the monetarists claim they should. The solution, as one might expect, is to argue that this does not happen. Monetarists usually make this point by claiming that the proportion of cash balances that people desire to hold is very stable.[7] This guarantees that the kind of jumping back and forth illustrated in the above example will not take place. It also means that when the money supply is dramatically increased, almost none of that new money will be held idle. If it is not held idle, it must be spent; if it is spent, it must increase the value of PQ; and if Q is relatively unaffected by changes in M, then the main impact must be to

increase P. By this one assertion, then, the monetarists retrieve their central notion that changes in prices are largely determined by changes in the money supply.

Since the Keynesians challenge this conclusion, they must disagree with some of the premises in the above argument. One of the main premises in dispute is that the amount of money people want to hold idle cannot change significantly in the short run. Recall the speculative motive and the liquidity preference schedule of standard Keynesian analysis. The basic idea is that if the interest rate rises, the demand for idle cash by speculators will fall; if the interest rate falls, the demand for idle cash will rise.[8] In terms of the example used previously, this is equivalent to asserting that the movement of dollar bills between the two piles of active and inactive money is very sensitive—or at least quite sensitive—to changes in the rate of interest.

We have now clarified at least one major point of disagreement concerning how the economy actually works. The monetarists claim that the desire to hold idle cash is insensitive to interest rate changes (and to other factors as well); the Keynesians claim that the desire to hold idle cash is quite sensitive to interest rate changes. Notice two features. First, at the core of the debate is a question of fact concerning the responsiveness of certain decision makers: When interest rates fall, will the demand for idle cash balances increase by a lot or by a little? Second, when economists write about this dispute, the language chosen will usually include the phrase "the stability of velocity." What is seldom realized when the point is phrased this way is that the substantive issue is whether or not, over a short time period, large quantities of cash are moved between active and inactive balances in response to such changing economic variables as the rate of interest.

The second major puzzle is this: what is meant by the assertion that in the equation $MV = PQ$, Q is independent (or largely independent) of M; or to put the point in different words, that Q is determined exogenously? According to the monetarists, total real output (Q) in the long run is primarily determined by available technology and the supply of factors of production (usually lumped by economists into the four categories of land, labor, capital, and enterprise). Of negligible influence, they argue, is the supply of money. It follows that a large increase in the money supply—if it cannot affect Q, and if V is "stable"—must bring in its wake severe inflation.[9]

The Keynesians believe otherwise. The originator of this school of thought was puzzled by the existence of large-scale and sustained unemployment. Keynes knew only too well that according to classical price theory, if the supply of workers exceeds demand, then the price of workers—the wage rate—should fall until all those who want jobs at the prevailing wage rate can get them. Exit unemployment, one would think, except that it refused to exit in the 1930s. The most obvious answer to this puzzle became a central assumption of all Keynesian models. If wages are inflexible on the down side—if such economic forces as labor contracts and large unions prevent wages from being reduced—then whenever the demand for workers falls, the main effect will be rising unemployment rather than falling wages. How obvious the point appears in retrospect! In terms of elementary supply-and-demand analysis, if the demand curve falls and the adjustment cannot occur on the price (or wage) axis, then it must occur on the quantity (or employment) axis. The solution for unemployment is therefore to stimulate demand. An expansionary monetary policy can accomplish this through the conventional Keynesian mechanisms: an increase in the money supply should lower the interest rate; this lower interest rate should stimulate investment; the increased investment (through the multiplier) will stimulate income and consumption; and thus demand will be increased and unemployment reduced.

