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**Recent Economic Developments
and
Indicators of Monetary Policy**

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RECENT ECONOMIC DEVELOPMENTS AND INDICATORS OF MONETARY POLICY

I am pleased to be here today for several reasons. First and foremost, it is always a pleasure to speak before a group that is as interested in and as informed about monetary policy as is this one. In addition, I am eager to talk about my views on monetary policy indicators. I understand that the speech that I gave last month on this topic caught the attention of a few of you here. Thus, I feel fortunate to have a chance to elaborate further on the subject.

Before turning to monetary policy indicators, however, I want to start with a brief look at recent economic developments. Not only is the economy of interest in its own right, but it also provides a useful backdrop for the rest of my comments.

Recent economic developments

The economic outlook has been subject to more than the usual variety of uncertainties in recent months. While the economy had been expanding strongly through the summer, no one could be certain about the effect of last October's stock market crash. As I am sure you recall,

most private forecasters sharply reduced their expectations for economic growth in 1988, and some actually projected a recession for the first half of the year. And economic data for late last year and early 1988 seemed to suggest the possibility of a substantial slowdown. Although considerable uncertainty remains, the resiliency of the U.S. economy is becoming increasingly apparent as economic data become available for the first quarter. Recession fears seem to be fading, and it now appears that we have experienced only a moderate slowdown in real GNP growth from last quarter's 4-1/2 percent pace.

One need look no further than the most recent labor market report for evidence that the economy has continued to expand substantially. Nonfarm payroll employment increased a surprising 531,000 in February. This advance may have been exaggerated a bit by seasonal adjustment problems, but the average of January and February's figures nevertheless was about equal to the healthy average increase of the preceding four months.

Over the past year, the much needed improvement in our foreign trade position has provided a major impetus to the economy. The depreciation of the dollar, coupled with restrained wage and cost increases, has significantly improved our competitive position in international markets. Real merchandise exports advanced at a rapid pace in the fourth quarter and in 1987 as a whole, while growth in real merchandise imports slowed substantially. Consequently, the deficit in real net exports--a broad measure of our trade balance in goods and services--narrowed for the first time since 1980, and further progress is likely this year.

The increased demand for U.S. products has led to a revival of activity in the industrial sector. In 1987, industrial production recorded its largest percentage increase since 1984, with particularly large gains occurring in the output of business equipment. This reflects not only a strong foreign demand for U.S. capital goods, but also the need of domestic producers to expand capacity. Although excess inventories in the auto industry contributed to a slowdown in the growth

of manufacturing output at the beginning of this year, I expect this "pause" to be temporary. Auto inventories have been reduced to comfortable levels, factory orders were strong early this year, and with the continued stimulus from the external sector, output gains in the manufacturing sector should pick up again in coming months.

With income growth continuing and confidence improving, even consumption spending seems to be satisfactory. There had been some fear at the time of the stock market collapse that the drop in household wealth would lead to a significant retrenchment in consumer spending. Although real personal consumption expenditures fell in the fourth quarter of last year, consumer spending is still likely to contribute to growth in the first quarter.

With economic activity continuing to expand at a healthy pace, it obviously is important for the Federal Reserve to be vigilant against a reacceleration of inflation. But, at this point, I am reasonably optimistic about the inflation outlook. Wage increases have remained moderate, and given the recent softness in oil prices, energy prices

should put a damper on CPI and PPI increases. As a matter of fact, the February Producer Price Index declined .2 percent, slowing its rate of growth to 1.7 percent over the past 12 months. Although capacity problems have developed in a few industries, they are by no means widespread.

Of course, rising import prices will be adding to measured inflation, which is an inevitable part of the international adjustment process. But we cannot allow these price level adjustments to become part of a renewed inflation process.

Indicators of Monetary Policy

Monetary policy obviously has a key role to play in supporting continued economic expansion with ongoing external adjustment and in preventing any buildup of inflationary pressures. I would like to think that we have had something to do with the rather good economic performance our nation has enjoyed for the past 5 years. But, the task has certainly been challenging, and I don't for a second expect that challenge to recede as we move along into the future. I am continually

reminded of this whenever I see the conflicting advice given to the Federal Reserve in the many financial newsletters I receive.

