

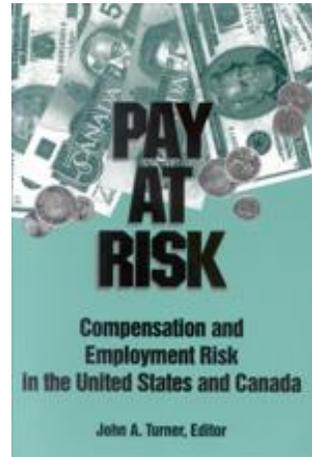
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## Wage and Job Risk for Workers

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## 2

# Wage and Job Risk for Workers

John A. Turner

“No-cut contracts are history. Permanent jobs are long gone. Job security is a thing of the past.” (*Calgary Herald*, February 18, 1996)

Many Canadians and Americans believe that job insecurity has increased, with ties of loyalty between employers and employees weakening. This opinion has been expressed during the late 1990s in the Canadian and American press as well as by politicians in both countries. Public opinion polls in the United States have shown that workers believe job insecurity has increased (Schmidt 1999).

Inspired by popular concern, economists have begun investigating this question. More studies have examined labor markets in the United States than in Canada. The evidence from the studies has been mixed.

In recent years, most insights of economics concerning employment, unemployment, and wage determination have resulted from an implicit contract approach. This approach is based on the presumption that long-term relationships between workers and firms enhance productivity for many skilled jobs. Part of the implicit contract may be the promise that firms bear some risks for workers—sheltering workers from employment and wage effects of shifts in supply and demand, at least for shifts up to a certain magnitude and expected duration. Job insecurity could increase if the implicit contract has shifted risk from firms to workers.

Alternatively, with no change in implicit contracts, job insecurity could increase because of greater macroeconomic fluctuations or greater inherent instability in the labor market. Some analysts have suggested that workers have less job security than in the past because of rapidly changing technology and increased competition due to deregulation and the growing importance of international trade. The

result has been downsizing by firms and flattening of management structures.

This chapter examines whether job and wage insecurity have increased in Canada and the United States. Aspects of job insecurity are discussed for Canada and the United States separately and then compared. The chapter examines empirical evidence over the past several decades to gain insights on the causes of job insecurity. It also examines more recent empirical studies to assess changes in job insecurity during the 1990s. Both cyclical and long-term causes of job insecurity are assessed. The chapter concludes that, by some standard measures, the increase in job insecurity has been slight. A closer examination, however, indicates a hidden increase. Job insecurity measured as involuntary job separations has clearly increased for some groups. Moreover, the increase in the cost of job insecurity may have been considerable because the job loss has been particularly costly for the people affected.

## **CANADA**

### **Macroeconomic Instability**

Greater job insecurity could result from greater instability in the macroeconomy. Evidence from past decades may shed light on the mechanisms.

Altonji and Ham (1987) examined the hypothesis that the aggregate economy in Canada was more unstable in the 1970s and early 1980s than in the 1960s, focusing on the variance of aggregate Canadian employment growth. They compared that variance over the periods of 1963–1970 and 1972–1982. They examined the effects of shocks arising from the U.S. economy, as well as other shocks to the Canadian national economy, particular industries, and provinces. They found that changes in U.S. GNP dominated, accounting for 65 percent of the variance in Canadian employment growth. The variance in national employment growth doubled in the 1970s and early 1980s as compared with the 1960s. The increases in the variances of various shocks, largely the increase in the variance of the U.S. GNP, led to the

greater instability of aggregate Canadian employment growth in the 1970s and early 1980s. Thus, their findings suggest a causal link between labor market instability in the United States and Canada and an increase in labor market instability in both countries.

### **Job Turnover**

Greater instability of aggregate employment growth could lead to greater job instability for workers. Several types of statistics can be used to indicate whether job instability has increased. These include data on job tenure, job retention rates, job turnover, and part-year work. These measures can be divided into two general types: those that measure how long individuals have worked in a particular job and those that more directly measure employer-induced job instability.

Job instability most simply could be measured as the probability that a worker would terminate a job (quit or be laid off) during a period. This measure of job instability indicates the amount of job change in the economy but does not indicate the degree of job risk or insecurity a worker faces. When conditions in the labor market are favorable, workers are more likely to change jobs voluntarily.

In the 1980s, the average annual job turnover rate in Canada was 4.1 percentage points higher than it was in the previous decade. In the period of 1973–1979, the annual turnover of jobs averaged 20.5 percent in Canada, as compared with 24.6 percent during 1980–1990. The increase during the 1980s was due to an increase in both job growth and job loss, indicating that restructuring had become more important than cyclical factors (Baldwin and Rafiquzzaman 1996).

More recent work finds that both short and long (over 11 years) duration jobs increased over the period of 1979–1991 but there was little change in average duration (Green and Riddle 1997). The movement toward longer duration jobs has occurred mainly among women and appears to be due to the greater labor force commitment of married women. Green and Riddle found little change in the likelihood of long job tenure among older males, with the exception of a slight decrease in the 55–64 age range, which is perhaps attributable to some men truncating their job tenure by taking early retirement. Green and Riddle's work, at least up to the start of the 1990s, thus did not indicate an increase in overall job instability in Canada. However, they did find

evidence of greater job instability for young and less educated workers and suggested that skill-biased technological change might be one explanation.

In an important paper, Baker and Solon (1999) used longitudinal Canadian income tax data reported by employers to measure earnings instability among Canadian men over the period of 1976–1992. They found growth in earnings instability over the period. The large size of their earnings panel allowed them to estimate and test richer models of earnings dynamics than could be supported by the relatively small panel surveys used in U.S. research. The Canadian data strongly reject several restrictions commonly imposed in the U.S. literature, and they suggest that imposing these restrictions may overstate the importance of earnings instability.

