



Policy Note

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INFLATION TARGETING AND THE NATURAL RATE OF UNEMPLOYMENT

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Inflation targeting has become an increasingly popular strategy for setting monetary policy during the last decade. While no countries had formal inflation targets before 1990, currently 22 countries use inflation targeting. One notable exception is the United States, where the Federal Reserve has a dual mandate to pursue both price stability and full employment. Some economists advocate inflation targeting for the United States, partly because they fear that otherwise the Fed will try to push unemployment below its “natural rate”—its lowest sustainable level—and trigger accelerating inflation. However, the natural rate theory has proven to be a poor guide for policy making over the last 10 years. Unemployment in 2000 fell 2 percentage points below estimates of the natural rate without spurring inflation. Since inflation targeting derives its justification largely from the theory of the natural rate, it is questionable whether the United States should switch to an inflation-targeting regime. These doubts are reinforced by the manifest success of monetary policy under the dual mandate.

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Inflation targeting involves announcing numerical targets or target ranges for inflation and acknowledging that curbing inflation is the primary and overriding long-run goal of monetary policy (Bernanke et al. 1999). Ben S. Bernanke, a member of the Federal Reserve Board of Governors, has also proposed that the Fed announce its optimal long-run inflation rate (OLIR) as “an incremental move toward inflation targeting” (2003).

Bernanke’s work makes clear that the case for inflation targeting and the OLIR rests on the natural rate hypothesis (Bernanke et al. 1999; Bernanke 2003). This hypothesis was developed by Friedman (1968) and Phelps (1970) as a response to the Phillips curve.

The Phillips curve holds that the rate of growth of wages or prices depends inversely on the excess supply of labor in the economy. If the excess supply of labor (measured, for example, by the unemployment rate) falls, the growth rate of nominal wages (hourly earnings in dollars) will increase. As Tobin discussed (1980), the Phillips curve is built on the idea that wages are somewhat rigid in large parts of the economy, where they are set by negotiations or administrative decisions. Because wages adjust slowly, the labor market fails to reach a point where the number of jobs available equals the number of people willing to work at the going wage. Instead, it is typically characterized by excess supply of labor, or unemployment. An increase in the demand for labor, by improving the bargaining position of unions and individual workers, produces higher wages at the same time that it reduces unemployment. As firms pass on the higher labor costs in the form of higher prices, an inverse relationship arises between inflation and unemployment.

Friedman (1968), in advancing the natural rate theory, argued that there was a logical flaw to Phillips curve models. The models implied that higher inflation could produce permanently higher levels of output and employment. Instead, according to Friedman, any inflation-unemployment trade-off would be temporary. Such a trade-off would occur, for instance, if expansionary monetary policy increased the price of goods and services before it increased the price of labor. As firms received more for what they produced and paid the same for their labor input, their profits would increase. This would cause them to increase employment and output. However, as workers realized that inflation had increased, they would demand higher wages in compensation. As wages increased by the same amount as prices, firms’ profits and thus their

employment and output would return to their pre-expansionary levels. Inflation, however, would be higher.

Friedman argued that there was a natural, market-determined rate of unemployment. He claimed that expansionary monetary policy would cause unemployment to fall below this natural rate temporarily, and inflation to increase above its pre-expansion level permanently. Any attempt to use monetary policy to keep unemployment below the natural rate would produce accelerating inflation.

The natural rate theory predicted events well in the late 1960s and early 1970s. Policymakers in the 1960s pursued overly expansionary policies. President Johnson, for instance, argued that the U.S. could have both “guns and butter” and increased spending for the Vietnam War without raising taxes. From 1961 to 1969 unemployment fell and inflation rose along a stable Phillips curve. After that, inflation accelerated and the stable Phillips curve disappeared, as forecast by the natural rate theory.

