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DOMESTIC ORIGINS OF THE MONETARY
APPROACH TO THE BALANCE OF PAYMENTS



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INTERNATIONAL FINANCE SECTION

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International Finance Section

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Domestic Origins of the Monetary Approach to the Balance of Payments

The objective of this essay is to explain the essential contents of the monetary approach to balance-of-payments analysis. This approach, which has been developed recently in the writings of Mundell (1968, 1971), Johnson (1972), Dornbusch (1973a, 1973b), and others identified with the Chicago School, challenges the conventional wisdom derived from orthodox Keynesian balance-of-payments theory. Summarizing the monetarist challenge is the argument that a country's persistent payments imbalances can be due only to faulty monetary policy and cannot be remedied by either devaluation or the use of fiscal policy.

An attempt will be made here to set out clearly the differences between the assumptions about the real world and judgments about empirical relationships made by the monetarists and Keynesians that lead to this difference in conclusion about the roles of exchange-rate changes and monetary and fiscal policy in the determination of countries' balance of payments.

Other studies have explained the essential ingredients of what for simplicity we might call "international monetarism," most notably those by Johnson and Frenkel (1976), Masera (1974), Mussa (1974), and Whitman (1975). The present essay differs from these by starting its analysis with an explanation of the differences between monetarist and orthodox Keynesian views on the roles of monetary and fiscal policy in the determination of national income in a closed economy. After this task has been accomplished, the arguments of international monetarism can be developed easily and briefly. They will be seen to follow directly from the consistent application of domestic monetarist arguments to the international sphere. This particular expositional approach should make it possible for many economists trained in the Keynesian orthodoxy but not specialists in international monetary economics to appreciate the recent developments in this field. Section 3 contains brief sketches of some additional monetarist challenges to such traditional Keynesian approaches to balance-of-payments analysis as the assumption of imperfect goods and capital markets and the disregard of stock and flow relationships.

Many discussions with Max Corden have helped me formulate the arguments presented in this essay. I have also benefited from comments made by participants at seminars at the London School of Economics, the International Monetary Fund, Duke University, the University of Madrid, and Nuffield College.

I Monetarist Critiques of the Keynesian Closed-Economy Model

It is useful to distinguish between two phases in the evolution of Keynesian macroeconomic analysis. During the first phase, the focus of analysis was on how monetary and fiscal policies could be used to combat the traditional business cycles that have haunted free-enterprise economies throughout modern history, and in especially virulent form during the Great Depression of the 1930s. The second phase began during the late 1950s and early 1960s, when the focus of analysis shifted to the problem of how to lower the average rate of unemployment experienced over complete cycles of boom and recession. This shift was brought about by the experience of the immediate postwar decade, during which the amplitude of business-cycle fluctuations was very small by historic standards but the average rate of unemployment in the United States was between 5 and 6 per cent. The shift was achieved by the introduction of the analytical concept of the Phillips-curve trade-off between unemployment and inflation. The conclusion of the second phase was that the average rate of unemployment could be lowered by the proper use of monetary and fiscal policies in much the same way these policies were used to reduce purely cyclical unemployment, except that as a consequence of aiming at a lower average rate of unemployment it would be necessary for society to accept some price inflation. Empirical judgments were made that the welfare gains from reducing the U.S. unemployment rate from 5.5 to 3.5 per cent exceeded the social costs of an inflation rate believed to be a steady 2 per cent per year.

Monetarist critiques of Keynesian analysis also can usefully be separated into two different sets. The first set, which I shall call the extreme monetarist critique of Keynesian models, is aimed at the use of monetary and fiscal policies for business-cycle stabilization. The second set, which I shall call the moderate monetarist critique, is aimed at the idea that monetary and fiscal policies can be used to lower the average rate of unemployment.

