

The Complexities of Monetary Policy

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I'm delighted to be here today. It's always a pleasure to meet with kindred spirits to discuss the economy. Given the difficulty we all had in arranging this date, I am particularly pleased that we all made it. Some people may be surprised at my interest, but as a long-time research economist, I derive great enjoyment from spending time with fellow economists. Some call us practitioners of the "dismal science," but all of us in this room know better. After all, this is a meeting of the Downtown Economists Club. "Club" certainly has a festive, friendly ring to it, so I'm confident our time together will be anything but dismal.

As you know, I came to the Federal Reserve Bank of Philadelphia after spending many years on the faculty of the Wharton School. So I thought I would spend my time with you today talking about the interplay between my long experience as an academic researcher and my new responsibilities as a central banker.

Since I joined the Fed last summer, I've encountered several conundrums. I suppose you could also call them "points of tension" - places where macroeconomic theory intersects with real world economics. Whatever terminology one uses, these conundrums illustrate the challenges that one confronts in analyzing economic conditions, forecasting their likely future course, and using information that is often imperfect to map out appropriate monetary policy.

As it happens, my tenure at the Fed has partly coincided with events that illustrate some of the fundamental issues that I would like to talk about today. Not long ago there was concern about an overheating economy. Then, in little more than the blink of an eye, there was concern about a possible recession. How quickly things change and how suddenly pressure for policy response shifts direction! I once viewed this from the relatively safe haven of the academy. I now view it from the trenches as a policymaker. It's been an interesting time.

Today I'll talk about four conundrums I've come upon in making monetary policy decisions. Let's take them one at a time.

On the supply side

The first we might call the "supply side" conundrum. The key challenge here lies in resolving the fundamental issue of how rapidly the economy can grow on a sustained basis. There has been much discussion about the U.S. economy's long-run capacity for growth in light of the remarkable gains in productivity in the latter half of the 1990s. The strength of the economy over that period, accompanied by a remarkably low inflation rate, was due, in no small measure, to more rapid productivity growth, which stemmed largely from technology investments made during the decade. With the technology sector undergoing substantial change and reevaluation, it might be interesting to examine this relationship as the first area of focus.

Let me begin with what we know: productivity growth has improved because of technology. But this statement is not as useful as it might be, because one does not know exactly what this foretells about the future pace of productivity growth. Put another way, we don't have the equation that describes how technology affects productivity. Nor do we have the equation that describes how technology evolves. In the end, we do not even have a satisfying measure of the variable we call technology. So when we ask ourselves how fast the economy can grow going forward, we must acknowledge that there is a substantial degree of uncertainty about the answer because of our limited knowledge of the processes underlying future productivity enhancement.

As an economist I can accept this. But as a policymaker, I have to take the next step -- the one that makes me uncomfortable as an economist. That is, in spite of our uncertainties, indeed our ignorance, I have to

make some assessment of the rate at which the application of technological innovations raises potential output going forward. Making that "supply side" assessment is essential to laying out the path of long-term, sustainable economic growth that monetary policy aims to match from the demand side.

Well, what is my estimate? I expect annual productivity growth to average 2 to 3 percent for the foreseeable future. Why? Because I believe that "new economy" technologies have yet to fully infuse the "old economy" with the productivity gains they offer. When I talk with businesspeople around our District, they tend to agree. It seems that advances in information technology and information management are still in the process of revolutionizing the way businesses design, produce, and deliver their products and services. This process takes time and often lags the purchase of technology, but the benefits accruing to real sector productivity are real and sustained.

So if information technology continues to revolutionize industry, then the economy can sustain real GDP growth of 3 to 4 percent without accelerating inflationary pressures for the foreseeable future. But let me stress that this figure is a long-run average. One must allow for some margin of error around this number and expect it to exhibit some cyclical variability. Only simple equations are straight lines; real economies tend to move less linearly.

On the demand side

The second of my conundrums is what might be called the "demand side" conundrum. As economists, we know there is some interest rate that induces investors to invest just the right amount, and savers to save just the right amount, to bring the economy to its potential output. The key questions here are: What is that interest rate? And how does it evolve over time? One needs to answer these questions in order to assess whether monetary policy is properly positioned to foster the economy's achieving its full growth potential.

As an economist I am comfortable with the idea that a myriad of factors affect both saving and investment decisions.

