

An asterisk denotes a harder question. [Web] indicates that the question requires access to the Internet.

1. TRUE/FALSE/UNCERTAIN

- The Canadian unemployment rate will remain constant as long as output growth is positive.
- Many firms prefer to keep workers around when demand is low (rather than lay them off), even if the workers are underutilized.
- The behaviour of Okun's law across countries and across decades is consistent with our knowledge of firm behaviour and labour market regulations.
- There is a reliable negative relation between the rate of inflation and the growth rate of output.
- In the medium run, the rate of inflation is equal to the rate of nominal money growth.
- According to the Phillips curve relation, the sacrifice ratio is independent of the speed of disinflation.
- Contrary to the traditional Phillips curve analysis, Taylor's analysis of staggered wage contracts made a case for a slow approach to disinflation.
- Johnson and Gerlich's analysis showed that the recession associated with the 1988–1993 disinflation could have been predicted by the Bank of Canada before 1988.

2. OKUN'S LAW

As shown by equation (12.2), the estimated Okun's law for Canada is given by

$$u_t - u_{t-1} = -0.33(g_{yt} - 3.7\%)$$

- What growth rate of output leads to an increase in the unemployment rate of 1% per year? How can the unemployment rate increase even though the growth rate of output is positive?
- What rate of growth output do we need to decrease unemployment by 1 percentage point over the next four years?
- Suppose that we experience a second baby boom. How do you expect Okun's law to change if the rate of growth of the labour force increases by 2 percentage points?

3. REDUCING THE INFLATION RATE IN THE UNITED STATES

Blanchard, in the American edition of this text, finds that the U.S. economy can be described by the following three equations:

$$u_t - u_{t-1} = -0.4(g_{yt} - 3\%)$$

$$\pi_t - \pi_{t-1} = -(u_t - 5\%)$$

$$g_{yt} = g_{mt} - \pi_t$$

Okun's law
Phillips curve
aggregate demand

- What is the natural rate of unemployment for this economy? How is it different from that of Canada?
- Suppose that the unemployment rate is equal to the natural rate and that the inflation rate is 8%. What is the growth rate of output? What is the growth rate of the money supply?
- Suppose that conditions are as in (b), when the authorities use monetary policy to reduce the inflation rate to 4% in year t and keep it there. What must happen to the unemployment rate and output growth in years t , $t+1$, and $t+2$? What money growth rate in years t , $t+1$, and $t+2$ will accomplish this goal?

4. THE EFFECTS OF A PERMANENT DECREASE IN MONEY GROWTH

Suppose that the economy can be described by the following three equations:

$$u_t - u_{t-1} = -0.4(g_{yt} - 3\%)$$

$$\pi_t - \pi_{t-1} = -(u_t - 5\%)$$

$$g_{yt} = g_{mt} - \pi_t$$

Okun's law
Phillips curve
aggregate demand

- Reduce the three equations to two by substituting g_{yt} from the aggregate demand equation into Okun's law. Assume initially that $u_t = u_{t-1} = 5\%$, $g_{mt} = 13\%$, and $\pi_t = 10\%$. Now, suppose that this year's money growth is permanently reduced from 13% to 0%.
- Compute the impact on unemployment and inflation this year and next year.
- Compute the values of unemployment and inflation in the medium run.

5. POLICY RECOMMENDATIONS

Suppose that you are advising a government that wants to reduce its inflation rate. It is considering two options: a gradual reduction over several years and an immediate reduction.

- Lay out the arguments for and against each option.
- If the only criterion you were to consider was the sacrifice ratio, which option would you take? Why might you want to consider other criteria?

- c. What particular features of the economy might you want to look at before giving your advice?

6. **THE APPROPRIATE REACTION TO OIL SHOCKS**

Suppose that the Phillips curve is given by:

$$\pi_t - \pi_{t-1} = -(u_t - 8.6\%) + 0.1\mu$$

where μ is the markup.

FURTHER READING

The Lucas critique was first presented by Robert Lucas in "Econometric Policy Evaluation: A Critique," in *The Phillips Curve and Labor Markets*, Carnegie Rochester Conference, Vol. 1, 1976, pp. 19–46.

The article by Stanley Fischer arguing that credibility would not be enough to achieve costless disinflation is "Long-Term Contracts, Rational Expectations, and the Optimal Money Supply Rule," *Journal of Political Economy*, 85, 1977, pp. 163–190.

The article that derived the path of disinflation reproduced in Figure 12–4 is by John Taylor, "Union Wage Settlements," *American Economic Review*, December 1983, pp. 981–993.

(All three preceding articles are relatively technical.)

A description of Canadian monetary policy in the 1988 to 1993 period is found in *The Great Canadian Disinflation: The Economics and Politics of Monetary Policy in Canada*,

Suppose that unemployment is initially at its natural rate. Suppose now that an oil shock increases μ but that the monetary authority continues to keep the unemployment rate at its previous value.

- What will happen to inflation?
- What should the monetary authority do instead?

1988–93, by David E.W. Laidler and William B.P. Robson. (Toronto: C.D. Howe Institute, 1993). The story told in this book extends into the material we discuss in Chapters 25 and 26.

Even more details on monetary policy in Canada in this period can be found in "An Evaluation of the Bank of Canada Zero Inflation Target: Do Michael Wilson and John Crow Agree?" *Canadian Public Policy*, Vol. 16, No. 3, September 1990, pp. 308–325; "Expected Inflation in Canada 1988–1995: An Evaluation of Bank of Canada Credibility and the Effect of Inflation Targets," *Canadian Public Policy*, September 1997, Vol. 23, No. 3: pp. 223–258; and "How Has Inflation Changed in Canada? A Comparison of 1989–2001 to 1964–1988," *Canadian Public Policy* 28, 2002, pp. 563–579. All three articles were written by David Johnson, one of the authors of this book. The last article was written jointly with Sebastian Cerlich.