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Lessons of the Phillips Curve

Recent estimates suggest that real gross domestic product increased at a relatively slow annual rate of around a half of a percent in the first quarter of 2007. Meanwhile, year-over-year core (PCE) inflation has been fluctuating around 2¼ percent. While the latter figure may sound benign, I view it, and the general upward trend in prices over the past few years, with caution. Inflation, in my opinion, has been too high and should be brought down. But will doing so also lower economic growth? This raises a fundamental question facing the Federal Reserve and one that has been at the core of macroeconomics for the past 50 years. What is the relationship between growth and inflation?

In 1957, A.W. Phillips looked at data on unemployment and wage inflation in the United Kingdom and found that as unemployment went down, wage inflation tended to go up. This statistical relationship became known as the "Phillips curve." Phillips' work was highly influential, but in the decades since he published his findings, economists' understanding of this relationship has evolved significantly, and I would like to comment on that issue here.

In light of some additional work, many economists were convinced that Phillips' empirical findings also held for the United States, and had argued that this implied a set of choices for society. If you wanted faster economic growth, you should put more money into the economy. This would produce higher inflation, but that was a trade-off sometimes worth making. Conversely, if you felt inflation was getting too high, you should take money out of the economy. In such a world, ambitious management of the macroeconomy seemed possible.

Beginning in the late 1960s, economists came to recognize the importance of people's expectations for the relationship between inflation and real economic indicators such as unemployment. Inflation that was anticipated would not stimulate real economic growth, nor would disinflation that was anticipated slow it. Over the long run, they argued, economic growth was determined by fundamentals such as productivity and population growth. The appearance of a correlation between inflation and unemployment in the data was the result of episodes in which unanticipated changes in inflation had temporary real effects.

This theory gained credence in the 1970s, as the U.S. economy experienced both slow economic growth and rising inflation. The original Phillips curve seemed to be breaking down, and the menu of options that policymakers supposedly had at their disposal no longer seemed useful. At the same time, a group of economists began to focus on the forward-looking nature of people's expectations. This "rational expectations" approach to the Phillips curve suggested that the public understands when policymakers might be tempted to try to exploit the seeming relationship between inflation and unemployment, and change their expectations even before a policy action has been taken. As a result, an attempt to bring down unemployment by letting inflation rise a bit will not work — prices will rise but growth will not.

Modern work builds on this approach by studying economies in which realistic imperfections in markets create a short-run relationship between inflation and real variables similar to what we observe in the data. These models have the important implication that the relationship between inflation and real activity is not *causal*. Both inflation and unemployment are the outcomes of the behavior of markets for goods and for labor. In turn, the behavior of markets is the product of decisions made by an array of households, firms, and policymakers. If people are forward-looking, their expectations about the future conduct of policy will play the dominant role in how inflation and unemployment interact. This means that unless policymakers can influence expectations, they will have only limited ability to fine-tune the economy, even temporarily, and that maintaining economic stability hinges largely on people's confidence in future policy actions.

In the late 1970s and early 1980s, the Federal Reserve under Paul Volcker began a long and often difficult campaign to regain the credibility it had lost during the previous decade. Alan Greenspan continued that fight, and by the 1990s, the Fed arguably had established such credibility. Happily, the economy responded well: We witnessed rapid economic growth without a concomitant rise in inflation. In light of the modern understanding of the Phillips curve, the real lesson of the Volcker-Greenspan disinflation is that the best contribution the Fed can make to economic growth is to keep inflation low and stable. And the key to low inflation is the stability of people's expectations about the future conduct of monetary policy.

Monetary policy works best when it allows the real economy to respond appropriately to economic fundamentals, rather than attempts to insulate the economy from shocks by tolerating swings in inflation. This is the lesson of the modern Phillips curve and of our macroeconomic history over the last half century.

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