

Panel discussion

Recent Developments in the Canada-U.S. Unemployment Rate Gap: Changing Patterns in Unemployment Incidence and Duration

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Since the mid-1990s, the performance of the labour market in Canada has improved both in absolute terms and relative to the United States. In 1995 the unemployment rate in Canada averaged 9.6 per cent, a full 4.2 percentage points above the U.S. rate. Seven years later in 2002, the unemployment rate in Canada was 7.6 per cent, compared to 5.8 per cent in the United States – a gap of only 1.8 percentage points.² Other labour market indicators also reflect this relative improvement. The employment-to-population ratio, for example, rose in Canada from 58.8 per cent in 1995 to 61.5 per cent in 2002, while in the United States this ratio fell marginally over the same period from 62.9 per cent to 62.7.

The relative improvement in Canada's labour market in recent years contrasts with the relative underperformance over the previous 15 years. After tracking the U.S. unemployment rate quite closely through the 1950s, 1960s and 1970s, the unemployment rate in Canada averaged about 2 per centage points above the U.S. rate in the 1980s, and this gap widened to about 4 percentage points by the mid-1990s.

¹ We are grateful for helpful comments and suggestions from Bob Fay, John Helliwell and participants at the June 2003 CEA Meetings in Ottawa. The views expressed in this comentary are our own and no responsibility for them should be attributed to the Bank of Canada.

² There are a number of measurement issues when comparing the Canada and U.S. unemployment rates. Statistics Canada suggests that differences in methodology account for about 0.6 percentage points of the current unemployment gap, which would put the average gap measured on a comparable basis at 1.2 per cent in 2002.

Understanding the reasons for this relative underperformance was the subject of a major research effort in the 1990s. The conclusion of this research was that the unemployment rate gap is part measurement, part cyclical, and part structural, but the relative importance of the latter two factors proved elusive. While no single explanation for the gap emerged, this research did succeed in providing a considerably richer assessment of labour market outcomes in Canada up to the mid 1990s. With the improved performance of the labour market in Canada since the mid-1990s, it is now worthwhile to revisit the broad range of labour market outcomes in Canada and the United States. Understanding exactly what has changed and what has not in both Canada and the United States is the first step to identifying the reasons behind the relative improvement in Canada.

Geoff Bowlby's and Craig Riddell's commentaries in this volume provide important information in this regard. Bowlby examines Canadian and U.S. labour market outcomes in recent years by industry and by age-gender cohort. Riddell updates his earlier work on the probabilities of moving between employment, unemployment and non-participation. Our commentary complements these analyses by examining yet another indicator. We examine the dynamic behaviour of unemployment as the product of the rate of inflow into or *incidence* of unemployment and the average length or *duration* of a spell of unemployment. Based on this decomposition of unemployment rates in Canada and the United States, the commentary concludes by suggesting some possible suspects for future research.

Our focus on the incidence and duration of unemployment updates previous work. In particular, Baker, Corak, and Heisz (1997) calculated the incidence and duration of completed spells of unemployment for the 1980-93 period.³ They found that the unemployment gap in the 1980s and early 1990s reflected both larger cyclical increases in unemployment duration in Canada and a rise in relative incidence. With the considerable narrowing of the unemployment gap since the mid-1990s, the question is where has this narrowing come from – a relative decline in incidence in Canada, a relative decline in duration, or a combination of both?

Unemployment Incidence and Duration

Understanding the causes and consequences of unemployment requires a picture of the unemployment experience of the average worker. The unemployment rate itself is silent on this issue. For example, an unemployment rate of 5 per cent could reflect a situation in which 5 per cent of the people in the labour force are permanently unemployed or one in which everyone in the labour force is unemployed 5 per cent of the time, or anything in between.

³ See also Tille (1997) and Gray and Grenier (1997).