One reason for the difficulty in conducting policy and the lack of consensus among "Fedwatchers" and others is the lack of a single, reliable intermediate guide upon which to focus policy. For a while, the money supply, especially M1, seemed to meet the need, though it always had to be interpreted with some care. But for reasons that are by now well-known to you, M1 in particular, but the other aggregates as well, have become less useful guides to policy. Consequently, both you and we have been forced to identify other economic and financial variables that can be used to predict trends in spending, production, and inflation in order to judge what policies might be appropriate in any given situation. The point of my previous talk was to give you reasons why I and other Governors pay particular--but not exclusive--attention to three measures in assessing the stance of policy.

Over the years, the word "indicator" has been used in a variety of contexts, which has led to a great deal of confusion. Consequently, I

want to be clear about the meaning I will be attaching to the term tonight. I am using it in an informational sense. More specifically, indicators are variables that enable us to determine in a quick and timely fashion whether a given monetary policy is having the intended or desired effect on the economy. That is, indicators provide us with information needed to answer the question "Is the current stance of monetary policy appropriate?"

The need for indicators arises because policy is, by necessity, formulated in an environment of incomplete information. It is extremely difficult to determine the current state of the economy and how it may be responding to economic policies. The lack of information arises partly from data lags. The most recently available data on the economy are always dated, especially those coming from the GNP accounts. An even more difficult information problem results from the lagged effects that changes in policy have on the economy. Policymakers need to have some sense of how the economy will be behaving in the future, so that they can adjust policy to bring about desired results.

In this environment, indicators serve the purpose of providing early readings on where the economy is headed and how its direction is being affected by monetary policy. As such, indicators play a crucial role in formulating and evaluating monetary policy. If they indicate at an early stage that policy is not having its desired effect, policy can then be adjusted to a more appropriate stance. Consequently, indicator variables not only play a part in assessments of the economy's response to monetary policy, but they may also influence the choice of future policies.

To function adequately in this role, indicator variables should be correlated with the future data that reflect the lagged effects of policy actions. It is also essential that indicator variables themselves be readily available. In addition, they should be accurately measured and not so subject to revision that initial readings might provoke inappropriate policy responses.

At the Federal Reserve, a wide variety of financial and nonfinancial indicators are used in the conduct of monetary policy.

What I would like to do tonight is single out three of them--the spread between long-term and short-term interest rates, exchange rates, and commodity prices--that, when interpreted carefully and in context, do meet many of the criteria for indicator variables.

I do not want to give the impression of having found some new indicators that heretofore were unknown to the FOMC. In truth, these three variables have been used as informational variables in policy considerations for quite some time. For example, softening commodity prices and a flatter yield curve played a role in the decision to ease in 1986. During much of 1987, a steepening yield curve, rising commodity prices, and downward pressure on the dollar were important signals to the Federal Reserve of a need to be concerned about the potential for a pickup in inflation.

I do want to emphasize at this point that I am not suggesting that yield spreads, exchange rates, or commodity prices be used as targets of monetary policy, even though it is conceivable that they could be. In fact, combined objectives for exchange rates and one

commodity--gold--in effect dictated monetary developments during the gold standard period of the nineteenth and twentieth centuries.

Exchange rates also had considerable weight in policy deliberations under the Bretton Woods system. But, in the context in which I am using exchange rates--and, for that matter, commodity prices and yield spreads--I do not envisage them becoming targets of monetary policy. Rather, I see them as providing valuable information on the economy's performance and the effect of the Federal Reserve's policies. Indeed, once a variable becomes a target of monetary policy, it ceases to provide this kind of information, as was the case when fixed exchange rates prevailed.

As experience has shown, no one of these indicators can be used alone. Each is subject to a number of influences that may not be directly related to monetary policy, but rather result from non-policy factors. Taken together, however, and interpreted with care, they possess a number of desirable properties.

Data on yield spreads, exchange rates, and commodity prices are readily available, in some cases by the minute, 24 hours a day. The data are not subject to revisions and other adjustments that affect many economic and monetary series. In addition, each indicator incorporates the collective judgment of the highly informed participants who trade the assets and commodities, thereby reflecting the consensus about current and future factors that determine their values. Finally, these indicators are responsive--at least to a degree--to monetary changes, which is a necessary ingredient to their success as indicators. They can also change in response to a variety of other factors, which as I mentioned in my earlier speech, is why they must be used in conjunction with one another.