The monetarists refuse to accept the above as an adequate description of how our economy actually works. Leave the unemployment alone, they argue, and natural market forces will remove it.[10] If the demand for automobiles falls and workers are laid off in Detroit, the situation will be rectified by the forces of supply and demand. Some unemployed workers will find alternative jobs. Automobile producers will tend to cut prices or develop alternative devices to stimulate demand. If this unemployment is instead fought by an expansion of the money supply, the only result will be more inflation. Recall the point emphasized earlier: that newly created dollars, according to the monetarists, are like hot potatoes—no one is willing to hold them very long. If they are not held, they must be spent. An expansionary monetary policy is therefore viewed as setting in motion successive rounds of spending and respending that are sure to drive prices up even if, in the process, the demand for cars is stimulated and unemployment in Detroit falls. Finally, that reduction in unemployment would have occurred *sooner or later* through the forces of supply and demand. To put it harshly, the monetarists might say, why bother to feed the horses in order to feed the sparrows when the sparrows will be fed anyway?

The key phrase is "sooner or later." The Keynesian rebuttal is that existing market forces will remove unemployment, at best, very slowly. Equally important, they assert that the main impact of spending and respending dollars should be the bidding for resources that are currently idle rather than for those that are already employed. This in turn implies that the principal impact of injecting new dollars into the spending stream should be a reduction in unemployment rather than a bidding up of the price level.

We have now arrived at the second main bone of contention between these two competing schools. Once again the central issue is a question of fact: How rapidly do labor markets adjust when unemployment occurs? The monetarists reply, "Very rapidly"; the Keynesians, "Very slowly." Here too the language usually used by economists tends to obscure the substantive point. Few would guess that the question "In the equation $MV = PQ$, is Q determined exogenously?" boils down to a dispute over speeds of adjustment in labor markets.

In review, and on close inspection, the main points of disagreement are remarkably uncomplicated. When extra money is created, the monetarists argue that almost all of it is sure to be spent. The Keynesians claim that it is far from clear how much will be spent and how much will be held idle. During a recession, whenever new money is created—and however much of it is spent and respent—the Keynesians believe, the main impact will be the bidding for otherwise idle resources. The monetarists believe that the main impact will be the bidding up of prices.[11] If these are the arguments, why can they not be resolved? The answer is what one might expect: because we lack the tools to prove conclusively which view more accurately portrays how our economy actually works.

If we cannot resolve the debate, we can at least understand two further implications of these conflicting positions. The first concerns the question of whether or not inflation and unemployment are inversely related. When one goes down must the other necessarily go up? The monetarists answer no. Since they argue that changes in the money supply mainly affect prices and not output, it follows that efforts to control inflation by controlling the money supply should not affect total output or, by implication, total employment. The Keynesians believe otherwise. Why they believe that stable prices and full employment are conflicting goals is not always clear. Some concede that when aggregate demand is stimulated, at least some of the spending and respending will bid for employed resources rather than unemployed resources, thereby creating upward pressure on prices. Others suggest that (1) prices are determined partly by wage costs and (2) wage demands tend to be more moderate in periods of high unemployment.

The second implication of the above arguments concerns the effectiveness of fiscal policy as a countercyclical tool. The Keynesian position is so familiar as hardly to bear repeating. If unemployment is caused by inflexible wages and falling demand, the solution is to increase demand. This the federal government can accomplish either by spending more itself or by cutting taxes, thereby giving the public more to spend. In either case the resulting government deficit will have a multiplied effect upon consumption (and possibly a stimulating effect upon investment), causing demand to increase and unemployment to fall.

The monetarists' position is more subtle. They begin by noting that any increase in deficit spending must be financed.[12] That is, before the government can spend more dollars it must first acquire those dollars from somewhere. If it acquires them by expanding the money supply—if the dollars to be spent are newly created dollars—then the anticipated impact will be that outlined above: rising prices and little change in total output and employ-

ment. If instead the government finances its deficit by borrowing dollars from the public, the anticipated effects are that (1) increased borrowing will drive up interest rates, (2) the rise in interest rates (perhaps reinforced by rising prices) will cause a cutback in consumption and investment, and (3) this cutback in spending by the private sector *will exactly match* the increase in spending by the government. Fiscal policy therefore has no effect upon the size of the pie, only upon its division between the public and private sectors. But suppose that deficit is financed instead by the printing of new money, as noted above. The same answer applies, argue the monetarists. Total output will remain virtually unchanged but prices will rise as the government uses newly created dollars to bid away goods and services from the private sector. The resulting inflation will be a disguised form of taxation. The public must surrender part of the pie to the government, not because income taxes or sales taxes have increased, but because higher prices force them to relinquish part of the share they heretofore had.