Some are identifiable and measurable - like income on the saving side, or depreciation rates on the investment side. Others are identifiable, if not so easily measured - like expected returns to savings or wealth targets on the saving side, and technological breakthroughs, capacity utilization, or acceptable hurdle rates on the investment side.

I also know that some of these factors are subject to high-frequency fluctuations - like changes in wealth due to stock price variation - and some are subject to low frequency trends - like changing demographics.

As an economist I am comfortable with this complexity because theory tells me that the marketplace will weigh them all and consistently drive the real rate of interest to its proper equilibrium, whatever it may be - even as that equilibrium shifts over time.

As a monetary policymaker, I cannot be quite so comfortable. That is because, whether we like it or not, monetary policy today is an interest rate policy. And so gauging the stance of monetary policy - determining whether the Fed is being stimulative, contractionary, or neutral - is essentially an exercise in assessing where we have set the real rate relative to that long-run equilibrium path.

Let me give you a very practical example of how this problem plays out. If trend productivity growth is higher now than it was ten years ago then, everything else constant, businesses now have a stronger demand for funds to invest in new projects and consumers save less because they expect their incomes to rise faster. So the equilibrium real rate of interest should now be higher. How much higher? And, of course, since everything else is never constant, how much higher on net?

My own point of view is that the average equilibrium real rate probably is higher now than it was ten years ago. But again, I would allow for a wide margin of error around any estimate. Short-term and cyclical variations alter the appropriate momentary natural rate of interest, making it of considerably less use in determining the stance of monetary policy. Actually, gauging monetary policy at any point in time presents other problems as well. This brings me to my next conundrum.

About the dynamics of policy

My third conundrum I would label the "policy dynamics" conundrum. This one is certainly nothing new. Milton Friedman summarized the problem years ago, coining one of the most famous phrases in modern economics, when he said that the impact of monetary policy is subject to "long and variable lags." Consequently, at any point in time, monetary policymakers cannot tell whether what they see going on in the economy is the reflection of changing market conditions or, alternatively, the lagged effect of their own past actions. And so an activist monetary policy intended to fine-tune the economy's performance could, in fact, destabilize it.

Friedman argued that the best approach for monetary policymakers to take would be to fix the growth rate of the money supply at some constant amount. Following this rule would allow the economy to achieve its peak efficiency, recognizing that this would inevitably include some cyclical ups and downs.

As an economist, I respect Friedman's analysis. But as a policymaker, I am left with the dilemma of how one would put his prescription into practice. Today there is no monetary aggregate reliably linked to spending growth, and so monetary policy is, as I said a moment ago, an interest rate policy. Obviously, fixing an interest rate is not the same thing as fixing the money growth rate. Indeed, holding short-term interest rates constant - not allowing them to move as market conditions change - is a sure-fire prescription for destabilizing the economy.

So how does one balance the need to move short-term interest rates in response to shifting economic conditions with the need to provide the marketplace with a stable and reliable monetary policy? I think there are two answers. One answer is to move beyond a commitment to stable money growth and make a credible commitment to low and stable inflation.

I believe that over the past 10 years, the Fed has successfully made that transition. Whatever the subtleties of particular monetary policy actions, it is clear that the Fed's ultimate goal is to help create the financial conditions that foster maximum sustainable economic growth. In the long run, the most important contribution the Fed can make toward this goal is to maintain a low inflation environment. To a considerable extent, the public's expectations about long-run inflation are measures of its confidence in the Fed's commitment to that mission. As many of you know, our own Reserve Bank conducts a quarterly survey of professional economic forecasters. Results of that survey show that long-run inflation expectations remain low and stable and have been for the last several years. I consider that an important signal that the Fed has established its commitment.

The second way to solve the policy puzzle of preserving flexibility in setting interest rates while also providing stability in monetary policy is more tactical. Fed policymakers must stand apart from the incessant demand for instant reaction and the expectation of instant results. There is a tendency among observers to focus on the Fed's next interest rate move, with the implication that the Fed can and should fine-tune the economy's performance. But the fact is that it takes time for a policy action's impact to play out, and we are frequently waiting for past actions to reach fruition and achieve their desired effect on the economy.