The Extreme Monetarist Critique of Keynesian Stabilization Policies

Monetarists believe that business-cycle instabilities have been caused and reinforced in the past predominantly by disturbances emanating from financial sectors and that the real sectors of economies are inherently very stable. Their view is that the frequency and amplitude of business cycles could be minimized by a government program that would let the money supply grow at a constant rate equal to the long-run trend growth of real output. This policy recommendation is backed by a number of other empirical judgments, such as that the demand and supply functions for money are stable and that the income elasticity of the demand for money is one. Monetarists think that a

steady rate of increase in the money supply would limit booms; excessively optimistic expectations about the profitability of investment and the consequent large demand for loans would lead to higher interest rates, curbing the boom level of investment. An analogous process of falling interest rates during a recession would limit the downturn of business activity. During extremely large swings in cyclical expectations, the stabilizing influence of the interest-rate changes accompanying steady money-supply growth would be reinforced by the effects that price-level changes have on the real value of money, the so-called "wealth effect" made famous by Pigou and Patinkin. Boom-caused inflation lowers the real value of money held by the public and reduces the desire and ability to spend and invest, thus cutting into the boom, and vice versa for depressions and falling prices.

Monetarists argue that countercyclical variations in the money supply brought about in the past by deliberate policies of central banks often have increased rather than decreased the amplitude and frequency of business cycles, for three reasons.

First, monetary policy based on orthodox Keynesian views of the problem had as its primary objective the stabilization of the interest rate and, through it, the level of income and employment. As is well known from models of the Keynesian system, full employment is associated with one unique interest rate. The basic rule guiding monetary policy, therefore, has been to attempt stabilization of that interest rate by a strategy known as "leaning against the wind"—increasing the money supply when the actual interest rate rises and reducing the money supply when it falls. Monetarists allege that such a policy rule adds to instability because it raises the money supply when boom expectations lead to excess demand for credit and real goods and services, accommodating that demand to a greater degree than when the money supply is not increased. An analogous process leads to deepened recessions.

Second, the Keynesian framework of analysis neglects the role of prices and expectations about the rate of inflation in the determination of the demand for credit, the interest rate, and the real quantity of money supplied. As a result, on occasions the monetary authorities interpreted a rise in the interest rate as a sign of tightening credit, which they ordered to be mitigated by an increase in the money supply, while in reality the rise in the interest rate was due to the expectation of a higher rate of inflation and not to monetary tightness. Under these conditions, the increase in the money supply further eased credit and fueled the boom and inflation.

Third, changes in the money supply and interest rates caused by the monetary authorities affect spending on real goods and services not immediately but with lags of varying and unknown length. According to the extreme monetarist critics of discretionary monetary policy, easing of credit, even if timed properly for current conditions of recession, may not induce

higher levels of aggregate spending until independently developing business-cycle forces have caused the appearance of excess demand.

Extreme monetarists argue that fiscal policy, defined as government deficit and surplus spending financed through the sale and retirement of bonds, also is unable to stabilize aggregate demand over the business cycle because of political difficulties in getting tax and expenditure decisions through democratic legislatures quickly and in the right magnitudes. Furthermore, fiscal policy tends to have effects on real expenditures only with unknown lags, so that it may be destabilizing. Most fundamentally, however, monetarists argue that government budget deficits do not increase aggregate expenditures, for a number of reasons.

At the highest level of theoretical abstraction, taxpayers, who must service and repay the bonds issued by the government to finance deficit spending, should rationally reduce their own real expenditures in anticipation of the future tax payments implied by new bond issues, thus offsetting the increase in aggregate demand created by government deficit spending. Still at a high level of abstraction is the argument that government expenditures on investment not justified on efficiency grounds must compete with, and therefore lead to, a reduction in private investment that offsets the stimulative effects of public investment. If the government incurs its deficit by spending on consumption, total social investment declines and, in order to maintain the capital stock at its efficient level, private savings have to rise, offsetting the increase in aggregate expenditure caused by the government's deficit spending on consumption. At a more practical level of analysis, extreme monetarists point to the money-market effects of government deficit financing—higher interest rates and the crowding out of private borrowers whose investment projects, especially residential housing, are sensitive to the cost of credit. As a result, the reduction in private investment expenditures offsets the stimulation of aggregate demand by the initial government deficit spending. For all these reasons, extreme monetarists recommend that discretionary fiscal policy aimed at the stabilization of aggregate demand be stopped and that governments be required to maintain balanced budgets over the full cycle, matching deficits during recessions with surpluses during booms.

