Three views can be distinguished among economists on how monetary policy can affect the business cycle and enhance social welfare. First, if the business cycle is due purely to the interaction between nominal and real variables, then some countercyclical policy (such as faster money growth under recessions) can stabilize the economy and ameliorate the effects of the free market economy. Of course, the design of such a policy will not be easy in practice. A second view attributes the business cycle entirely to real—not monetary—factors, so that monetary policy is essentially irrelevant. Ironically, then, the real business cycle theory does not offer any basis for rejecting Keynesian monetary policies. A third view is that the business cycle is caused by a confluence of monetary and real influences, and is more popular.

Some Policy Considerations

Policy issues hinge on theoretical issues whose resolution is unlikely to occur soon, if at all. But, in the meantime, the policy issues cannot be avoided; the show must go on.

ECONOMIC COMMENTARY

Can monetary policy act to stabilize the economy? Should policy attempt to do so? These questions have been the subject of considerable controversy during the last few decades. The continuing controversy reflects, in large part, the inability of economists to resolve theoretical issues surrounding the relationships between nominal variables, such as inflation and money growth, and real variables, such as output and employment.

If nominal variables do not significantly influence the movement of real variables over the business cycle, as some theories suggest, then monetary policy is ineffective as a stabilization tool. If, on the other hand, such an influence does exist, the design of monetary policy is an important factor in the business cycle. Although most economists believe monetary policy does influence the course of the business cycle, even this belief may not help settle the policy issues unless we know just how those effects operate and how to exploit them.

This Economic Commentary reviews some of the important developments in economic theory that have altered our understanding of the real-nominal interaction, and their implications for monetary policy.

Classical and Early Keynesian Theories

Classical economic theory, which prevailed before 1850, held that economic fluctuations are ultimately determined by technology, by the preferences of individuals, and by the available quantities of capital, labor, and other productive factors. These ultimate determinants are reflected in the supply and demand for commodities, and prices rise or fall (adjust) so that markets clear—that is, so that supply and demand are in balance. But the classical theory held that nominal prices or the overall price level did not influence supplies and demands of individual commodities. Instead, the prices that really matter to people are price ratios, or relative prices, which represent the terms of trade between different goods, and between leisure and consumption. If all nominal (or dollar) prices and wages are doubled, relative prices are unchanged, so that equilibrium quantities and outputs are also unchanged. It would seem to be a consequence that there is no effect of inflation—an overall increase in prices—on economic activity.

The overall price level, in turn, is determined by interaction of money supply and demand. For example, a rise in the supply of money would, given a stable money wage rate (velocity), translate into a higher volume of nominal spending on goods and services. This higher level of overall demand would not cause an overall increase in prices. Instead, equilibrium quantities and outputs are also unchanged. It would seem to be a consequence that there is no effect of inflation—an overall increase in prices—on economic activity. The overall price level, in turn, is determined by interaction of money supply and demand. For example, a rise in the supply of money would, given a stable money wage rate (velocity), translate into a higher volume of nominal spending on goods and services. This higher level of overall demand would not cause an overall increase in prices. Instead, equilibrium quantities and outputs are also unchanged. It would seem to be a consequence that there is no effect of inflation—an overall increase in prices—on economic activity.

The Keynesian economists attributed the Depression to insufficient overall demand. They held that wages and prices were too sticky in the short run to fall enough to eliminate excessive unemployment and other gaps between supply and demand. Instead, firms and workers would respond to rising or falling demand largely by increasing or decreasing output and employment in the short run. Consequently, government policies that stimulated spending would raise output as well as prices. At first, Keynesians argued that only direct

In equal proportion to the money increase. On the other hand, a rise in money demand due to rising output would, for a given money supply, tend to cause prices to fall as people tried to save money, so that the nominal supply would be adequate to carry out transactions. So long as prices adjusted fast enough, money growth and inflation would not appreciably disturb economic activity, and all resources would always be fully employed.

However, a strong positive relationship between inflation and overall activity was observed in the years prior to World War I. Economists began to suspect that markets do not clear rapidly enough for inflation to have real effects. Finally, the severity of business cycles and the depth of the Great Depression made it appear that supply, particularly of labor, could exceed demand for a considerable time and by a substantial amount. The notion of continual full employment seemed quite implausible.

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government spending would have much effect. Monetary policy was thought ineffective because interest rates could not rise enough to affect the economy. The great postwar Depression, yet there were unsatis-

fied creditworthy borrowers. In the context of the milder postwar recessions, however, they felt that monetary policy could stimulate spending by lowering interest rates.

