

Macroeconomic Unemployment and Structural Unemployment

PIERRE FORTIN

*Université du Québec à Montréal and
Canadian Institute for Advanced Research*

Au cours de la dernière décennie, le plus bas taux de chômage soutenable (TCS) a sensiblement diminué au Canada, passant de 7,5 ou 8% à environ 6%. En l'absence de récession internationale et de rigidité excessive de la part de la banque centrale, le Canada pourrait atteindre ce niveau de chômage de 6% d'ici quelques trimestres. Il y a de bonnes chances que l'élimination du chômage macroéconomique et le maintien du taux de chômage autour du niveau du TCS aident à réduire le chômage structurel.

During the 1990s, the lowest sustainable rate of unemployment (LSRU) in Canada declined from the 7.5 to 8 percent range to perhaps around 6 percent. Barring an international recession and excessive rigidity on the part of the central bank, Canada could achieve this 6 percent unemployment level within a few quarters. There is a good presumption that eliminating macroeconomic unemployment and keeping the unemployment rate close to the LSRU level could help reduce structural unemployment.

INTRODUCTION

For policy purposes, it is useful to think of the unemployment rate as made up of two parts: macroeconomic and structural. Macroeconomic unemployment (in my view, “cyclical unemployment” is a misnomer) is the portion that can be eliminated by managing aggregate demand through monetary and fiscal policy without generating rising inflation. The remaining portion is structural unemployment. Attempting to reduce structural unemployment by traditional macroeconomic policy will only result in accelerating prices. The dividing line between macroeconomic unemployment and structural unemployment I will call the “lowest sustainable rate of unemployment” — the LSRU, for short.¹

The existence and exact value of the LSRU mat-

ter crucially in a volume such as this, if only because the LSRU provides an estimate of the magnitude of the problem of structural unemployment.² Further, according to some theories of unemployment, structural unemployment — and therefore the LSRU — could be an increasing function of the size and duration of macroeconomic unemployment.

I want to organize this paper around three themes. First, there is a Canadian LSRU, which is perhaps around 6 percent. Second, if certain simple conditions are met, Canada could achieve its LSRU in a matter of a few quarters, and its macroeconomic performance during the 2000s could be significantly improved over that experienced during the dismal 1990s. Third, achieving the lowest possible rate of macroeconomic unemployment could have favourable spillover effects on structural unemployment.

WHAT IS THE LOWEST SUSTAINABLE RATE OF UNEMPLOYMENT?

Does a lowest sustainable unemployment rate (LSRU) exist for which the inflation rate is constant? If unemployment is negatively connected with inflation (i.e., a Phillips curve exists), then the answer has to be yes. A Phillips curve is a functional relationship of the form

$$I = F(I^e, U, U_{-1}, X),$$

where I = inflation, I^e = expected (or past) inflation, U = unemployment, U_{-1} = past unemployment, and X = supply-side influences. An unemployment level U^* is said to be sustainable for given values of inflation I^* and supply-side factors X^* if it can satisfy the steady-state equation $I^* = F(I^*, U^*, U^*, X^*)$. Because the unemployment rate cannot take a negative value, the set of all possible such solutions U^* for all possible inflation rates I^* (given X^*) must contain a lowest value — the LSRU. Call it U^{**} . By construction, the LSRU, or U^{**} , is a function of the economic structure defined by the supply-side influences X^* . In this framework, U^{**} is the amount of structural unemployment, and $U - U^{**}$ the amount of macroeconomic unemployment. This volume is about how to change X^* so as to reduce U^{**} .

The value of the LSRU is uncertain and changing over time. It is uncertain because U^{**} is not an observed variable, and because the exact form of the Phillips curve F needed to calculate U^{**} is imperfectly known. The LSRU is also changing over time because it is a function of X^* , which is itself time-varying. The supply-side vector of influences X^* contains variables such as demographic structure, education and experience levels, labour market institutions, the degree of competition in labour and product markets, tax policy and social policy (e.g., minimum wage, unemployment insurance, and social assistance policies).

I am ready to make two statements about the current LSRU in Canada. First, that it is lower than

ten years ago. Second, that it could be as low as 6 percent.

