

Macroeconomics and Global Economics
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Dinsinflation, Credibility and Cold Turkey v. Gradualism

Suppose that the Phillips curve is given by

$$\pi_t = \pi_t^e - (u_t - u_n)$$

where $u_n = 5\%$.

1. Assume that expectations are myopic (i.e. fully backward): $\pi_t^e = \pi_{t-1}$. What is the sacrifice ratio in this economy?
2. Suppose that at time $t = 0$ unemployment is initially equal to the natural rate (i.e. $u_0 = 5\%$) and $\pi_0 = 12\%$. The central bank decides that 12% inflation is too high and that starting in year 1 it will decrease inflation to 2%. Which are the implications of this "Cold Turkey" disinflationary policy for unemployment?
3. Suppose that at time $t = 0$ unemployment is initially equal to the natural rate (i.e. $u_0 = 5\%$) and $\pi_0 = 12\%$. The central bank decides that 12% inflation is too high and that, starting in year 1, it will maintain the unemployment rate 1 percentage point above the natural rate of unemployment until the inflation rate has decreased to 2%. In other words, now the central bank opts for "gradualism". Compute the rate of inflation for years 1, 2, 3, 4, and so on. For how many years must the central bank keep the unemployment rate above the natural rate of unemployment? Discuss your results.

4. Suppose that at time $t = 0$ unemployment is initially equal to the natural rate (i.e. $u_0 = 5\%$) and $\pi_0 = 12\%$. The central bank decides that 12% inflation is too high and that starting in year 1 it will decrease inflation to 2% (back to a Cold Turkey approach!). Now assume that people know that the central bank wants to lower inflation to 2%, but they are not sure about the central bank's willingness to accept an unemployment rate above the natural rate of unemployment. As a result, their expectation of inflation is a weighted average of the target of 2% and last year's inflation – i.e. $\pi_t^e = \lambda 2\% + (1 - \lambda)\pi_{t-1}$, where λ is the weight they put on the central bank's target of 2%. Assume that $\lambda = 0.5$. Which are the implications of this "Cold Turkey" disinflationary policy for unemployment? What is now the sacrifice ratio?

5. Suppose that at time $t = 0$ unemployment is initially equal to the natural rate (i.e. $u_0 = 5\%$) and $\pi_0 = 12\%$. The central bank decides that 12% inflation is too high and that starting in year 1 it will decrease inflation to 2% (again with this Cold Turkey approach!). Now suppose that people believe that the central bank is indeed committed to reducing inflation to 2%. As a result, they now set their expectations according to $\pi_t^e = 2\%$. Which are now the implications of this disinflationary policy for unemployment? What is now the sacrifice ratio?

6. Suppose that at time $t = 0$ unemployment is initially equal to the natural rate (i.e. $u_0 = 5\%$) and $\pi_0 = 12\%$. The central bank decides that 12% inflation is too high and that starting in year 1 it will decrease inflation to 2% (again and again with this Cold Turkey approach!). Now suppose that wages are fully indexed to current inflation.... Which are now the implications of this disinflationary policy for unemployment? What is now the sacrifice ratio?