Monetarists had some technical dis-

agreements with Keynesians over the process linking monetary expansion to demand stimulation. Monetarists did not think it depended entirely on a fall in the interest rate. More importantly, they agreed with Keynesians that sticky prices and wages made for an interaction between nominal and real variables, they cautioned that the uncertain lags between policy actions and their effectiveness made it unlikely that active manipulation of the money supply could stabilize the economy. They blamed economic fluctuations on instability in the money supply.

Problems of the Keynesian Model

After World War II, business cycles did not conform to earlier patterns. The simple, positive relationship that had existed in the 1930s and early 1940s between the rate of inflation and output fluctuations disappeared. During certain periods, most notably during 1967 and 1971, high inflation and recession coexisted. This empirical anomaly encouraged Keynesians to make more plausible models that include not only demand-side interactions as such, but some that specify the lags between variables. If everything depends on everything else, as in principle it does, then it is impossible to test the model. Acceptable approximations can include the important relationships and exclude others. Like all models, these relationships have to be approxi-

mated because theory does not ade-

quately specify them. The assumptions and variabilities are solved in practice by trying various reasonable assumptions out to see what works, in the sense of fitting the data. The result is a detailed hypothesis of how the economy works, but the historical accuracy of the model does not necessarily prove that the underlying theory is correct. The fore-

casts of the models have not provided a clear basis for claiming success.

A debate over the assumptions under-

lying the models led to the recognition that the rules of behavior that model equations described were not really structural but would vary depending on the economic and policy environ-

ment. For example, the early models assumed at least implying a per-

sistent inflation of money and aggre-

gate demand would, by raising prices, cause the winners and losers to respond by increas-

ing output and employment. But, both reason and growing evidence suggested that the inflation of money and wages was not always constant, but rather fluctuated quite a lot. The idea that the rate of inflation is a certain level of economic activity that results when suppliers adjust to infla-

tion has been termed the natural ratebl hypothesis. This hypothesis was so

narrow because it held that, on average, the unemployment rate would equal a "natural rate" determined by real fac-

tors, such as labor force characteristics and the normal process of expansion and contraction of individual firms and industries. The unemployment rate could not be held down permanently by raising the rate of inflation. This hypothesis is no longer controversial.

Economists originally thought that the assumption that expectations adapted to past inflation, termed adap-
tive expectations, would make the models consistent with the natural rate hypothesis. And although expectations are not explicitly represented in Keynesian models, they are consistent with the notion that a sustainable rate of inflation will have effects on economic activity only in the short run, until suppliers come to anticipate the infla-

tion. This improvement in the models made them a more plausible account of postwar data. (Indeed, in conjunction with the supply factors also incorpo-

rated, the models fit the historical data very well.) However, the notion of adaptive expectations was undermined in the 1970s by the seeming inability of accelerating inflation to bring about increased output and, more impor-

tantly, by a new recognition that this adaptive expectations notion is not consistent with the natural rate hypothesis after all. If expectations merely adapted to past experience, a modest inflation policy could always keep accelerating inflation, thus keeping output above its natural level and unemployment artificially low.

The rational expectation hypothesis 

that people acquire and use information could be consistently sur-

prised by inflation. Although people do not have the knowledge of how monetary policy works that the models as-

sume, they would not use the knowledge they have, including knowledge of how monetary policy affects the business cycle. The most remarkable conclusion was that, if the influence of money and wages was due to the way it tricks suppliers and workers into increasing output and employment, then this influence cannot be systematic in any way. In particu-

lar, it cannot be systematically related to the state of the economy. If money growth is regularly increased during recessions, this will be expected and will only raise inflation. So monetary policy would be ineffective as a stabil-

ization tool. This would be true, even though unsystematic, hence, unex-

pected, changes in money growth and inflation would affect output. Real Business Cycle Theory

The rational expectations hypothesis has proved too difficult to incorporate into the detailed statistical models. But it is a useful framework for analyzing monetary and fiscal policies. Keynesians have been faulted for buying and selling stocks in many ways, ranging from cost-of-living clauses and varying over time, and from contracts and changing work rules and condi-

tions. Although some sticky-price or wage setting mechanisms come to routinely raise prices rather than respond opportunistically controlled for—

relying on how inflation is anticip-

ated or not. On the other hand, 

money growth, whether or not anticip-

pated, does seem to forecast output and employment fluctuations by up to several years. These results have in common that the anticipated-unantici-

pated distinction is unimportant, but differ on whether real and nominal vari-

ables are interrelated. The most note-

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er under the natural rate hypothesis. And although expectations 

work in the business cycle, the earlier debates over rational expectations versus adaptive expectations have incul-

ated a healthy skepticism among econ-

omists regarding models that simply assume some plausible mecha-

nism rather than working out how individual people would rationally behave under different policies. A model or relationship that is not worked out in terms of the underlying incentives of individuals generally breaks down when policy, or any other aspect of the economic environment, changes. The underlying rela-

tionships may not provide reliable guides for policy.