## **Unemployment**

Job risk is affected by the expected duration and cost of unemployment. The unemployed in Canada faced quite different conditions in the recession of 1990–1992 than in the recession of 1981–1982 (Corak 1993). Workers who lost their jobs in the 1990s experienced longer spells of unemployment than workers did in the 1980s.

Older unemployed individuals fared considerably worse during the Canadian recession of the early 1990s, while younger individuals fared better. Workers age 45 years and older experienced longer expected average completed unemployment spells in 1992 (26.2 weeks) than in 1983 (22.8 weeks). Thus, the changing pattern of unemployment risk may cause greater job insecurity in Canada. As discussed next, however, some changes in the pattern of Canadian unemployment may be due to changes in unemployment compensation.

## **The Effects of Government Programs: Unemployment Insurance**

The unemployment system in Canada in the late 1990s may have increased job instability while possibly increasing economic security. The system has given rise to the expression “lotto 10/42”—after 10 weeks of work, workers qualify for 42 weeks of unemployment insurance benefits. This aspect of unemployment insurance may account for the seemingly contradictory experience that both workforce participa-

tion and unemployment increased from 1972 to 1992 (Lemieux and MacLeod 1999). Both employers and employees presumably have learned how to use the unemployment system to subsidize part-year work. The Canadian unemployment system apparently has led to a significant increase in the flows into and out of the labor force in order to benefit from the generous unemployment insurance (Andolfatto and Gomme 1996).

## **UNITED STATES**

### **Macroeconomic Instability**

Because job instability is closely tied to the business cycle, increasing during downturns, changes in the business cycle may have an important effect on long-term changes in job stability. Conventional measures of the U.S. business cycle indicate that the average expansions since World War II have been twice as long as they were in the pre-war period and contractions have been half as long. Watson (1994) suggested three possible explanations for these trends. First, shocks to the economy have been smaller in the post-war period, possibly as a result of either fortuitous economic change or effective government policies dampening the effect of exogenous shocks. Second, the composition of output has shifted from cyclical to less cyclical sectors. Third, the apparent stabilization is largely spurious, caused by the way that pre-war and post-war business cycle reference dates were chosen by the National Bureau of Economic Research (NBER). He presented evidence suggesting that the third explanation is the cause, largely due to the poor quality of data in the pre-war period. He concluded, however, that while business cycle downturns have remained constant in average length when calculated using a consistent methodology, their amplitude has decreased. His study, however, predates the record-breaking economic expansion of the 1990s and early 2000s.

Other analysts have found diminished cyclical macroeconomic fluctuations in the post-war period in the major economies of the Organisation for Economic Co-operation and Development (OECD), including the United States and Canada (Bordo, Jonung, and Bergman

1998). This has been interpreted as evidence that counter-cyclical policy has been more effective in the post World War II period than before. An additional explanation is that increased integration of the world economy mitigates the negative influence of any one country's disruptions on other countries. The correlations among real output in 13 advanced countries have increased over time, suggesting a more integrated world economy (Bordo, Jonung, and Bergman 1998).

Changes in macroeconomic stability affect job stability but are only part of the causes of overall job stability. Most plant- and establishment-level employment fluctuations are idiosyncratic and are not explainable by macroeconomic or sectoral shocks (Dunne, Roberts, and Samuelson 1989).

### **Fluctuations in Wage Rates**

The United States has traditionally been considered to have downwardly inflexible wages. In comparison to Japan and Great Britain, for example, it has been considered to have less flexible wages and more flexible employment (Gordon 1982). When wage rates are flexible, shocks that might cause job loss can be absorbed through wage rate reductions. Thus, changes in wage flexibility affect employment stability, but they may also be affected by changes in the underlying volatility of demand for labor.

While low inflation is a goal of macroeconomic policy, moderate inflation may provide a degree of flexibility in real wages when nominal wage rates are downwardly inflexible. A very low rate of inflation may thus reduce the ability of firms to adjust their compensation levels in responses to fluctuations in demand. With the rapid U.S. inflation of the 1970s, firms could deal with competitive pressures by granting nominal wage increases below the rate of inflation, thereby reducing real costs without nominal wage cuts or layoffs (Levy and Murnane 1992). The low inflation of the mid and late 1990s could be a source of greater job instability because that form of real wage adjustment is greatly reduced.

## Earnings Instability

One dimension of labor market instability is instability in earnings. Gottschalk and Moffitt (1994) used the Michigan Panel Study on Income Dynamics to examine instability in annual earnings. They examined a sample of white males ages 20–59 over the years 1970–1988. They determined permanent earnings by calculating an age-earnings profile for each worker and then calculating transitory earnings in each period as the difference between actual earnings and the predicted earnings of the worker's age-earning profile. They further decomposed transitory earnings into transitory fluctuations of real weekly wages and annual weeks of work. Comparing earnings between 1970–1978 and 1979–1987, they found that the transitory variances of both real weekly earnings and annual weeks of work had increased. Roughly half of the increase in the variance of transitory earnings was due to an increase in the variance of weekly earnings. The percentage of men with large transitory fluctuations rose particularly dramatically.

Nonunionized workers had substantially higher transitory variances in earnings than unionized workers, suggesting that the shift away from unionization is part of the reason for the increase. The transitory variances for both groups increased, however, in the period of 1979–1987. Similarly, the shift out of manufacturing and into service and trade jobs accounted for part of the increase, but 88 percent of the increase was due to changes within industry (including changes in unionization) rather than changes in industry composition. Before the early 1980s, the variance of transitory earnings for job stayers showed no clear trend. However, by the 1980s, fluctuations in transitory earnings were higher for both job stayers and movers. All age and education groups had increased variance in transitory earnings, but the increase was greatest among the least educated men. In sum, the increase in earnings instability is a broad phenomenon, affecting most labor force groups.

