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Statement by
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Before the
Commerce, Consumer, and Monetary Affairs Subcommittee
of the
Committee on Government Operations
U S House of Representatives

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I thank the committee for this opportunity to reflect on some broader aspects of monetary policy making. As requested, I intend to examine the role of forecasting and the use of economic statistics in making monetary policy.

There has never been a time when economic understanding was all encompassing, activity was measured with unerring precision, and forecasting was flawless. The critical question facing the current generation of policy makers--and that appears to have motivated this hearing--is: Has the pace of technology, which has substantially integrated world economies and brought many new products to market, significantly impaired our understanding of how the economic system works, how available data relate to the true economy, and how policy should be implemented?

Forecasting and Policy Making

Economists have always struggled to understand the effects of innovations in behavior, instruments, and institutions. Many analysts, despairing of reaching a usable understanding, have endeavored to substitute a "rule" for monetary policy to eliminate a need to analyze or to forecast economic developments. What has become increasingly clear is that no simple guide would enable us to put monetary policy on automatic pilot. In principle, such a rule might be relied upon more readily if there were only one ultimate policy objective, as would be the case if

price stability were mandated. However, in this country, the Federal Reserve Act specifies multiple objectives for monetary policy. Some analysts, even in the case of these multiple objectives, have advocated that the use of a single variable as an intermediate target would eliminate the need to forecast and enable monetary policy makers to follow automatically only one policy guide in their effort to stabilize the economy. But implicit in the use of any such potential target is the presumption that the past relationship of the variable to the economy would continue to hold, and that, itself, is a forecast.

The forecasting records of some of those proposed variables--including the financial aggregates M1, M2, and domestic nonfinancial debt--strongly suggest that following a rule involving just one target would be inadequate to steer the U S economy. Even more complex rules, involving multiple policy guides or automatic feedback from economic outcomes, would be insufficiently responsive to changing economic structures. For monetary policy purposes, there appears to be no recourse but to form a conceptual framework that identifies the various important forces influencing the future course of the economy and, hence, can be used in forecasting. In that process, money and credit aggregates play a substantial role and have proved over the years to be useful in framing the relevant conceptual understanding of the way that the American economy functions.

In their efforts to understand the economy, analysts have tried to take advantage of new technology, including the manifold increase in computing power. Econometricians have devised complicated mathematical models that purport to describe relationships within the American economy. While these models serve many useful purposes, no matter how elaborate they may be, they are generally too simple to capture the evolving complexities of our economy. History teaches us that the underlying structure of the economy is in a continuing state of flux, current estimates of key parameters describing the basic relationships are based on past experience and need to be viewed skeptically when making policy for the future. As a consequence, alternative approaches to inferring the evolving structure of the economy are required.

The appropriateness of monetary policy will depend on how successful we are in understanding the complex forces that are currently driving the economy. In the process of reaching such an understanding, we do not rely on a single, point forecast of economic activity. Instead, recognizing the uncertainty around any given forecast, we endeavor to look at a range of forecasts and to form judgments of their relative probabilities. Based on those judgments, we implement policy to meet national economic objectives. But we also recognize the inevitability of errors in forecasts. Policy making requires an assessment of the consequences of

various policy alternatives should they prove to be wrong
We must ask ourselves How difficult would it be to reverse
policy mistakes and at what cost?

Measurement and Policy Making

When forming an assessment of the economy's structure, we have to recognize that the economic outcomes of human decision making--spending, production, asset holdings, and prices--are measured imperfectly, adding noise and, in some instances, systematic biases to reported statistics. From the viewpoint of an analyst, such as myself, who has spent much of his career closely tracking the regular cycle of economic releases, the list of shortcomings in U S economic data is depressingly long There are biases in aggregate price indexes, incomplete reporting of international transactions, a significant amount of mere interpolation in the service portion of our national income accounts, uneven coverage of the financial accounts of households and firms, and unreported economic activity

Breakthroughs in computing hardware, software, and communication technologies may allow data collection to be more precise, but these and other innovations make the economy more difficult to measure This results, in large part, because output of goods and services is increasingly becoming more conceptual than physical over time The part of the real value of output which reflects ideas rather than

bulk has increased immeasurably this century. As a consequence, the units of output have become ever more difficult to identify. One ton of 99.7 percent pure aluminum is fairly well defined with respect to quantity and quality. A computer program is not. Clearly, unless output is unambiguously defined, the concept of price is vague. Moreover, the conceptualization of output is one of the factors that has been associated with substantial increases in the quality of goods and services. Measurement of the extent of that improvement, quite obviously, is problematic, and, in turn, has critical implications for aggregate price indexes. Any imprecision in those calculations of prices translates directly into uncertainty in the real values of output and productivity.