The reader by now should be able to anticipate the Keynesian counterattack. In a world of inflexible wages and economic recession, they argue, the size of the pie can be expanded by an expansion of demand. If government deficits are financed by borrowing procedures that raise interest rates, there is no reason why the resulting cutback in public demand should *exactly* equal the increase in government spending. More to the point, in a recession the appropriate monetary policy is to expand the money supply and *lower* interest rates. But why, one might ask, do Keynesians expect that the spending and respending generated by an expansionary monetary and fiscal policy will have its main impact upon unemployment rather than upon prices? And why do monetarists expect exactly the opposite? The answer is no more complicated than referring to a point made previously. *The substantive issue mainly concerns the speed of adjustment in labor markets.* The Keynesians believe that without government stimulation of demand, unemployment can remain a serious problem for a long time; with that stimulation, it can be alleviated. The monetarists take the opposite view. Disequilibriums in product and factor markets, they argue, should be treated in the same manner as the sheep of Little Bo Peep: leave them alone. The implicit belief is that, if left alone, imbalances will correct themselves; if meddled with, they may become worse.

Notes

1. Walter W. Heller, "A Way Out of the Nation's Economic Trap," *Wall Street Journal*, February 25, 1982, p. 26. (In this book.)

2. Paul A. Volcker, Statement before the Joint Economic Committee of the U.S. Congress, January 26, 1982; *Federal Reserve Bulletin*, February, 1982, pp. 88–90; see also "Paying More for Money," *Time*, March 8, 1982, pp. 74–76, 79–83. (Both articles in this book.)

3. See, for example, the articles by Weintraub and Jianakoplos in the section "Tax-Based Incomes Policy."

4. The following analysis focuses exclusively on income velocity and ignores transactions velocity.

5. This assumes that all transactions involve an exchange of dollars and rules out the possibility of bartering with goods only.

6. Expressed in mathematical form, total velocity is the weighted average

$$V = \frac{MA(VA) + MI(VI)}{MA + MI},$$

where MA is active money, VA is the velocity of active money, MI is inactive money, and VI is the velocity of inactive money. Note that $MA + MI = M$ and $VI = 0$.

7. More correctly, what is assumed to be stable is the demand for real cash balances, or nominal cash balances adjusted for changes in the price level.

8. To review the behavioral premise, Keynesians assume that when interest rates are low (i.e., bond prices are high) many speculators will expect bond prices to fall and will therefore delay buying bonds, holding cash in the interim.

9. The key word here is "large." In the equation $MV = PQ$, if Q—or Gross National Product—increases gradually over time and P is to remain relatively stable, then the money supply should also increase at *roughly* the same rate as Q ("roughly" because gradual changes may also occur in V). This is why monetarists argue for a gradual expansion in M, rather than for a rigidly fixed money supply.

10. "Normal" unemployment, according to the monetarists, is determined by such factors as the interchangeability of job skills, the cost of labor market information, and the extent to which laws and organizations (such as unions) impede the free functioning of the labor market.

11. Notice the implied contrasting expectations concerning interest rate trends. If prices rise, interest rates should also rise to allow for expected inflation in the future. (A lender who normally receives 6 percent and now expects 10 percent annual inflation will demand 16 percent to compensate for being repaid in depreciated dollars.) Thus, if the main impact of an expansionary policy is on prices, interest rates will tend to go up as prices rise. If the main effect is lowered unemployed, then this kind of upward pressure on future interest rates should not occur, or at least not occur in any severe form.

12. Subsequent discussion focuses only upon deficits arising from increased spending. The arguments apply with equal force if that deficit is created by tax cuts.