Gottschalk and Moffitt found that much of the increase in earnings instability in the 1980s was associated with large increases in job-changing rates. This finding is inconsistent with other studies that used data from the Current Population Survey (CPS) and are discussed later. They suggested that the difference between their study and other stud-

ies may be a result of differences in the wording of the questions asked in the surveys and in the samples and years covered.

Commenting on their study, Katz (1994) noted that declines in unionization and in the real minimum wage may account for an increase in earnings instability for low-educated workers. In another study, Katz and Krueger (1991) found that deregulated industries appeared to have large increases in earnings variation.

### **Job Instability**

In the mid and late 1990s, a large number of empirical studies focusing on the U.S. labor market addressed the question of whether job instability had increased. The studies primarily focused on the descriptive issue of whether job insecurity has increased, while not addressing the more difficult issue of why changes in job insecurity have occurred.

Studies of job tenure and job separations have been reviewed by Schmidt and Svorny (1998) and by Marcotte (1995). Some of the conflicting findings can be reconciled due to differences in the following: the way survey questions were asked, the treatment of nonresponses, the length of the lookback period over which the respondent provided information, sample selection, or the point in the business cycle when the data were collected. This survey does not attempt to reconcile the conflicting findings, but rather focuses on the areas of general agreement.

#### **Job tenure**

Aggregate labor market statistics provide little support for the widespread perception that job instability in the United States has increased. Data from the CPS show that the average length of time workers have been with their current employer has declined slightly over the past decade. Among wage and salary workers, median tenure was 3.9 years in January 1987, 4.1 years in January 1991, 3.8 years in February 1996, and 3.6 years in February 1998 (U.S. Department of Labor 1999b).

Similarly, there has been little overall change in the percentage of the workforce with long tenure (Table 2.1). A study examining data from both the CPS and from the Panel Study of Income Dynamics

(PSID), however, concluded that there was a statistically significant increase in the probability of workers having less than 10 years of tenure in both data sets over the 1980s through the mid 1990s (Jaeger and Stevens 1999).

**Table 2.1 Tenure Statistics for Workers Age 20 and Over with Long Tenure, 1983–1998 (% of workforce)**

Worker category	Tenure	
	10–19 years	20 or more years
All workers		
1983	18.0	8.9
1987	17.9	8.5
1991	18.9	9.4
1996	17.6	9.5
1998	17.8	9.5
Males		
1983	19.7	12.4
1987	18.7	11.6
1991	19.6	12.1
1996	17.9	11.6
1998	17.7	11.5
Females		
1983	15.9	4.9
1987	17.0	4.9
1991	18.2	6.5
1997	17.4	7.2
1998	17.9	7.4

SOURCE: Employee Benefit Research Institute compilation of U.S. Bureau of Labor Statistics data (Employee Benefit Research Institute 1999).

Tenure statistics show an increase in tenure for women and a decrease for men (Schmidt and Svorny 1998). The findings for women probably reflect the greater labor force attachment of women over time and thus may reflect a change in women's labor force behavior rather than a change in the inherent stability of their jobs. The turnover rate for women has become more like that of men as their labor force participation generally has become more like that of men.

Job insecurity has also increased for older males. Median tenure for males in age groups above age 40 has declined considerably, from 14.8 years in 1983 for men age 50–54 to 12.8 in 1991. The proportion with tenure greater than 10 years, another measure indicating long-term job relationships, has also declined for men age 40 and older. Median tenure declined in all educational groups within this age group, and other measures of job stability for this group also declined. In contrast, median tenure generally rose for age groups of women above age 40 (U.S. Department of Labor 1995b). Thus, the increase in job stability for women, possibly reflecting their labor force attachment rather than employer-side changes, may be masking an increase in job instability in aggregate labor force statistics.

Statistics on tenure for jobs in progress do not reflect eventual job tenure. Hall (1972, 1982) did the seminal work on estimating the distribution of eventual job tenure. His work was extended by Ureta (1992).

### **Job turnover and job retention rates**

Swinnerton and Wial (1995) used CPS data to measure four-year job retention rates and showed that, on average, workers with no college education had a decline in the probability of keeping the same job for four years when comparing 1977–1983 to 1987–1991. Using the PSID, Marcotte (1994) found a similar result, as did Rose (1995) and Farber (1995).

Neumark, Polsky, and Hansen (1999) updated earlier work by calculating four-year retention rates using the 1995 CPS. They found that job stability declined modestly during the first half of the 1990s. The measured decline was reduced by the workforce shifting toward older ages in which jobs are typically more stable. While older workers tend to have more stable jobs, they found declines in job stability especially

for older, more tenured workers; they also found greater declines for blacks than whites, and for men than women.

All evidence indicates an increase in job instability for black workers (Marcotte 1995). Swinnerton and Wial (1995) reported an overall decline in four-year retention rates for nonwhites from 1979–1983 to 1989–1993. Supporting results were also found by Diebold et al. (1996) and Rose (1995).

Several studies have found a decline in job stability for less-educated and low-income workers and for black male workers but an increase in job stability for women, especially more-educated women (McMurrer 1996; Swinnerton and Wial 1995; Diebold et al. 1997; Marcotte 1994; Rose 1995; Farber 1995). Job turnover rates decreased for women over the period of 1975–1995 (from 32.7 to 27.9 percent) but increased for men (from 25.7 to 26.7 percent) (Stewart 1998).