About confidence

But before we get too comfortable with the wisdom of a "wait and see" approach, let me describe the fourth and final conundrum I want to discuss with you today. This is one that I personally have found particularly perplexing since joining the Fed. It is also one that has gotten a lot of "ink" recently. I'll call it "the confidence conundrum," because it centers on how confidence plays a role in macroeconomic dynamics.

The issue is this: when waves of confidence - or doubt - wash over the economy, how should monetary policymakers respond to them? This is a conundrum because there is ample evidence that expectations about the future are rational in the long run, and the marketplace validates them on average. But in the short run, the marketplace is beset by waves of confidence that move expectations and thus may significantly affect spending in ways that may or may not be either sustainable or desirable.

What to do in the face of variations in consumer or business confidence is not an easy issue to resolve. Macroeconomists usually assume that the economy behaves as if consumers and businesses form their expectations rationally, and they forecast the future based on observations of stable historical economic and financial patterns. This is a convenient assumption because it obviates the need to model people's decision-making explicitly, and it keeps changes in expectations from playing an independent role in the performance of the economy. But we know that reality is not that simple.

While measures of consumer confidence usually track historical movements in economic variables - income, wealth, indebtedness, unemployment, and the like - there are occasions when confidence moves beyond what the incoming economic data might warrant. These exogenous shifts in confidence may not be rational. Consumers and investors are capable of over- and under-reaction. After all, we are only human.

Nonetheless, these shifts in confidence can cause changes in expectations that affect spending decisions and so can become self-fulfilling, or at least self-sustaining, processes for a considerable period of time. Consequently, the role played by expectations can be at once more significant and more complicated than our standard macroeconomic models allow.

We should not lose sight of how important expectations are to people's decision-making and how far-reaching the impact of changes in expectations can be. Expectations can change quickly and can dramatically alter aggregate demand.

As a former finance professor, I am intimately familiar with the investment decision process. It is, to a large extent, a process of expectations. Businesses routinely try to project the future gains to be derived from investments made today. This is fundamental to capital budgeting, a subject that I taught too many MBA students over the course of too many years!

Likewise when individuals make consumption and savings decisions, expectations play an important role. The appropriate amount to save for retirement, for example, depends in large part on expectations of future rates of return.

In short, when it comes to making economic decisions, expectations matter. And I would add that shifts in that intangible we call confidence affects those expectations. I believe that we are in the midst of dealing with one of these shifts in confidence right now. The key issue that we must address is the extent to which it will have a significant impact on the aggregate economy going forward.

So how should monetary policy respond? I do not think the Fed should routinely take policy actions for the sole purpose of boosting expectations or merely to affect confidence. This would ultimately be a dangerous and destabilizing game. However, I believe that if a decline in confidence is viewed as having a substantial dampening effect on overall real sector demand growth, then monetary policy can and should respond with the aim of restoring overall demand growth to a pace consistent with potential supply growth.

I believe the Fed's recent policy actions are consistent with this approach. It responded to a variety of indications that aggregate demand growth has been weakening, including a deterioration in confidence that was more severe than the underlying data seemed to indicate. And the Fed remains vigilant by continually monitoring the behavior of the real economy.

The lesson I take away from this experience is that sometimes monetary policy decisions have to be based on something more than well-constructed theory and overwhelming evidence from the data. Sometimes they must be based on our sense of the situation. Such situations do not arise very often, but when they do, it is important, given the lags in the impact of monetary policy, that the Fed move expeditiously.

Well, I have shared with you some of the musings of a professor turned policymaker. At the end of the day, where do all of these conundrums leave me?

By their nature, conundrums are not easily resolved, and so I will continue to consider them in the months and years ahead. Even at this stage, however, I think they suggest a useful approach to monetary policymaking. To deal prudently with the uncertainties on both the supply side and the demand side of the

economy, as well as about the dynamics of monetary policy, monetary policy ought to move in careful increments and at a measured pace.

Overlaying this is the fact that expectations matter and we must deal with the real impact of sharp shifts in public confidence in a more expeditious manner. Doing so requires a sensitivity to nuance and timing that I expect policymakers will always find challenging.

For me personally, the transition from academic life to the world of central banking is proving to be an invigorating challenge. In my new role I've learned that I can be the proverbial two-handed economist only up to a point. In the end, decision-making requires a one-handed economist who must take action, even if issues remain open and questions remain unanswered.

But I don't want you to leave here with your questions unanswered, so I'd be happy to take them now.