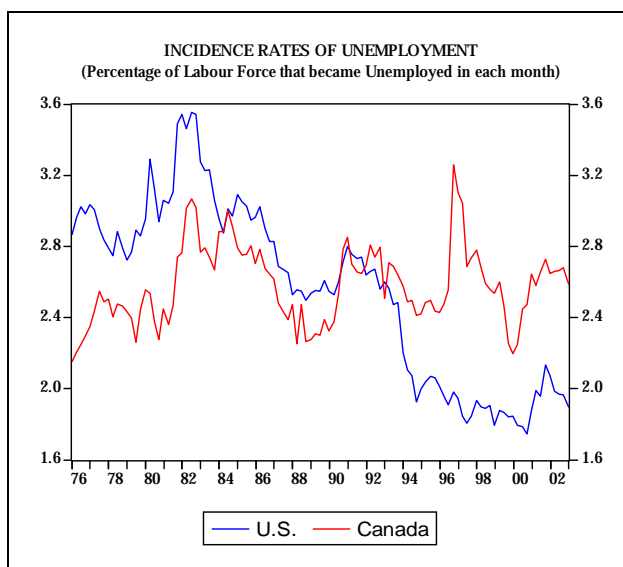
The average unemployment experience can be described by decomposing the unemployment rate into the incidence of unemployment (or the the probability of becoming unemployed) and the average duration of spells of unemployment:

$$UR_t = \frac{I_t}{LF_t} * D_t \quad (1)$$

where UR_t is the unemployment rate, I_t is incidence defined as the number of new entrants into unemployment in a particular period, D_t is the average duration of completed spells of unemployment and LF_t is the the total labour force.

The incidence rate is typically measured as the number of people unemployed for less than five weeks as a ratio of the labour force. Quarterly incidence rates are shown in Figure 1 for Canada and the United from 1976 to 2003Q1.⁴ Several features stand out.

Figure 1



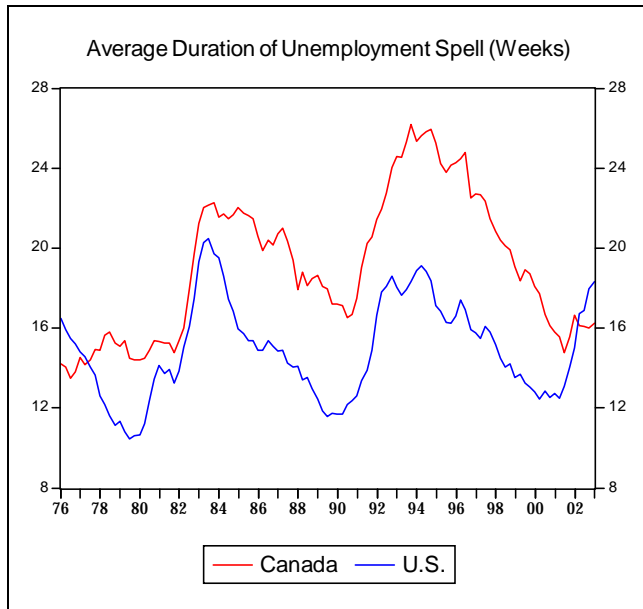
Incidence in Canada is cyclical but shows no clear trend. Over the 1976 to 2003Q1 period, incidence averages 2.6 per cent, not far from where it is at the end of the sample. In the United States, in contrast, incidence has a marked downward trend. Through the latter part of the 1970s and through the first half of the 1980s, incidence in the United States fluctuates around an average of about 3 per cent. For the next ten years, incidence moves down sharply in the United States. The decline in U.S. incidence was interrupted by the 1991 recession, but accelerated in 1993-1994. Since 1995, incidence has been relatively stable, averaging about 1.9 per cent.

⁴ This is based on the *Current Population Survey* (CPS) in the United States and the *Labour Force Survey* (LFS) in Canada.