Real Business Cycle Theory

The search for explanations of rational individual behavior consistent with the overall economic fluctuations has led, primarily in the earlier 1970s and early 1980s, to the hypothesis that economic cycles are generated by changes in productivity. Although people do not have the knowledge of how monetary policy works that the models assume, they would not use the knowledge they have, including knowledge of how monetary policy affects the business cycle. The most remarkable conclusion was that, if the influence of money and wages was due to the way it tricks suppliers and workers into increasing output and employment, then this influence cannot be systematic in any way. In particu-

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agreements with Keynesians over the process linking monetary expansion to demand stimulation. Monetarists did not think it depended entirely on a fall in the interest rate. More importantly, while they agreed with Keynesians that sticky prices and wages made for an interaction between nominal and real variables, they cautioned that the uncertain lags between policy actions and their effectiveness made it unlikely that active manipulation of the money supply would be helpful. They blamed economic fluctuations on instability in the money supply.

Problems of the Keynesian Model
All of the above models were seen as not conforming to earlier patterns. The simple, positive relationship that had existed between postwar inflation and output fluctuations disappeared. During certain periods, most notably the 1960s and early 1970s, high inflation and recession coexisted. This empirical anomaly encouraged Keynesians to make more plausible models that include not only demand-side influences, but also supply-side influences such as productivity, oil prices, and changes in the international terms of trade. These Keynesian mod-
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tion. If partion between expected and unexpected inflation and money growth turned out not to be helpful in accounting for the business cycle. Inflation appears not to be systematically related to output in the postwar era—unless, as in Keynesian models, supply-side factors are opportunistically controlled for. Nevertheless, a variety of adaptive expectations have provided a real basis for claiming success. A debate over the assumptions under-
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Policy issues hinge on theoretical issues whose resolution is unlikely to occur soon, if at all. But, in the meantime, the policy issues cannot be avoided; the show must go on.

Three views can be distinguished about how monetary policy can affect the business cycle and enhance social welfare. First, if the business cycle is due purely to the interaction between nominal and real variables, then some counter-cyclical policy (such as faster money growth in recessions) can stabilize the economy and ameliorate defects of the free market economy. Of course, the design of such a policy will not be easy in practice. Second, the above view attributes the business cycle entirely to real—not monetary—factors, so that monetary policy is essentially irrelevant. Ironically, then, the real business cycle theories do not offer any basis for rejecting Keynesian monetary policies.

A third view, that the business cycle is caused by a confluence of monetary and real influences, is more popular among economists. In this view, monetary policy, if well designed, may serve to stabilize the economy. To the extent that a Keynesian mechanism is at work, Keynesian policies will enhance welfare. But to the extent that fluctuations represent the economy’s efficient responses to changing real opportunities, successful stabilization will thwart these desirable responses. Just how aggressively policy should pursue stabilization will depend on which mechanism is most important in accounting for the business cycle. Lacking a clear answer, many economists believe that a cautiously counter-cyclical policy of some type may not be amiss.

Monetary Policy Debates Reflect Theoretical Issues

by James G. Hoehn

Can monetary policy act to stabilize the economy? Should policy attempt to do so? These questions have been the subject of considerable controversy during the last few decades. The continuing controversy reflects, in large part, the inability of economists to resolve theoretical issues surrounding the relationships between nominal variables, such as inflation and money growth, and real variables, such as output and employment.

If nominal variables do not significantly influence the movement of real variables over the business cycle, as some theories suggest, then monetary policy is ineffective as a stabilization tool. If, on the other hand, such influence does exist, the design of monetary policy is an important factor in the business cycle. Although most economists believe monetary policy does influence the course of the business cycle, even this belief may not help settle the policy issues unless we know just how those effects operate and how to exploit them.

This Economic Commentary reviews some of the important developments in economic theory that have altered our understanding of the real-nominal interaction, and their implications for monetary policy.

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The overall price level, in turn, is determined by interaction of money supply and demand. For example, a rise in the supply of money would give a stable money wage rate (velocity), translate into a higher volume of nominal spending on goods and services. This higher level of overall demand would not, it seems, necessarily create inflation if the government, through fiscal policy, is able to offset the higher levels of demand. The main issue is how much inflation needs to be avoided. The classical theory did not emphasize money stabilization.