However, both the natural rate theory and the Phillips curve predicted poorly in the 1990s. The large majority of economists predicted that inflation would pick up as unemployment fell below estimates of the natural rate (or nonaccelerating inflation rate of unemployment, NAIRU). Martin Feldstein argued in 1995 that unemployment had fallen far below the NAIRU and said he was sure that steadily rising inflation would follow.¹ Robert Gordon told the Fed in December 1994 that unemployment below 6 or maybe even 6.5 percent would trigger accelerating inflation.² Edmund Phelps stated in 1996 that the unemployment rate of 5.5 percent would cause inflation to heat up within five months.³ Frederic Mishkin argued that businesspeople made the same mistake over and over again in assuming that unemployment in the range of 5.5 percent would not cause inflation to increase significantly.⁴ The *Economic Report of the President* (1996) and Paul Krugman reported estimates of the NAIRU between 5.5 and 6 percent, implying that inflation would pick up as unemployment fell below that range.⁵ In reality, unemployment fell to 3.8 percent with inflation never reaching 3 percent.

Falling unemployment was thus not accompanied by rising inflation in the last decade, a development that runs counter to the experience of the 1960s. Part of the reason for this lies in changes to the structure of the U.S. economy. These changes include a decrease in the bargaining power of workers, a decrease in the pricing power of firms, and an increase in productivity

growth. In addition, a high level of aggregate demand may have reduced the natural rate of unemployment.

One reason falling unemployment triggered little inflation over the past 10 years is that so many of the unemployed were low-skilled workers who lacked bargaining power. For instance, in 2000, less than 10 percent of the unemployed had college diplomas.⁶ Blanchard and Katz (1997) stated, “At the bottom end of the skill distribution, workers have little or no bargaining power. . . .” Instead, they continued, such people work predominantly in the competitive sector of the labor market (i.e., in jobs whose wages are set by supply and demand). These workers’ wages thus reflect their output per hour worked (i.e., their productivity). Therefore, as unemployment falls and low-skilled workers find jobs, they will not have the bargaining power necessary to push for wage increases in excess of productivity growth. As long as their pay raises reflect increased output, firms’ unit labor costs (i.e., the labor costs of producing one unit of output) will not increase. Thus firms will not need to raise prices to cover higher labor costs.

In the 1960s, on the other hand, a greater percentage of low-skilled workers had bargaining power because they were unionized or working in sectors where they could not be quickly replaced (e.g., the manufacturing sector). Thus, as unemployment fell, they were more able than their counterparts in the last decade to bid up nominal wages relative to productivity. This, in turn, increased unit labor costs and often forced firms to raise prices.

A second reason inflation did not increase over the last 10 years has to do with the ability of firms to raise prices. In recent years both international competition (e.g., from China) and domestic competition (e.g., from stores like Wal-Mart) have limited the ability of firms to raise prices. Even if wages do increase, firms are often compelled to reduce profit margins rather than raise prices. Speaking of this, longtime General Electric CEO Jack Welch said, “There is no inflation. . . . There is no pricing power at all” (Stevenson 1996).

A third reason inflation did not pick up over the last decade is a surge in productivity. Advances in information-and-communications technology have increased labor productivity and reduced unit labor costs. These efficiency gains have allowed firms to increase output and employment while keeping prices down.

A fourth possible explanation that falling unemployment did not trigger inflation is that increases in aggregate demand

may have reduced the natural rate. This reduction would happen if the resulting stronger labor market allowed workers to acquire job skills or job-search skills or if it led to a long-lasting improvement in people’s motivation to seek work. Fed Chairman Alan Greenspan (1997a; 1997b) argued that the “expansion has enabled many in the working-age population, a large number of whom would have remained out of the labor force or among the longer-term unemployed, to acquire work experience and improved skills.” Rivlin (1999) discussed how providing workers with training in the use of new equipment and techniques helped raise productivity. In the past, conventional wisdom held that allowing unemployment to fall and employing lower-skilled workers would reduce productivity, increase unit labor costs, and thus trigger inflation (Coy 1997; Nasar and Mitchell 1999). Experience in recent years suggests that unskilled workers can be trained on the job, allowing their productivity to increase. This enhancement of job skills, in turn, permits unemployment to fall without reducing productivity or producing inflation.