Bernhardt et al. (1999) examined job turnover for young men using data from the National Longitudinal Surveys (NLS) through 1994. They found an increase in job instability for young white men in the 1980s and early 1990s, as compared with their counterparts in the late 1960s and 1970s. Some of the increase is associated with lower marriage rates in recent years, as well as the trend towards longer school enrollment. The shift of the U.S. economy to the service sector—where jobs are generally more unstable—has also played a role. There has also been a decline in job security in manufacturing industries, probably connected with the decline in employment in those industries.

Valletta (1999) used PSID data for the years 1976–1993, combined with CPS data for the same and previous years, to measure job change. He found evidence consistent with declining employment security for all men and for skilled white-collar women. The negative effect of job tenure on the probability of dismissals has weakened over time, as has the corresponding negative effect on quits. The negative tenure effect on dismissal probabilities is reduced by employment decline in the worker's current industry.

### **Permanent job loss**

Statistics on job tenure and job retention rates provide evidence on the stability of jobs but do not necessarily provide information on the job risks that workers bear. Job tenure and job retention are affected by

both employer decisions to hire or fire and by worker decisions to stay or leave.

To study changes in job security more precisely requires isolating the effects of decisions by employers that directly affect job security. This question can be examined using measures of job loss. Events such as plant closings, an employer going out of business, or a layoff from which the worker was not recalled are considered job displacement, permanent job loss, or involuntary separation. One such measure is the percentage of the total labor force comprised of individuals whose employment ended involuntarily and who are not on temporary layoff. Excluding laid-off workers who expect to return to their previous jobs isolates those workers affected by involuntary permanent job loss. This measure includes individuals fired for cause, but they represent a small share of the total.

The concept of focusing on layoffs or involuntary job losses when discussing job insecurity has some appeal, but firms may also wish to reduce employment by encouraging workers to quit by reducing or failing to raise wages. On average, displaced workers suffer real wage losses even before they are displaced (Jacobsen, LaLonde, and Sullivan 1993).

**Involuntary job loss.** A total of 3.6 million workers were displaced between January 1995 and December 1997 from jobs they had held for at least 3 years. The number of displaced workers declined from 4.2 million in the previous survey of displaced workers, which covered the period from January 1993 to December 1995. Nearly half of the workers in the 1995–1997 survey cited plant or company closings as the reason for their job loss. Compared to the prior survey period, the risk of job loss had fallen for virtually every worker group, and workers displaced during 1995–1997 were more likely to be reemployed at the time of the survey and less likely to be unemployed. In the 1995–1997 survey, displaced workers who eventually found jobs spent fewer weeks without work than those who lost jobs in the previous survey. Earnings losses of workers who lost jobs during 1995–1997 were less severe than those measured in the prior survey (U.S. Department of Labor 1999a). Thus, there is considerable evidence that, consistent with unemployment being near a 30-year low, job

instability in the mid 1990s had declined as compared with earlier in the 1990s (see Tables 2.2 and 2.3).

**Table 2.2 Displacement Rates for Workers Age 20 and Older, 1981–1996 (% of workforce)**

Year	All tenure	20+ years tenure
1981–82	5.7	2.0
1983–84	4.1	1.7
1985–86	4.0	2.1
1987–88	3.2	1.5
1989–90	4.3	1.7
1991–92	4.9	2.7
1993–94	4.4	2.4
1995–96	3.9	2.1

SOURCE: Computations from the Displaced Worker Survey by Hipple (1999).

**Table 2.3 Displacement Rates for Different Demographic Groups, 1981–1996 (% of workforce)**

Year	Men	Women	White	Black
1981–82	4.3	3.4	3.8	4..8
1983–84	3.2	2.9	3.9	3.9
1985–86	3.3	3.4	3.1	3.4
1987–88	2.0	2.4	2.4	2.0
1989–90	3.2	2.8	3.0	3.5
1991–92	4.1	3.5	3.8	3.8
1993–94	3.4	3.2	3.3	3.5
1995–96	2.8	3.2	3.0	3.7

SOURCE: Computations from the Displaced Worker Survey by Hipple (1999).

A number of studies have examined the longer term trends. Farber (1997, 1999) and Gardner (1995) examined whether involuntary job loss increased in the early 1990s. Both studied data from the 1980s and 1990s from the Dislocated Workers Supplements to the CPS and both found that the rate of job displacement in the early 1990s equaled or slightly exceeded that in the early 1980s, even though the latter was a period of deep recession.

Farber found that job loss rates did not decline as much as might have been expected in the 1990s given the sustained expansion. For example, the amount by which the job loss rate exceeded the unemployment rate averaged 1.2 percentage points in 1987–1989 and 3.2 percentage points in 1993–1995. The gap fell to 2.2 percentage points in 1995–1997 but remained higher than in the 1980s.

Farber found that job loss attributable to abolition of a position or shift grew from 11–12 percent of all job loss in the 1980s to 17 percent of job loss in 1991–1993. Similarly, Gardner found that the percentage of workers with at least three years of job tenure who were displaced in the early 1990s equals the percentage in the early 1980s.

Although these studies found little or no change between displacement rates in the two periods, the job displacements in the early 1980s occurred during a severe economic downturn. The displacements in the early 1990s, however, occurred during a mild recession, when displacement rates would have been expected to be considerably lower.

Farber (1997) found that most of the increase in job displacement during the early 1990s could be attributed to the increase in the percentage of workers who reported that they were displaced due to the abolition of their shift or position; in other words, what is commonly called “downsizing.” The three-year job loss rate for position/shift abolished increased from 1.3 percent for 1981–1983 to 2.3 percent for 1991–1993. This increase occurred primarily for workers with at least a college education (up from 1.2 percent to 2.8 percent). In contrast, there was no general increase in displacement rates for other reasons. The rate of job loss due to plant closing has been relatively steady, and the rate of job loss due to slack work has fluctuated cyclically.