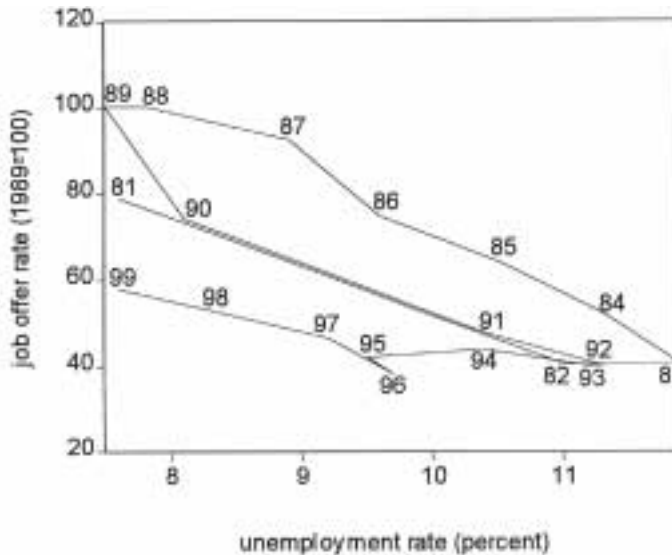
A useful device for gauging trends in structural unemployment is the Beveridge curve. This curve plots the aggregate vacancy (or job offer) index against the national unemployment rate. The orientation of unemployment-vacancy co-movements in the Beveridge space can be used in a simple way to interpret broad labour market trends (Blanchard and Diamond 1989). Figure 1 pictures the Canadian Beveridge curve for the 1981-99 period.

During the 1990-92 recession, the economy trod a path from northwest to southeast that was very similar in nature to the path followed during the 1981-83 recession. This sort of co-movement of unemployment and job vacancies is typical of negative aggregate activity shocks generated by declines in aggregate demand: fewer jobs are available and jobs are harder to find. Between 1992 and 1995-96, however, the path goes straight west by some 1.5 to 2 percentage points of unemployment. This kind of shift is characteristic of a favourable reallocation shock reflecting an improvement in the efficiency of matching workers and jobs: jobs are more easily found at an unchanged vacancy rate, which in turn reflects unchanged aggregate demand. This is indicative of a favourable evolution in X^* accompanied by a decline in the LSRU. Yves Gingras also made this point in his contribution to this volume.

However convincing it may be, this Beveridge-based evidence remains abstract and indirect. Several papers in this volume have provided more concrete and direct evidence on developments that must have worked to reduce the LSRU over the past decade. First, demographics have helped. The relative size of the youth labour force, a group experiencing above-average unemployment, has dropped sharply. Second, the average education level of the labour force has increased rapidly. New entrants are better educated than those who have withdrawn or retired. Third, deregulation in the domestic economy, and free trade and globalization in the

FIGURE 1

The Canadian Beveridge Curve: Job Offers versus Unemployment, 1981-1999



Source: Statistics Canada.

international economy, have increased competitive pressure in labour and product markets. General economic insecurity has been on the rise. Fourth, unemployment insurance benefits have been curtailed and eligibility rules have been sharply stiffened.

What is the level of the LSRU now? The evidence in Figure 1 and the history of Canadian unemployment and inflation over the last 20 years make it reasonable to believe it could be as low as 6 percent. Figure 1 underlines the similarity between the co-movements of unemployment and job vacancies in the early 1980s and the early 1990s. These two episodes started with identical unemployment rates of 7.5 percent at the cyclical peaks of 1981 and 1989. Also, inflation was just about, or had just begun, to increase in 1981 and 1989. This makes it arguable that unemployment was at, or slightly above, the LSRU level in both years. From there, the horizon-

tal leftward shift of 1.5 to 2 points of the Beveridge path during the 1990s would have brought the LSRU down to about 6 percent. *Voilà*.³

CAN CANADA ACHIEVE ITS LSRU SOON?

Why has the Canadian unemployment rate exceeded the LSRU level for the last ten years, and why are we not there yet after almost four years of recovery? This question concerns the causes of macroeconomic unemployment, not structural unemployment. But it is relevant to the extent that structural unemployment could be an increasing function of the size and duration of macroeconomic unemployment.