These changes in the structure of the economy imply that stimulative monetary policy will be less inflationary and contractionary policy less potent in quelling inflation. At low levels of unemployment, the unemployed are primarily unskilled workers. In previous work, I presented evidence that monetary policy has a much greater impact on unskilled workers than on skilled workers (Thorbecke 1997; 2001). Thus expansionary monetary policy at low levels of unemployment will largely reduce unemployment among unskilled workers, who have less ability to push for wage increases in excess of productivity growth. Furthermore, even if they did receive such increases, it is unclear that firms would be able to pass on these higher labor costs in the form of higher prices. Similarly, contractionary monetary policy would initially increase unemployment primarily among low-skilled workers. Since these workers are mainly in the competitive sector of the labor market, increased unemployment would elicit only small reductions in wages relative to productivity. Large swings in unemployment might be necessary, therefore, to produce changes in inflation.

If the Fed were to adopt inflation targeting, more volatility in unemployment would result. Low-skilled workers, minorities, single mothers, and other groups disproportionately represented among the unemployed would pay a high price for the Fed’s attempts to focus on inflation.

It could be argued that announcing an optimal long-run inflation rate might not put more weight on an inflation target,

but merely better convey the Fed's intentions to the public. However, the Fed's announcement of an estimate for the OLIR but not for the NAIRU would cause policymakers to attach more weight to keeping inflation close to the OLIR. Imagine a dean at a university telling a professor that the university is concerned about both research and service to the university, but will only measure performance based on research. In that case, professors would tend to neglect service. Similarly, if the Fed announces a long-run target for inflation but not for the NAIRU, there will be a tendency for policymakers to put greater weight than they do now on hitting that target in the long run at the expense of volatility in unemployment.

The Federal Reserve could, of course, announce a target for the NAIRU also. However, given the massive errors in forecasting the NAIRU in the 1990s and the huge degree of uncertainty surrounding NAIRU estimates (Staiger et al. 1997), any targeted NAIRU would be an imprecise estimate of the true NAIRU.

The same would probably be true for the OLIR. It is hard to measure directly the benefits of low inflation (e.g., Barro [1995] reported that reducing inflation by one percentage point would increase economic growth by between 0.02 and 0.03 of a percentage point). Any measure of the OLIR would thus be indirect and imprecise. The great statistician and physicist Norbert Weiner said that economics is a one- or two-digit science (Staiger et al. 1997). Asking whether the NAIRU is 4.5 or 5.5 or 6.5 is not enlightening (ibid.). Similarly, it is probably true that we cannot know whether the OLIR is 1.8 or 2.2 or 2.5. If we communicate to the public a specific number for the OLIR, it will take on a palpable reality that it probably does not deserve. The Fed will thus create volatility in unemployment, especially among low-skilled workers, trying to hit an inflation target that is somewhat arbitrary.

Inflation and deflation are dangers, but not *the* danger. The Fed needs to be vigilant about these. However, unemployment is also a scourge, both for the individuals who are out of work and for society. Recent experience with falling unemployment suggests that slack in labor markets too should be a focus for policymakers. Falling unemployment does not lead automatically to rising inflation; indeed, long-lasting gains for low-skilled workers might ensue if workers become more productive as they are trained on the job.

Over the last 10 years, core inflation has averaged 2.4 percent and fluctuated between 1.1 and 3.1 percent, and unemployment has averaged 5.1 percent and fluctuated between 3.8

and 6.6 percent. Macroeconomic performance under the Fed's dual mandate has thus been splendid. Rather than switching to a new paradigm for monetary policy based on inflation targeting and the OLIR, it seems appropriate to try to extract and distill lessons from monetary policy making under the current *modus operandi*.

Notes

1. "Inflation Calculus: Business and Academia Clash over a Concept," *Wall Street Journal*, January 24, 1995.
2. Ibid.
3. "Scapegoating the Natural Rate," *Wall Street Journal*, August 6, 1996.
4. "Inflation Calculus."
5. "Stay on Their Backs," *New York Times*, February 4, 1996.
6. "Unemployment Rate Is Only 4 Percent, but That's 5.6 Million Jobs," *Wall Street Journal*, July 25, 2000.

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