Polsky (1996) examined the trend in job loss using PSID data. He compared the 1976–1981 period with the 1986–1991 period. He found little change in job separations, but a larger fraction of separations in the later period were due to job loss. Workers aged 45–54 suffered a

disproportionate increase in involuntary job loss between the two periods. Further, the reemployment probabilities for job losers decreased but not for job quitters. Job losers became more likely to suffer a large decrease in earnings, while quitters became more likely to have an increase in earnings. Thus, he found that job loss became more common in the early 1990s, and its consequences became more costly.

Borsjoly, Duncan, and Smeeding (1998) used PSID data to study the incidence of involuntary job loss among prime-age men (ages 25–59). They focused only on workers with substantial labor force attachment (held a job at least one year, worked at least 1,000 hours previous year, and not self-employed). They argued that changes in job instability are particularly important with respect to this group, which has relatively high job stability. They found that the incidence of job loss in this group increased considerably over the 1968–1992 period. It increased about as much for college-educated workers and older workers as for less educated and less experienced workers.

Gottschalk and Moffitt (1999) used the Survey of Income and Program Participation (SIPP) data to examine the year-to-year probability of job change as well as the monthly probability of job change for employed married males. These data do not show an increase in job turnover during the 1980s and 1990s. While job exit rates increased sharply in 1994, they decreased equally sharply in 1995, leaving exit rates at roughly the same level as a decade earlier. They also examined various indicators of increased insecurity, including the probability that a job ends involuntarily, is followed by a spell of nonemployment, or that the subsequent job has lower wages. None of these indicators of insecurity showed an upward trend in their data. Their results may be consistent with a decline in job security during the early 1990s followed by an increase towards the end of the decade.

Together, these studies generally indicate that the rate of employer-induced job instability was significantly higher in the early 1990s than would be expected based on the past relationship between job instability and macroeconomic conditions. In this period, job instability was higher than during the 1980s, but job loss declined in the mid 1990s.

**Plant closings.** Plant closings as a form of involuntary job loss may differ in their effects on workers from other causes of displacement. Hamermesh, Cordes, and Goldfarb (1987), using the PSID, pre-

sented evidence that layoffs due to plant closings are less likely to be anticipated by workers than other layoffs. For this reason, the effects of plant closings on workers may be more serious than other forms of involuntary job loss. They found that the wage-tenure profile is much steeper among workers whose plants closed than it is for those who were permanently laid off. This finding suggests that, in addition to the compensating differential for the risk of layoff, workers who actually are laid off anticipate some of their risk and respond by reducing their investment in firm-specific human capital. The same pattern of anticipation and consequent reduction in human capital investment does not appear for workers who lose their jobs as a result of plant closings.

**Corporate downsizing.** As mentioned earlier, Farber (1997) found evidence of increased job displacement due to downsizing. Presumably related to this phenomenon, CPS data show that managerial and professional workers became increasingly vulnerable to job loss between the early 1980s and the early 1990s. The share of all displacements from workers in these occupations increased from 13 percent in 1981–1983 to 24 percent in 1991–1993.

In addition to an increase in the overall incidence of displacement of managers and professionals relative to total displacement, the earnings patterns of these displaced managers and professionals were also markedly different during the two periods. In the early 1980s, managers and professionals toward the bottom of the earnings distribution were disproportionately likely to be displaced. More recently, however, the earnings profile of the displaced is almost identical to that of all employed managers and professionals. This appears to be a part of the pattern of an increased cost of job instability. For managers and professionals, being at the top of the earnings ladder appears to provide less protection against job loss than it once did (U.S. Department of Labor 1995a).

**Unemployment duration.** Baumol and Wolf (1996) found that the duration of unemployment remained fairly constant in the 1950s, 1960s, and 1970s and rose in the 1980s and early 1990s. When the data are disaggregated by age, the duration of unemployment increased for older workers and decreased for younger workers from the 1980s to

the 1990s, indicating an increase in the cost of job instability for older workers.

### **Conclusions on Wage and Job Instability**

The overall job tenure statistics suggest that job instability has increased slightly. Disaggregating the data by gender suggests, however, that the increase in female tenure resulting from greater labor force attachment is masking an increase in job instability, with job tenure of males declining.

A closer examination of the evidence using data on worker displacement indicates that job displacement has increased, at least for prime-age males up to the early 1990s. Involuntary job loss increased both as a share of overall job loss and relative to the size of the workforce.

Increased job displacement and decreased job tenure have occurred among groups for whom job insecurity is relatively costly. The increase in the cost of job insecurity is explored in greater depth in the next section.

### **The Increasing Cost of Job Loss**

Perhaps a reason that worker worry over job insecurity may have increased, at least during the early and mid 1990s, is that job insecurity for more workers occurs later in life when it is more costly. It is also occurring increasingly for white-collar, managerial workers who may have considerable investments in firm-specific human capital.

In a study of displaced workers in Massachusetts, Kodrzycki (1996) found that older and more experienced workers tended to have longer unemployment periods and lower wage replacement rates when they returned to work. It is possible these extended periods of unemployment may be a result of age discrimination, and possibly because of shorter expected tenure duration at hire, older workers have more difficulty than younger workers in finding new employment.

A substantial literature uses the Displaced Worker Survey to study the postdisplacement employment and earnings experience of displaced workers. Displaced workers generally experience substantial periods of unemployment and their earnings on jobs held after dis-

placement are substantially lower than predisplacement earnings. The earnings loss suffered by workers is positively related to tenure on the predisplacement job.

Polsky (1996) used the PSID to examine changes in the cost of job loss between 1976–1981 and 1986–1991. Controlling for personal characteristics, he found a statistically significant decline in the probability of reemployment of 6.1 percentage points between the two periods and an increase of 2.3 percentage points in wage losses with job loss between the two periods. Workers who experienced a significant increase in wage losses with job loss between the periods examined include older workers, professional and managerial workers, and high-tenure workers.

