



## Greenspan's Unconventional View of the Long-Run Inflation/Output Trade-off

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Since becoming Chairman of the Federal Reserve in 1987, Alan Greenspan steadfastly has held to the view that low and stable inflation is a prerequisite for maximum sustainable economic growth. He has reiterated this belief many times during his nearly two decades as Fed Chairman. In congressional testimony in July 1988, he stated that “the strategy for monetary policy needs to be centered on making further progress toward and ultimately reaching stable prices,” which he defined as “a situation in which households and businesses in making their saving and investment decisions can safely ignore the possibility of sustained, generalized price increases or decreases.”<sup>1</sup> In February 1989, Greenspan explicitly noted that the Fed’s ultimate objective is “maximum sustainable economic growth over time” and that “the primary role of monetary policy in the pursuit of this goal is to foster price stability.”<sup>2</sup> Greenspan’s definition of price stability implies that economic growth is maximized with a stable price level (i.e., zero inflation). He made this explicit at the July 1996 FOMC meeting, when he responded to the question of what level of inflation no longer alters decisionmaking: “I would say the number is zero, if inflation is properly measured.”<sup>3</sup> Hence, the Chairman suggests that a sustained inflation rate above zero, properly measured, will keep output growth below its maximum level. While never explicitly stated, the idea of a maximum and the inclusion of price decreases in his definition of price stability imply sustained deflation also has deleterious effects on output growth.

Greenspan’s view of a long-run negative relationship between inflation and output growth is unconventional. Starting with the “Phillips curve,” economists came to believe that lower rates of inflation could be obtained only by reducing output. In the late 1960s Milton Friedman and Edmund Phelps demonstrated that, if economic agents are rational, the trade-off could not be maintained indefinitely—i.e., the steady-state level of output is independent of the rate of inflation, so that the long-run Phillips curve is vertical. Most economists believe that, beyond some rate, inflation does reduce output; however, many believe that the long-run relationship is vertical over a range of “moderate” inflation. If inflation has no permanent effect on the *level* of output, it cannot have a permanent effect on the *growth rate* of output. Hence, Greenspan’s view that sustainable output growth is maximized when inflation is zero is clearly unconventional.

Replacing the vertical Phillips curve with a negatively sloped one is not trivial for at least two reasons. First, there is no particular reason for policymakers to pursue zero inflation if the long-run relationship is vertical. Any low steady-state inflation rate will do as well. Consequently, policymakers might be inclined to accept some “moderate inflation,” if for no other reason than to appease those who believe that a little inflation is good for growth.

Second, because it is commonly believed that the steady-state inflation rate can be reduced only if the economy grows at a rate below potential for the period of disinflation, it is frequently suggested that, once inflation is established it is better to tolerate some “moderate” inflation than to bear the economic costs of reducing the inflation rate to zero. This argument is significantly weakened, if not eliminated, if inflation causes the economy to grow below its maximum rate.<sup>4</sup>

The Greenspan principle—maximum sustainable economic growth is achieved at zero inflation—is not yet reflected in modern monetary policy analyses. Nearly all theoretical analyses incorporate some variant of an “expectations-augmented Phillips curve,” where inflation is influenced by the gap between actual and potential output in the short-run. Most of these models assume the economy’s long-run growth rate is driven by exogenous factors (e.g., technology and the growth rate of the labor force) that are independent of monetary policy. Therefore, the Greenspan principle is not reflected in conventional models. Given Greenspan’s success over the past two decades, it would seem desirable that models be modified to allow for the unconventional Greenspan principle. One possibility is to incorporate Greenspan’s observation that “as the inflation rate falls, it becomes increasingly difficult for producers to raise prices. They therefore tend to try to reduce costs in order to maintain margins.”<sup>5</sup> ■

<sup>1</sup> Testimony before the Committee on Banking, Finance and Urban Affairs, U.S. Senate, July 13, 1988.

<sup>2</sup> Testimony before the Committee on Banking, Finance and Urban Affairs, U.S. Senate, February 21, 1989.

<sup>3</sup> Transcript of the FOMC meeting held on July 2-3, 1996, p. 51.

<sup>4</sup> See Daniel L. Thornton, “The Costs and Benefits of Price Stability: An Assessment of Howitt’s Rule,” *Federal Reserve Bank of St. Louis Review*, March/April 1996, 78(2), pp. 23-38.

<sup>5</sup> Transcript of the FOMC meeting held on July 2-3, 1996, p. 46.