There are many hopeful signs that improvements in technology and advances in the practice of measurement are being reflected in improved economic statistics. For example, the development of the Employment Cost Index by the Bureau of Labor Statistics has added importantly to our understanding of trends in labor costs. The BLS has also been able to raise significantly the response rate for the first estimate of monthly employment in its establishment survey, thereby improving noticeably the quality of that timely indicator of economic activity. Similarly, the development of hedonic estimates of price change for computing equipment by the Bureau of Economic Analysis has

paid off in a better understanding of trends in real investment spending and inflation. Nonetheless, as I shall discuss later, more work needs to be done.

The Conduct of Policy

Recognizing that economic understanding is imperfect and measurement is imprecise is not a reason to despair about conducting monetary policy. Imprecision in published data on the macroeconomy does not pose a crippling hardship. When there is systematic bias in reported statistics, we can take that into account as well. For example, most price indexes tend to overstate inflation. They generally lag behind in recognizing shifts toward lower-cost retailers, they are also slow to incorporate new goods and, thus, miss the typical price declines that are posted in the earliest phase of the product cycle.

We are careful to recognize that information on the state of the economy comes from a variety of sources of varying degrees of accuracy. Some data provide full coverage and are quite accurate, such as motor vehicle assemblies and sales. Other data, such as estimates of U.S. currency held abroad, are subject to considerable error. Often before statistics from systematic samples on sales, employment, and prices are available, less accurate, so-called anecdotal information can be quite useful as a preliminary indicator of emerging trends. One important source of such information is the reports that are received

from our Reserve Banks through their extensive contacts in their communities. In addition, we frequently tap trade groups and advisory councils for timely indications of what is going on out in the field. Such detailed readings of firm behavior are important, for example, in indicating when inflation pressures are beginning to mount.

The historical record shows that higher price inflation tends to surface only as the business cycle matures. Thus, by the time that aggregate price indexes reveal that inflation is on the upswing, many imbalances that are costly to rectify have developed already. Hence, information on firm behavior and signals from financial and commodity markets may warn about the development or easing of bottlenecks sooner than highly aggregative readings on unemployment, national income, prices, or the traditional monetary aggregates.

On balance, imprecision in the measurement of key economic magnitudes does complicate the job of policy making. Making inferences about the future is always harder when readings on the economy are contaminated by measurement error. However, because of our ability to consult a variety of sources, the adverse effects of such mismeasurement are kept to a minimum. I am not aware that forecasting the American economy is currently any more difficult or, for that matter, any easier than it was, say, several decades ago.

Course of Action

When considering steps to improve the measurement and interpretation of economic statistics, we must recognize that there are budget constraints. The staff at the various agencies responsible for gathering and interpreting economic statistics are working hard and are making progress within those constraints. I can think of no better area for additional research than in the construction of price indexes, in part because of the widespread extent of indexation in the federal government's accounts. Given the considerable body of research indicating that systematic biases may exist in measurement of price change in the Consumer Price Index, it will be an important task of staff at the BLS to address this problem in coming years.

Another step to enhance data interpretation is to process information from futures, forward, and options markets intensively. Derivatives markets potentially provide central banks with new opportunities to gauge market sentiment as to the future movements of a variety of interest rates, equity prices, foreign exchange rates, and commodity prices and to measure the strength of those market convictions. Moreover, financial innovation holds the promise of opening new windows on economic behavior, particularly should markets develop in price-indexed debt or in futures on such items as home prices, GDP, and the components of spending. As to futures markets, we must

await the ingenuity of private parties in the financial sector. As to indexed debt, the Treasury could issue obligations that have interest and principal payments related to consumer prices.

Conclusion

Having reflected on forecasting and economic statistics in the conduct of monetary policy, I remain confident in just one prediction. Future Fed chairmen will tell your successors on this panel that economic forecasting is still uncertain and that the consequences of monetary policy vary over time. The U.S. economy is complex and evolving. Keeping pace with that change will require our continuing efforts to understand how the economy works and to adapt our data-gathering procedures accordingly.

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