Farber (1999) found that proportional wage losses of job losers are lower in the most recent period he examined (1995–1997) for all workers except those in the lowest educational category. Thus, the cost of job loss declined for the average worker that lost a job towards the end of the 1990s.

Because of their accumulation of firm-specific human capital, the wage loss from a layoff and subsequent hire by a different employer is greater for workers in the peak earnings years than for younger workers. Hamermesh, Cordes, and Goldfarb (1987), using the PSID, estimated that involuntary separation causes a loss of firm-specific human capital equivalent to more than six months' wages. The value in terms of months' wages is higher for high-wage workers at the peak of their earnings profiles. Thus, the value of lost earnings is large, especially for employees with long tenure who are still years away from retirement. Data on worker displacement suggest that long tenured workers displaced due to the closing, reorganization, or relocation of a business or plant typically suffer larger earnings losses after displacement than do otherwise similar workers displaced with short tenure (Carrington 1993).

Because of their accumulation of human capital, their loss due to depreciation of human capital during unemployment is also greater. Human capital depreciates during unemployment as workers' skills and knowledge erode. Perhaps in part for this reason, Farber (1999) found that high tenure workers suffer dramatically larger earnings declines than do workers with less tenure.

Job insecurity is particularly serious for midcareer workers in their forties and early fifties for a number of additional reasons. These workers often have financial responsibilities for families and fixed financial commitments for mortgages and children's education. The increase in job loss at higher tenure has thus increased the cost of the risk of job loss for workers.

The forties and fifties are also particularly costly ages for workers to lose pension coverage. The pension wealth loss caused by a separation from a job providing a defined benefit plan is greatest for a worker roughly 10 years from retirement (Turner 1993). At that point, the worker has accumulated substantial pension wealth, but that wealth is generally based on the nominal value of his or her final wage. Inflation could erode the real value of the final wage over a 10-year period. Thus, a worker aged 50 losing a job with a defined benefit plan could suffer a large pension wealth loss.

A further reason for the increase in the cost of job loss is the increase in permanent job loss relative to temporary job loss. Davis, Haltiwanger, and Schuh (1996, p. 138) found that the dominant role of permanent layoffs in the recession of the early 1990s suggests that job destruction persistence rates were high during that recession. The phenomena of prolonged, persistent job destruction and the larger role of permanent layoffs since the early 1980s are linked to the rise in long-term joblessness.

## U.S.–CANADIAN COMPARISONS

### Job Creation and Destruction

While job tenure and job turnover statistics present job instability from the viewpoint of the worker, job creation and destruction look at the process from the viewpoint of the employer. *Job creation* refers to the number of jobs created at plants where employment is growing and *job destruction* to the number of jobs ended at plants where employment is shrinking. Davis, Haltiwanger, and Schuh (1996, p. 21) compared job creation and destruction rates in Canada and the United States. The rates they used for Canada were for the 1979–1984 period;

the rates for the United States were for the longer 1973–1988 period. The rates for both countries are for manufacturing firms. The job creation rate was higher in Canada (10.6 percent versus 9.1 percent), and the job destruction rate was slightly lower in Canada as well (10.0 percent versus 10.2 percent). There was little difference between the two job destruction rates, which are the source of worker job insecurity.

The authors found that only one-third of U.S. job destruction is accounted for by establishments that shrink by less than 25 percent over a year. Thus, the bulk of job destruction cannot be accommodated by normal rates of worker attrition resulting from retirements and quits. Most of the job destruction represents job loss from the point of view of workers. The authors also found that annual job destruction primarily reflects persistent establishment-level changes, so that the bulk of job destruction cannot be implemented by temporary layoff and recall. Most of the job destruction they measured reflects permanent job loss.

Baldwin, Dunne, and Haltiwanger (1994) also compared job destruction in Canada and the United States. They found that the Canadian and United States industry-level job destruction data are remarkably similar. Industries with high job destruction rates in Canada also have high rates in the United States, and similarly for industries with low job destruction rates. In addition, they found that the overall magnitudes of gross job flows in the two countries are similar. Further, they found that the time-series patterns of job destruction are similar in the two countries. In both countries, job destruction is much more cyclically volatile than job creation. This asymmetry, however, is more pronounced in the United States, giving some evidence that job insecurity is greater in the United States.

### **Wage Flexibility**

Cousineau (1987) compared wage flexibility in Canada, the United States, and Japan. He found that wages in Canada and the United States are more rigid than in Japan, but that Canada has more flexible wages than the United States. He hypothesized that Canada has more flexible wages because it has a relatively small, open economy that is sensitive to international markets, in particular to the U.S. market. He found that wages in the sectors where exports are at least 25 percent of

industry gross domestic product were highly positively correlated with U.S. output over the period from 1967 to 1984.

### **Employment Protection**

An employment protection index has been created by the OECD based on the strength of the legal framework governing hiring and firing. Legal restrictions on hiring and firing may reduce job uncertainty for those workers having a job, but they also tend to reduce employment because of the inflexibility of the employment commitment by employers. Among 20 OECD countries, the United States ranked the lowest in terms of employment protection, followed by New Zealand and Canada (OECD 1994). Thus, in comparison with other OECD countries, Canada and the United States offer similar amounts of job protection through legal restrictions governing firing.

Advance notice is intended to reduce the risk associated with lay-off by giving workers the opportunity to begin the search for a new job sooner, while still employed. In all Canadian jurisdictions, there are minimum requirements for notice of a dismissal without cause. Employers, however, may make wage payments in lieu of the notice period. Firing rules, working-time rules, short-time work arrangements, and regulations concerning atypical contracts are all aspects of Canadian employment protection legislation (den Broeder and Gelauff 1997).