The Moderate Monetarist Critique of the Phillips-Curve Trade-off

Many economists believe that, while governments can successfully use discretionary monetary and fiscal policies to reduce the magnitude and frequency of business cycles, they cannot use these policies to reduce the average rate of unemployment over the full business cycle, as is implied by the Phillips-curve analysis. According to this view, the average rate of unemployment over the business cycle, measured with stable prices or a con-

stant rate of inflation, is the "natural rate of unemployment" and is determined by structural characteristics of the economy and workers' preferences for work and leisure. More specifically, the rates of technical change, output, and labor-force growth, the levels of unionization, legal minimum-wage levels, real wages, the level of competition in factor and goods markets, unemployment insurance and welfare payments, and many other factors determine the natural rate of unemployment. It therefore can be lowered only by appropriate changes in these structural characteristics, not by aggregate demand management.

Moderate monetarists believe that the Phillips-curve argument about the existence of an unemployment-inflation trade-off is based on an incomplete specification of the mechanism determining the division of increased aggregate demand into its components of increased real output and inflation. The missing element in the specification of the mechanism is expectations of workers about the future rate of inflation.

A monetarist would explain the Phillips-curve phenomenon, incorporating expectations in the proper way, as follows: Consider that, initially, price stability has prevailed for a long period of time and is expected to do so in the future. The labor market is in equilibrium in the sense that all unemployed persons are between jobs or voluntarily out of the labor force. Now, if the government is dissatisfied with this level of unemployment (and labor-force participation) and wishes to lower it, the Phillips-curve analysis suggests the need to increase aggregate demand through a permanently greater rate of increase in the money supply or by running a permanently greater government budget deficit. The initial results of these policies are that business inventories are lowered and generally favorable sales conditions cause firms to want to hire more workers. However, in order to do so, firms must offer higher wages, since the only people not working initially did not work because at the going wage rate they preferred leisure. The additional employment lowers the recorded rate of unemployment (raises labor-force participation) and increases the rate of growth of real output; the policy of aggregate demand expansion apparently has worked as predicted. But now comes the cost of the policy. Increased wage payments get reflected in higher prices of output after some time lag, and the resulting inflation reduces real wages. Workers who were lured into employment by higher real wages find that inflation has lowered wages again, and, since their basic work-leisure preferences are unchanged, they again leave employment. The nature of the unemployment-insurance laws induces and permits workers to hide the true motive for dropping out of the work force—to obtain unemployment benefits. As a result, the recorded rate of unemployment is raised temporarily above the natural rate, but as statutory limits in the length of unemployment-insurance payments are reached, the economy drifts back toward its natural rate of unemployment.

But now, because of the permanently greater rate of expansion of aggregate demand, the rate of inflation is positive. For example, with a balanced government budget and a rate of increase in the money supply of 2 per cent above long-run average growth in real output, the inflation rate will be 2 per cent per year.