As Baker, Corak and Heisz (1997) point out, incidence was higher in the United States than in Canada in the late 1970s and through the first half of the 1980s, but by 1993 (the end of their sample) incidence rates in the two countries were roughly the same. This decline in incidence in the U.S, they argued, was an important source of the Canada-U.S. unemployment gap that opened up in the 1980s. What Figure 1 highlights is that since 1993, incidence in the United States has dropped further, declining well below incidence rates in Canada. Note, in particular, that even through the recent slowdown in the United States, incidence increases very little and remains well below the incidence rate in Canada. Other things equal, this relative rise in incidence in Canada would have widened the Canada-U.S. unemployment gap. The fact that the gap has narrowed considerably since the mid-1990s points to changes in unemployment duration.

Figure 2 plots the average duration of incomplete spells of unemployment in Canada (from the LFS) and the United States (from the CPS). As shown, the average duration of unemployment was about the same in the United States and Canada through to the early 1980s. Duration rose sharply in both countries during the 1981-82 recession, but rose slightly more in Canada. More importantly, it was slower to decline in Canada through the 1980s. As a result, average duration troughed in Canada in 1990 at about 16 weeks, well above the trough in the United States of about 12 weeks. Consistent with the earlier findings of Baker, Corak, and Heisz (1997), this suggests that emergence of the unemployment gap in the 1980s reflected a rise in both relative incidence and duration in Canada.

Figure 2



In the 1990s, the recession at the start of the decade again pushed duration sharply higher in the United States and Canada, but duration in Canada started higher and rose more, so by 1994, average duration in Canada was about 25 weeks compared to 18 weeks in the United States – a gap of 7 weeks. Starting in the mid-1990s, however, this duration gap began to shrink. From 1995 to 2000, duration declined in both Canada and the United States, but it fell considerably more in Canada, so by the end of 2000 the duration gap had narrowed to about two weeks. Since 2001 duration in Canada has remained relatively stable at about 16 weeks, but has increased sharply in the United States to 18 weeks – two weeks higher than in Canada. This is the first time duration in the United States is higher than in Canada since the late 70s.

Together Figures 1 and 2 suggest that the narrowing of the unemployment gap between the United States and Canada since 1995 has come from a dramatic change in relative duration. When the unemployment gap peaked in 1995, Canadians were more likely to become unemployed than their American counterparts and tended to be unemployed longer. At the end of our sample, Canadians remain more likely to become unemployed than Americans, but are unemployed for a shorter periods of time on average. The net effect in 2003Q1 is an unemployment rate in Canada that is only 1.6 percentage points above the U.S. rate.

The relative contributions of incidence and duration to the Canada-U.S. unemployment gap can be determined more formally using identity (1). Taking the logarithm of both sides of (1) yields:

$$\log UR_t = \log I_t + \log D_t - \log LF_t \quad (2)$$

First differencing (2) and then taking the difference between Canada and the United States (difference-in-differences) allows the unemployment rate to be decomposed into components attributable to relative changes between Canada and the US in incidence, duration and the labour force⁵. The results of this exercise are reported in Table 1 for selected time periods.

Table 1
Decomposition of the relative change in the unemployment rate

Time Period	Relative change in the unemployment rate	Amount contributed by the relative change of		
		Duration	Incidence	Labour Force
1980-1989	0.138 (100%)	0.079 (58%)	0.068 (49%)	-0.010 (-7%)
1989-1996	0.100 (100%)	-0.076 (-76%)	0.168 (168%)	0.008 (8%)
1996-2002	-0.136 (100%)	-0.127 (93%)	0.006 (-5%)	-0.015 (11%)
1980-2002	0.102 (100%)	-0.124 (-121%)	0.243 (237%)	-0.017 (-16%)

(negative sign implies U.S. greater than Canada)

Consistent with the earlier analysis of Baker, Corak and Heisz (1997) and Figures 1 and 2, the decomposition in Table 1 suggests that unemployment gap emerged in the 1980s as a result of a relative increase in both incidence and duration in Canada. The widening of the gap to its peak in 1996 was the result of a further relative increase in incidence in Canada and the post-1996 narrowing of the unemployment gap is due entirely to a decline in relative duration in Canada. Thus the unemployment gap widened principally as a result of divergent incidences and subsequently shrank as a result of divergent durations. Note also that changes in the relative size of the labour forces in the two countries played only a minor role in the unemployment rate gap.