In the United States, the Worker Adjustment and Retraining Notification Act of 1989 requires employers with 100 or more full-time employees to give 60 days' notice of a plant closing or a layoff that is planned to last at least six months and that involves at least one-third of the employer's workforce or 500 workers (whichever is less). Some evidence, however, indicates that this act has not increased the provision of advanced notice to displaced workers (Addison and Blackburn 1994).

### **Unemployment and Unemployment Compensation**

Unemployment rates, which were nearly equal in the two countries in the 1950s and 1960s, were markedly higher in Canada in the 1980s and 1990s. Over the period of 1989–1994, the unemployment rate

averaged 9.8 percent in Canada and 6.2 percent in the United States. In Canada, 24 percent of the labor force was unemployed at some point during 1993, compared with 15 percent of the U.S. labor force (Commission for Labor Cooperation 1997).

The unemployment rate has trended downwards in the United States. It peaked at 9.7 percent in 1982 and had fallen to less than 4.0 percent in the early 2000s.

The Canadian unemployment system is more generous, which may account for higher unemployment rates in Canada. The unemployment compensation system in Canada is more generous than the system in the United States primarily because of its less restrictive eligibility requirements and longer duration of benefits. Unemployment benefits are available for more than 40 weeks in Canada, as opposed to only 26 weeks in the United States, although the U.S. federal government often extends benefit durations in major recessions. Less restrictive eligibility rules imply that a larger share of unemployed workers are eligible for benefits in Canada than in the United States. Finally, the take-up rate among those eligible for benefits is higher in Canada. About half of unemployed workers in Canada in 1994 and 35 percent of unemployed workers in the United States from March 1995 to March 1996 received unemployment insurance benefits (Commission on Labor Cooperation 1997). For reasons poorly understood by policy analysts, many American workers fail to apply for the benefits available to them.

Unemployment insurance is not experience rated in Canada, while it is in the United States. The cost to Canadian employers of laying off workers is less than it is for American employers. Thus, the higher unemployment rates in Canada do not necessarily indicate greater income insecurity, taking into account social insurance.

## **THEORIES AS TO WHY JOB INSECURITY HAS INCREASED**

Many theories have been proposed in the empirical studies as to why aspects of job insecurity have increased in Canada and the United States, at least through the early 1990s. We divide these theories into three groups: 1) macroeconomic theories, 2) employer-based (labor

demand) theories, and 3) worker-based (labor supply) theories. Thirteen of the fourteen hypotheses present reasons why job and wage instability would be expected to increase. The first hypothesis presents a reason why they would be expected to decrease.

## **Macroeconomic or Economy-wide Theories**

### **Declining macroeconomic instability**

Some evidence indicates that the severity and possibly the duration of economic downturns have decreased. These decreases could be due to improved macroeconomic management of the economy, fortuitous changes in the severity of economic shocks, or other reasons not well understood.

### **Increased international trade**

Both the United States and Canadian economies have increasingly opened to international trade. In 1995, Canadian exports accounted for 42 percent of GDP, up from 28 percent in 1988; U.S. exports accounted for 12 percent of GDP, up from 9 percent in 1988 (Commission for Labor Cooperation 1997).

International economic integration increases the exposure of an economy to external risk and to greater competition from foreign producers. Davis, Haltiwanger, and Schuh (1996) explored the effect of international trade on job destruction and creation. They found a high rate of gross job destruction in the United States among industries with a high import penetration ratio, as measured by imports as a percentage of imports plus domestic production. They speculated that this job destruction occurs because import-intensive manufacturing industries in the United States tend to pay relatively low wages and have relatively unskilled workforces. These types of industries tend to have higher rates of gross job destruction than do high-wage industries. To test this hypothesis, they examined the relationship between four-digit industry excess reallocation rates and measures of trade exposure. Excess job reallocation rates are measured as the difference between gross job reallocation (the sum of all plant-level gains and losses that occur over a time period) and the absolute value of net employment change. Regression analysis indicated that, after controlling for the level of wage rates in the industry, there was no significant relationship

between excess job reallocation and measures of export or import intensity.

Davis, Haltiwanger, and Schuh (1996) focused on the demand of domestic and foreign consumers, and argued on theoretical grounds that the relationship between trade exposure and labor demand volatility is ambiguous. International trade exposes the U.S. economy to demand disturbances that originate in other economies, but it also reduces the importance of effects of domestic product demand disturbances on U.S. producers.

Considerable evidence shows that as imports become more competitive, domestic industry displacement rises (Kletzer 1998a, b; Haveman 1994; Addison, Fox, and Ruhm 1995). Haveman estimated that a 1 percent decline in industry import price from one year to the next is associated with a 1.62 percent increase in industry job displacements. For a group of import-competing industries, he found that a 1 percent decline in import price is associated with a 3.5 percent rise in displacements.

### **Decreased inflation**

With the rapid inflation of the 1970s, firms could deal with competitive pressures by granting nominal wage increases below the rate of inflation, thereby reducing real labor costs without nominal wage cuts or layoffs. This form of adjustment was less available during the 1990s because of lower inflation.

## **Labor Demand**

### **Increased competition**

An overall increase in the level of competition, not just increases due to international trade, may have contributed to greater job insecurity. Increased competition has occurred in some industries due to deregulation. For example, the breakup of AT&T led to the entry of new firms and competition in an industry where jobs were once secure. The ending of price and other regulations has enhanced competition.

Duca (1998) argued that changes in how much competition an industry faces relative to others may explain why profit sharing has risen in some industries more than in others. He noted that the largest increases in profit sharing have occurred in sectors with greater foreign

competition, such as in manufacturing, or in deregulated sectors, such as transportation.