A straight calculation of cumulative above-LSRU unemployment since 1990 in Canada gives an estimate in the range of 25 to 30 point-years of unemployment or, given a standard Okun coefficient of

2, of between 50 percent and 60 percent of one year's gross domestic product (GDP). With annual GDP averaging \$850 billion (in constant 1999 dollars) over the past decade, the cumulative national income loss tallies up to something between \$425 billion and \$510 billion. This has not been a small loss. A similar calculation, which exaggerates the US macroeconomic loss by assuming the US LSRU came down from 5.5 percent in 1989 to 4.2 percent in 1999, would put the cumulative loss in that country at about ten point-years of unemployment over the past decade — one-third of the Canadian loss.

The root cause of the deep and protracted Canadian slump of 1990-96 can probably be found in the damaging interaction between high accumulated public debt and high real interest rates (see Fortin 1999). This caused the Canadian recovery to begin with a four-year delay after the US recovery. Fortunately, since late 1996 Canadian real growth has been brisk and unemployment has come down from 10 percent to under 7 percent, but still not to the 6 percent level I have estimated above for the LSRU. Meanwhile, at 4.2 percent the US unemployment rate has probably reached its LSRU level.⁴

Primarily, the recent Canadian expansion has been the work of the US expansion and of lower Canadian interest rates following the therapeutic federal budget of 1995. It also looks like a significant change of attitude at the Bank of Canada has occurred in the past two years. The Bank now admits its previous operating methods and techniques led it to overestimate the level of the LSRU, to overestimate the pace of economic expansion, and as a result to underestimate the amount of macroeconomic unemployment remaining (Freedman and Macklem 1998; Bank of Canada 1999). There is now less military-sounding insistence on "pre-emptive attacks" against inflation, and more modest emphasis on cautiously exploring lower levels of unemployment while watching for concrete evidence of rising inflation.

This clearly increases the chances that macroeconomic unemployment will disappear in the next few

quarters. However, unemployment may remain above the LSRU if either of the following three events materializes. First, the US economy could fall into recession, and bring the Canadian economy down with it. Second, the Bank of Canada's inflation target (say, 2 percent or lower) could turn out to be too low to sustain unemployment at the LSRU level. This possibility could arise, for instance, if binding wage floors or near-rational wage-price behaviour were features of labour and product markets at very low inflation rates, as envisaged by authors such as Akerlof, Dickens and Perry (1996, 2000). Third, the Bank could be so fearful of the inflationary consequences of inadvertently allowing unemployment to fall even only slightly below the LSRU that it would aim for an unemployment rate significantly above its estimated LSRU. Some macroeconomic unemployment would then be kept as insurance against crossing over the LSRU line.

HYSTERESIS EFFECTS AND TRAINING PROGRAM EFFECTIVENESS

Besides reducing the huge costs of resource underutilization, there is good reason to think that eliminating macroeconomic unemployment can be of some help in fighting structural unemployment. First is the hysteresis argument. Lower unemployment is always accompanied by a reduction in the duration of unemployment, and therefore by an increase in the proportion of short-term unemployed in the total pool of unemployed workers. But the short-term unemployed constitute a greater threat than the long-term unemployed to the jobs of employed workers, because their skills have not had time to depreciate, their job-search activity is still intense, and they are not yet perceived negatively by employers.

As a result, each percentage point of total unemployment could exert a stronger negative pressure on wage growth and inflation when unemployment is low than when it is high. To paraphrase two former chairmen of the US Council of Economic Advisers, high macroeconomic unemployment could be even

worse than we thought because it raises structural unemployment, and low macroeconomic unemployment could be even better than we thought because it reduces structural unemployment (Okun 1973; Stiglitz 1997).

A practical implication is that, if the national unemployment rate could be maintained at the presumed LSRU of 6 percent for awhile, Canadian authorities might eventually discover that a lower unemployment rate (such as 5.5 percent) would become sustainable. Recent US experience suggests this is a possibility, as Rebecca Blank points out in this volume. In 1994, the conventional wisdom in the United States was that the LSRU was somewhere between 5.5 and 6 percent. Today, many believe it is below 5 percent. Hysteresis may have been a factor.