Let's now take a closer look at each of the three indicators. With regard to the yield spread, I have in mind specifically the difference between the rate on long-term Treasury bonds and a short-term interest rate. I prefer to use the federal funds rate rather than the 3-month Treasury bill rate, because it is less subject to short-run

developments, such as Treasury financing patterns or foreign central bank purchases. Both the long-term rate and the federal funds rate react to policy changes as well as to a variety of other factors. In addition, because the two differ significantly in maturity, the federal funds rate tends to be influenced by monetary policy to a greater degree, while the long-term rate is influenced more by expectations of future economic developments. Consequently, the yield spread captures these expectational factors, which relate primarily to future movements in short-term interest rates. Expectations of changes in short-term interest rates could reflect either real factors or inflation. With an easing in monetary policy, the yield spread should initially widen as investors are quick to realize, given all else, that the future economic expansion or greater price pressures will cause future short-term rates to rise. Similarly, the yield spread should initially narrow following a tightening in monetary policy, as inflation and real economic activity are expected to decline.

In addition to monetary policy factors, the yield spread can be influenced by a number of other factors that affect expectations of future economic activity and inflation, and hence, prospective movements in short-term interest rates. Changes in fiscal policy are one obvious example, as are changes in economic policies in other countries. Movement in the yield spread can also reflect changes in risk and liquidity premiums, and changes in the supply of Treasury securities at different maturities. Finally, the yield spread can, on occasion, be especially difficult to interpret because market expectations of changes in monetary policy can affect its movement.

All these considerations imply that movement in the yield spread must be interpreted cautiously. In other words, its value as an indicator is tied primarily with its use with other indicators.

Another such indicator is the exchange rate. Like interest rates, exchange rates are sensitive to changes in monetary policy. With an easing in monetary policy, the drop in interest rates would initially cause the dollar to depreciate, as lower interest rates in the U.S.

relative to foreign countries induce capital outflows. Similarly, a tightening in policy would initially result in an increase in exchange rates.

Also like interest rates, exchange rates are affected by a number of other factors, such as foreign monetary and fiscal policies and productivity growth differentials. This is why it is important to compare exchange rate movements with other indicators. For example, in 1986 a falling yield spread and declining commodity prices suggested an easing in policy was clearly appropriate, despite the falling dollar.

As suggested, the information contained in the yield curve and exchange rates can also be combined with movements in commodity prices to signal those situations in which generalized inflation or deflation may become a possibility, thereby necessitating a policy reaction. In this context, I have found Governor Angell's research project showing commodity prices leading turning points in the CPI to be very interesting. But I realize that many factors other than generalized demand pressures can influence commodity prices, and substantial

questions remain regarding the strength of the relationship. Study is currently underway at the Federal Reserve to determine the extent to which commodity prices signal the buildup of inflationary pressures before prices generally begin to rise. To the extent that they do, an excessive easing in monetary policy that raised inflationary expectations would presumably be associated with an increase in commodity prices, along with a widening in the yield spread and a decline in the dollar. Similarly, these indicators would jointly signal a tightening in the effect of monetary policy through a narrowing of the spread, an appreciation of the dollar, and a fall in commodity prices.

Qualifications

In closing, let me re-emphasize several points that have been a part of my discussion of the use of these indicators. First, my proposed use of the yield spread, exchange rates, and commodity prices is solely as informational variables for monetary policy. I am not suggesting that they become policy targets. Second, these are not the only indicators that can be and, in fact, are used in gauging monetary

policy. However, when used jointly and in conjunction with other information, they are very useful additions aiding in the formulation and implementation of appropriate price stabilizing monetary policies.

Third, further study on these three indicators is continuing at the Board of Governors. A number of aspects regarding their use requires further analysis. For example, empirical evidence has questioned the extent to which expectational factors alone cause changes in the yield curve. Thus, the behavior of the yield spread should be explored further.

Finally, it would be incorrect for investors to conclude that these three indicators are the only ones being given any weight in the Federal Reserve's policy deliberations. No method of assessing the effects of monetary policy on the economy is so foolproof that it can be applied in isolation from other factors. It is prudent to use all available information in judging whether monetary policy is having the intended effect. What I have simply offered this evening is an explanation of

how the yield spread, exchange rates, and commodity prices can be used to help effectively assess the impact of monetary policy.

Thank you.