⁵ The duration measure published by statistical agencies cannot be used in this decomposition because it does not represent the average duration of completed spells. As a result we choose to use an estimate of duration that is implied by the steady-state condition ($U_t = ID_t$), by backing out duration from the number of unemployed and incidence rates. Valleta (1998) demonstrated that the cyclical properties of this constructed series are similar to those of estimates of expected duration that are based on more detailed and precise tabulations of individual duration experiences. In fact, in our case these constructed series show the same cyclical movements as the duration statistics from the LFS and the CPS. The main difference is that duration in the constructed series is shorter than in the survey series. The reason for this might be that the survey series are upwardly biased because those with long spells of unemployment are overrepresented in the sample.

Why has duration fallen in Canada relative to the United States?

Our analysis of incidence and duration highlights that any explanation for the narrowing of the Canada-U.S. unemployment gap since 1996 has to be consistent with the dual facts that relative incidence has changed little, but relative duration has fallen in Canada. This decline in relative duration reflects both a larger decline in duration in Canada during the second half of the 1990s and a more pronounced increase in duration in the U.S. in 2002. These facts point to a number of potential factors for future research to explore in more depth.

Part of the story is almost certainly the different cyclical positions of the U.S. and Canadian economies. As Figure 2 highlights, duration is highly cyclical. It rises sharply in a downturn and falls gradually through the recovery. In the first half of the 1990s, the relative rise in duration in Canada was largely related to the relative weakness of the Canadian economy. In particular, the 1991-92 recession was more severe in Canada. More recently, the situation has reversed. Part of the relative decline in duration in Canada clearly reflects the more pronounced downturn experienced in the United States in 2001. The United States experienced a mild recession in 2001, while Canada did not, and with corporate scandals and the war in Iraq, the U.S. economy has been slow to recover. As a result, by most estimates, the degree of unused capacity is larger in the United States than in Canada. For example, the International Monetary Fund's latest estimate is that the output gap in 2003 will average -2.1 per cent in the United States compared with -0.9 per cent in Canada (IMF, 2003).

The different cyclical positions in 2003 suggest that going forward there is more slack to be absorbed in the United States and hence more scope for output growth in excess of the growth rate of potential output in the United States. Other things equal, this suggests that there will be a larger cyclical decline in unemployment duration in the United States. Thus, if relative incidence does not change, the unemployment rate will also tend to fall relatively more in the United States than in Canada, suggesting a partial reversal of some of the recent narrowing of the unemployment gap.

Identifying structural factors that may have reduced relative duration is harder and certainly more speculative. One possible suspect is the relative role of restructuring in the two countries. The recent rise in unemployment duration in the United States is consistent with the findings of Groshen and Potter (2003) that the weakness in the U.S. labour market through the 2002-03 recovery is related to the permanent relocation of workers from some industries to others. This kind of restructuring is typically associated with a rise in long-term unemployment and hence duration. In a similar vein, some of the rise in relative duration in Canada a decade

earlier may have reflected an unusually intense period of restructuring as the private-sector in Canada adjusted to the Free Trade Agreement with the United States in 1989, the replacement of the Manufacturer's Sales Tax with the Goods and Service Tax in 1991, and deregulation in the communications and transportation sectors (see Freedman and Macklem, 1998; and Kwan 2002).

A second suspect is the role of (un)employment insurance. Much of the research in the 1990s on the widening of the unemployment gap focused on the role of more generous employment insurance in Canada relative to the United States (see Riddell and Sharpe, 1998). In the 1990s, employment insurance reform reduced the relative generosity of the Canadian employment insurance system and the unemployment gap subsequently narrowed. However, one challenge for research in this area is the apparent absence of any effect on incidence. This suggests that either something else offset the effect on incidence or the effect was negligible. These and other puzzles will, we hope, be taken up by other researchers.

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