If the government wishes to maintain the low unemployment level achieved by the initial increase in aggregate expenditure, it has to keep on increasing its rate of monetary and fiscal stimulation in order to maintain the excess demand for goods that is translated into demand for labor and continuously higher wages only because inflation lags behind. By pursuing these policies, the government can maintain a rate of unemployment below the natural rate, but only at the cost of accelerating inflation rather than at a steady rate as the simple Phillips-curve analysis implies. In the longer run, inflation accelerates to such an extent that its social cost exceeds the gains from greater employment and the government has to abandon its policies and return to a lower rate of increase in aggregate demand. However, this downward adjustment process occurs at great cost. Expectations about the rate of inflation are rooted in workers' minds; as wage rates fail to rise at the recently experienced pace and real income falls below normal, many workers prefer leisure at this real rate of pay. As a result, the recorded unemployment rate rises above the natural rate and the rate of growth in real output falls below the long-run average. The economy loses on the downturn what it gained on the upturn. In the presence of strong labor unions, the turnaround in government policies designed to lower the inflation rate is accompanied by disruptive strikes as workers attempt to protect their real incomes. Business, which faces falling demand for its output, resists the payment of higher wages. To the extent that business is forced into paying higher wages, prices of products continue to rise and the economy lives through a period of inflation combined with high unemployment and slow growth, the so-called cost-push inflation and stagflation.

After an economy has gone through a number of cycles of this sort, the public learns to expect inflation. Unionization and escalator clauses in wage contracts spread more widely, and the employment benefits from an acceleration of aggregate demand are smaller and smaller. The government attempts to reduce the strength, duration, and welfare costs of the cost-push inflation phase by initiating wage and price controls, higher unemployment and welfare benefits, and other nonmarket measures, leading to further changes in the structure of the economy and raising the natural rate of unemployment. Consequently, attempts to lower permanently the rate of unemployment through aggregate monetary and fiscal policies cannot succeed in the longer run and may actually raise unemployment.

The preceding analysis leads moderate monetarists to recommend that

aggregate-demand-management policies be aimed at the maintenance of price stability over the full business cycle, letting the average rate of unemployment go to its natural level. If the natural rate of unemployment is considered too high, policies should be aimed at increasing competition in factor and product markets, providing more labor-market information, eliminating minimum-wage laws, and other such structural changes.

This monetarist critique of Keynesian policy principles with respect to both short-run stabilization and the Phillips-curve trade-off is highly controversial, which is probably why so many economists and politicians consider economics to be in a crisis during the 1970s. The following analysis of the monetarist principles applied to the international economy is even more controversial and poorly understood.

2 International Monetarist Views

The division of Keynesian policies into those dealing with business cycles and those aimed at permanently lowering the unemployment rate can be applied also to the analysis of the most basic international monetarist proposition that all persistent imbalances of payments are due to increases in the money supply at a rate above that at which real economic output is growing.

The Balance-of-Payments Effects of Stabilization Policies

As a norm by which to judge the effects of government policies, we should consider a world in which all countries adhere to extreme monetarist principles for domestic demand management, letting the money supply grow at a steady rate equal to the average growth rate of real output and maintaining a balanced government budget over the full business cycle. In such a world, price levels in every country and in the world as a whole are stable. In the long run, countries' exchange rates are constant except for changes in the determinants of the real terms of trade known from the pure theory of international trade. For purposes of analysis, we assume that such terms-of-trade effects are so small over the time period under consideration that they can be ignored. As a result of business cycles and other disturbances, countries tend to experience temporary disequilibria in the foreign-exchange markets. These disequilibria are manifested as changes in reserves under fixed-exchange-rate systems, as exchange-rate fluctuations when rates are free to adjust, and as a combination of exchange-rate and reserve changes under systems of managed floating. But because of the fundamental price stability, reserve changes and exchange-rate fluctuations net to zero over time.

Now let us assume that governments attempt to use monetary and fiscal policy to reduce the amplitude and frequency of business cycles while continuing to aim successfully at price stability in the long run. Whether these

government policies are successful in stabilizing economies or whether they add to instability, as the monetarists claim, long-run average price stability assures that reserve and exchange-rate changes net to zero. We reach the important conclusion, therefore, that reserve or exchange-rate changes persisting over a long period must be due to government attempts to reduce permanently the rate of unemployment through monetary growth rates in excess of real-output growth rates. We now turn to a more detailed analysis of this proposition.