There is a second, microeconomic argument about why getting rid of macroeconomic unemployment can help fight structural unemployment. Put simply, all sorts of training programs are likely to be more economical and effective when macroeconomic unemployment is low than when it is high. It is easier to spot where to put scarce program resources and what the exact needs of the candidates are. The unemployed workers in training programs are motivated by the better prospects of getting good jobs, and rightly so. In his contribution to the conference, Louis Grignon also emphasized the principle that the quality of the macroeconomic environment will condition the microeconomic success of training programs.

CONCLUSION

I conclude, first, that there exists a Canadian LSRU. While its value is uncertain and changing over time, it is probably much lower currently (perhaps around 6 percent) than ten years ago. Second, there are important reasons why Canada's national unemployment rate is not at the LSRU level yet despite some significant improvement in macroeconomic performance over the last few years. But while cumulative macroeconomic unemployment was extremely

costly in the 1990s, nothing could prevent Canada from reducing unemployment to the LSRU level soon if certain simple conditions are met. Third, there is a presumption that eliminating macroeconomic unemployment and keeping unemployment close to (or at) the LSRU level could help reduce structural unemployment.

NOTES

¹Within the old-fashioned vertical long-term Phillips curve framework, the LSRU concept is the same as that of the NAIRU — the “non-accelerating-inflation rate of unemployment” invented by Modigliani and Papademos (1975). But the LSRU is a broader concept than the NAIRU. It can also apply to the non-vertical, long-term Phillips curves arising from theories such as proposed by Eckstein and Brinner (1972); Tobin (1972); or Akerlof, Dickens and Perry (2000).

²An important caveat to this assertion is that part of the out-of-labour-force population could also be considered as structurally unemployed in some long-run sense.

³When I presented this argument at the conference, the national unemployment rate was a little below 8 percent. One year later, it was a little below 7 percent, with no increase in core inflation yet in sight.

⁴Note that, due to measurement differences, a 4.2 percent unemployment rate in the United States could mean about the same thing as a 5.2 percent unemployment rate in Canada (see Riddell and Sharpe 1998).

REFERENCES

- Akerlof, G.A., W.T. Dickens and G.L. Perry. 1996. “The Macroeconomics of Low Inflation,” *Brookings Papers on Economic Activity* 1:1-59.
- _____. 2000. “Near-Rational Wage and Price Setting and the Optimal Rates of Inflation and Unemployment,” *Brookings Papers on Economic Activity* 1 (forthcoming).
- Bank of Canada. 1999. *Monetary Policy Report*. Ottawa: Bank of Canada, May.
- Blanchard, O.J. and P. Diamond. 1989. “The Beveridge Curve,” *Brookings Papers on Economic Activity* 1:1-60.

- Eckstein, O. and R. Brinner. 1972. *The Inflation Process in the United States*, Joint Economic Committee of the Congress of the United States. Washington, DC: Government Printing Office.
- Fortin, P. 1999. *The Canadian Standard of Living: Is There a Way Up?* Benefactors' Lecture. Toronto: C.D. Howe Institute.
- Freedman, C. and T. Macklem. 1998. "A Comment on 'The Great Canadian Slump'," *Canadian Journal of Economics* 32(4):646-65.
- Modigliani, F. and L. Papademos. 1975. "Targets for Monetary Policy in the Coming Year," *Brookings Papers on Economic Activity* 1:141-65.
- Okun, A.M. 1973. "Upward Mobility in a High-Pressure Economy," *Brookings Papers on Economic Activity* 1:207-52.
- Riddell, W.C. and A. Sharpe. 1998. "The Canada-US Unemployment Rate Gap: An Introduction and Overview," *Canadian Public Policy/Analyse de Politiques* 24(Supplement 1):S1-S37.
- Stiglitz, J. 1997. "Reflections on the Natural Rate Hypothesis," *Journal of Economic Perspectives* 11(1):3-10.
- Tobin, J. 1972. "Inflation and Unemployment," *American Economic Review* 62:1-18.