### **Shift in bargaining power towards firms**

The relatively slack labor market of the 1980s may have shifted bargaining power between firms and workers towards firms (Morissette 1996). The United States, however, has had low unemployment during the mid and late 1990s, shifting the balance in the opposite direction.

### **De-industrialization**

The shift of jobs from the manufacturing sector to the service sector may be a factor in increasing job insecurity. Traditionally, jobs in the manufacturing sector have been more stable and secure than those in the service sector. This shift has occurred both in Canada and in the United States.

### **Technological change**

The effect of rapid technological change on job insecurity likely differs between older and younger workers. Rapid technological change reduces the value of human capital of older workers, whose human capital was acquired in earlier years. For younger workers, however, rapid technological change is incorporated in their human capital because of their recent schooling and the greater investments in human capital that workers make at younger ages (Baumol and Wolff 1996).

### **Change in employers' philosophies**

The United States and Canada have both seen a shift towards conservatism in political philosophies. There may have been a similar shift among employers away from the philosophy of paternalism and employer-provided social welfare and towards one of individual choice and individual responsibility.

### **Increased responsiveness of firms to economic conditions**

Job insecurity can increase due to macroeconomic conditions or other factors affecting the firm's demand. It can also increase due a change in the response of the firm to those conditions. Such a change

could be a result of other factors listed, such as greater competition, due to deregulation and increased international trade.

## **Labor Supply**

### **Decreased unionism**

Union members are likely to have more job security and stable wages than nonunionized workers because of job protection and multi-year wage contracts. Union members accounted for 17.6 percent of the workforce in 1993 but only 12.9 percent of the displaced workers over the period of 1993–1995 (Yakoboski 1997). Furthermore, job security under collective bargaining is tied to seniority, with older workers generally having greater seniority.

Unionization rates were comparable between Canada and the United States in the 1950s but were twice as high in Canada by 1990. A decline has also occurred in Canada, but it has been smaller and has been hidden in the overall statistics by the change in the labor force behavior of women. The overall percentage has stagnated, ranging from 31 percent to 33 percent between 1966 and 1993. The unionization rate fell from 38 percent to 35 percent for men, while it rose from 16 percent to 30 percent for women.

Both countries have seen a shift from the goods-producing sector, where unions are well established, to the service sector, where unions have recruitment problems. This shift has reduced union participation.

Between 1976 and 1992, employment declined in the Canadian goods sector, with its proportion of workers falling from 32 percent to 24 percent. As well, the proportion of unionized workers in that sector fell from 43 percent to 38 percent. In manufacturing, unionization fell from 43 percent to 33 percent. By contrast, total employment in the service sector grew from 68 percent to 76 percent of the workforce, and unionization in the service sector increased from 26 percent to 32 percent. The most heavily unionized part of the Canadian (and U.S.) economy is the public sector, where unionization rose from 69 percent in 1976 to 75 percent in 1993 (Galarneau 1996).

Verma and Thompson (1988) argued that Canadian and American managements responded differently to the market pressures of the 1980s. While many U.S. managers worked to develop a parallel non-union employment system, Canadian managers worked largely within

collective bargaining. They concluded that managerial choice contributed to a decline of the collective bargaining system in the United States, while it had the opposite effect in Canada.

### **Decline in real income**

Real incomes have declined for low-wage workers in the United States, though by exactly how much is unclear because the Consumer Price Index (CPI) has overstated inflation. Declining real incomes may have caused declining worker demand for employer-provided insurance.

### **The increase in two-earner families**

The increase in two-earner families makes families better able to bear financial risks and thus more willing to take them, while the increase in divorce has had the opposite effect.

### **A demand by workers for increased flexibility**

Some workers may have an increased demand for flexibility because of the changes in family structure. Working women may desire greater flexibility in an attempt to balance family and work responsibilities.

### **The age structure of the workforce**

Some flexibility is provided employers by voluntary worker turnover and retirement. The greater voluntary worker turnover and retirement is, the less the risk of job insecurity. An aging workforce would seem to have a positive effect on job security because there would be greater flexibility due to retirements. A labor force with a high proportion of young workers would also be more flexible because there would be greater turnover. Thus, the demographic composition of the labor force may affect the extent of job risk individual workers face. A middle-aged worker would face less job insecurity in a firm with a high proportion of its employees being young or being near retirement. There may be an increase in job insecurity in the United States and Canada because the large baby boom cohort is middle aged, which is period of relatively low job turnover.

## Summary

Each of the 14 hypotheses carries some supporting evidence. None is contradictory, and each could explain part of the changes that have occurred. The difficult task remains for empirical work to determine if some should be rejected and to determine the importance for those that remain.

## CONCLUSIONS

Several measures suggest that job insecurity has increased in Canada and the United States, at least through the early 1990s. This trend appears to have reversed during the mid and late 1990s in the United States as unemployment rates reached 30-year lows. Even for that period, however, job insecurity was high relative to the unemployment rate. The demographic pattern of job insecurity has also changed. Job insecurity has increased for older workers in both countries, for whom the cost of insecurity is particularly high. Thus, the evidence is particularly strong that the cost of job insecurity has increased.

Thirteen hypotheses for an increase in job insecurity have been presented, although these should be interpreted as predicting the level of job insecurity relative to the unemployment rate and the level of aggregate demand for labor. The decline in unionism, for example, may be a factor in the decline in job security for middle- and lower-income workers. Greater international competition and greater competition due to deregulation may play a role in some industries. More rapid technological change may have increased job insecurity for older workers in some occupations. The low inflation rate may have increased real wage inflexibility. Greater macroeconomic stability may play a role in reducing job insecurity, but evidence suggests that much of job insecurity is idiosyncratic, not being related to macroeconomic shocks.

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# **Pay at Risk**

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