Fiscal Policy and Temporary Payments Imbalances

Let us assume that all the world's countries adhere to the principle of maintaining price stability over full business cycles except for the small Country A, which attempts to lower its unemployment rate by running a perpetual government budget deficit while keeping the money supply growing at a constant rate equal to its growth rate of real output. The country has a managed exchange rate and there are no short- or long-term capital flows.

The section above dealing with the monetarist critique of the use of fiscal policy to lower unemployment permanently in the closed economy gave a list of reasons why such a policy must fail in the long run: taxpayers reduce expenditures in order to finance debt service and repayment in the future, the private sector adjusts its capital formation to assure maintenance of the desired total social capital stock, and government financing crowds out private investment financing. These processes can be expected to take place in an open as well as a closed economy. In the long run, a permanent fiscal deficit cannot be expected to lead to a permanent increase in aggregate demand and therefore to a continuous balance-of-payments deficit, a depreciating exchange rate, or both. In the short run, we may expect the operation of some lags in the adjustment of public spending to the budget deficit and the consequent development of a balance-of-payments deficit. However, after the private sector adjusts fully, the deficit may turn into a temporary surplus or the country may end up with a permanently lower stock of reserves or higher price of foreign exchange. For present purposes of analysis, the main point is that in the longer run the permanent budget deficit will affect only the composition of national output and cannot lead to a permanent imbalance in the foreign-trade sector.

Monetary Policy and Permanent Payments Imbalances

Let us now assume that Country A attempts to achieve a lower unemployment rate by increasing its money supply at a rate n per cent above the long-run growth rate of real output, keeping its government budget balanced over the full business cycle.

Under these conditions, according to the monetarists, in the closed-economy case and in the long run, inflation is at the rate of n per cent per year, the nominal interest rate is n percentage points above the real rate of interest and productivity of capital, but the level of unemployment is at its natural rate. In essence, the change in the money supply has no significant long-run effect on the capital stock, society's rate of time preference, real wages, or labor's preference for leisure.

In an open economy in the long run and under freely floating exchange rates, domestic inflation must lead to a constant and continuous excess demand for foreign exchange, which is eliminated by the constant and continuous depreciation of the domestic currency at n per cent per year. This is so because in the long run money-supply increases affect only the price level but do not affect either comparative advantage or absorption expenditures. In my earlier analysis of monetarist views, I noted that if, in the closed-economy case, a country uses monetary policy to maintain an unemployment rate below the natural rate, it must raise continuously the rate at which it increases the money supply. Similarly, in the open economy under these circumstances, the inflation rate must accelerate and with it the rate of depreciation of the domestic currency. The inefficiencies and social problems associated with very high rates of inflation tend ultimately to force the abandonment of the policy goal of an unemployment rate below the natural rate and therefore an end to the acceleration in the rate of increase of the money supply.

In the case where a country manages its exchange rate rather than letting it float freely, the preceding analysis needs to be amended only slightly and in ways obvious from the study of the simpler cases. The excess demand for foreign exchange accompanying the increase in the money supply is to some extent financed by running down international-reserve holdings. In the longer run, this financing causes reserve holdings to fall below their desired normal level and exchange-rate devaluations are induced. The results are the same as under a freely floating exchange rate: persistent exchange-rate depreciation attributable to an excessively rapid growth in the money supply.

Reserve-Currency Country under Managed Exchange Rates

We now turn to the analysis of the monetarist view of international adjustment in a world of pegged but adjustable exchange rates in which one large reserve-currency country increases its money supply at a constant and continuous rate. This case is of particular historical interest since it describes the situation of the United States and the world in the 1960s and is believed to explain the worldwide inflation in the 1970s. As is well known from the discussion of postwar international monetary problems, the very large size of the U.S. economy and certain historically determined factors have made the U.S. dollar the primary form in which the countries in the rest of the world have