

# Economic Change and Worker Displacement in Canada: Consequences and Policy Responses

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## INTRODUCTION

Change is an enduring feature of the economy and the labour market, even in normal times. Some firms expand their operations, while others contract or go out of business. New firms enter existing industries, and entirely new industries emerge. About one-half of all new employer-employee matches end within the first year, and about one-fifth of all workers have been with their employer for less than one year (Farber 1999). Gross flows of labour are huge in comparison with net changes in stocks. In countries like Canada and the United States, roughly 10 per cent of all jobs are destroyed each year, and another one in ten existing jobs were created within the previous year (Davis and Haltiwanger 1999; Baldwin, Dunne, and Haltiwanger 1998). In recent years, structural changes due to technological change, globalization, and the shifting world economic environment have received much attention. But there is nothing new about the importance of changing economic circumstances.

Change creates new opportunities but destroys old ones. It is, in the words of Schumpeter (1942), a process of “creative destruction.” The economic opportunities available to some individuals are enhanced, while those available to others are reduced. Adjustment to change can be painful for those adversely affected. This paper deals with “displaced workers,” those who permanently lose their jobs because of changing economic circumstances. I examine what we know about permanent job loss and its consequences, and assess the rationale for and consequences of policies designed to assist workers who have been adversely affected by economic change. Particular attention is paid to the Canadian experience and to older displaced workers, a group that is likely to grow in importance as the population and workforce age. Some of my analysis draws on my recent experience as a member of the Expert Panel on Older Workers, which submitted its report to the federal government last year (Expert Panel on Older Workers 2008).

Adjusting to change typically involves shifting labour and other resources from declining to expanding sectors, which thereby contributes to economic prosperity. There are costs and benefits associated with adjustment but, in general, the net benefits are positive, and often substantial in size. One has only to imagine what Canada’s standard of living would be if most of the labour force were still employed in agriculture, as was the case in the

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early 1900s. High and persistent unemployment experienced by a number of European countries during the past several decades is a more recent reminder of the important contribution that the labour reallocation process makes to economic performance. However, although the net benefits of adjusting to change are typically positive, a salient fact is that the costs and benefits are unevenly distributed in the population. Most technological and economic change results in a small number of losers, who each lose a great deal, and a large number of winners, who each enjoy modest benefits. This central feature of economic change makes labour market adjustment one of the most challenging problems that societies face. A variety of policies have been advocated or adopted to help meet this challenge.

The importance of adjusting to change, and of policies that promote adjustment, were recurring themes throughout David Dodge's distinguished career. In the early 1980s, he directed the federal government Task Force on Labour Market Development that addressed Canada's labour market challenges following the tumultuous 1970s. A central theme of the Task Force report "Labour Market Development in the 1980s" (the "Dodge Report") was the ability of the country's labour force and labour market institutions to adjust to changing circumstances (Employment and Immigration Canada 1981). More recently, as Governor of the Bank of Canada, David frequently wrote and spoke about the significance of adjustment in a country like Canada, with its vast size, diverse regions, and dependence on international trade.

## **THE CASE FOR LABOUR ADJUSTMENT POLICIES**

Adjustment assistance policies can promote both economic efficiency and the pursuit of equity goals. Because adjustment involves shifting resources from less valued to more highly valued uses, it promotes economic efficiency and therefore higher living standards. Market mechanisms will encourage responding to change, but numerous factors may impede adjustment, resulting in slower responses than are socially optimal (Gunderson 1986). Well-designed adjustment assistance policies can reduce these obstacles and encourage responses that are closer to the social ideal.

A related efficiency rationale arises from market failures in private insurance markets, owing to such factors as adverse selection and moral hazard. Because of these pervasive phenomena, private insurance markets generally do not offer insurance against the full range of risks associated with economic and technological change. The absence of private markets for unemployment insurance is a prominent example, one that is often cited as the principal rationale for publicly provided insurance against the income loss associated with unemployment (Green and Riddell 1993).

Equity considerations also loom large in adjustment policy because, as will be discussed in more detail, economic change can cause considerable harm to some individuals and families. It is generally viewed as equitable to assist those adversely affected, particularly when the shocks have been unanticipated, when they result in significant declines in income or wealth, and when hedging against the shocks would have been difficult. A general theme resulting from economic analysis is that adjustment assistance should focus on workers rather than on firms or their shareholders (Riddell 1986).

Possibly the strongest rationale for adjustment assistance policies is that, in their absence, political pressures would result in policies—such as subsidies to declining industries,

bailouts of firms threatened with bankruptcy, and protectionist measures—that inhibit adjustment and harm society as a whole. The source of these pressures is easily identified. The benefits of responding to change are widely distributed, whereas the costs of adapting to change are typically concentrated among a small number of employees and firms. Although the total benefits to society of adjusting to economic shocks often exceed the total costs, the individuals adversely affected form an effective lobby group and may exert considerable influence through the political process. Their influence arises in part because they are easy to organize (being concentrated in a specific sector and often a few regions), are threatened with substantial losses, and are willing to devote considerable resources to fighting the source of change. In contrast, those that stand to benefit are typically dispersed, difficult to organize, and not willing to devote significant time and money to fighting for the adjustment, given the modest gains to each individual. For these reasons, the types of policies adopted are often diametrically opposed to those that would be recommended on the basis of social efficiency and equity considerations (Trebilcock 1986).

## **JOB DISPLACEMENT AND ITS CONSEQUENCES**

A great deal is now known about the consequences of job displacement. Much of the research literature deals with “displaced workers”—those who (i) have not been discharged for cause, (ii) have permanently separated from their previous employer, and (iii) had strong prior attachment to the industry of their previous employer. In what follows, I use this definition of displaced workers. I summarize the current state of knowledge about the incidence of job loss due to displacement, earnings losses from displacement, and other consequences, such as those to health, families, and intergenerational effects. The United States carries out a regular Displaced Workers Survey, which has been an important source of information about the extent and consequences of permanent job loss. Unfortunately, Canada does not do so, and the Canadian evidence is therefore much more limited.

A recent study by Morissette, Zhang, and Frenette (2007) provides information on the incidence of permanent job loss in Canada during the 1988–2002 period. They use administrative data based on tax records from Statistics Canada’s longitudinal worker file. Permanent layoff rates for men range from 6 per cent to 7 per cent in boom years, to 9 per cent in the recession of 1990–92. Comparable rates for females are much lower—3 per cent to 4 per cent in good times and 5 per cent to 6 per cent in downturns. Annual rates of displacement due to mass layoffs or firm closure range from 1.1 per cent to 2.4 per cent for males and 0.6 per cent to 1.1 per cent for female workers. These data indicate that permanent job loss affects a small, but non-trivial, proportion of the workforce in any given year. However, because it is a phenomenon that continues through both strong and weak economic conditions, the cumulative magnitude over longer periods such as a decade is substantial.

The magnitudes of earnings losses due to displacement have been extensively investigated. Key findings include: (i) average earnings losses can be substantial, (ii) losses are greatest for long-tenure employees, and (iii) losses persist for much longer than for other unemployed workers.

An influential study by Jacobson, LaLonde, and Sullivan (1993) analyzed the consequences of displacement among workers in Pennsylvania. Their study has several key

advantages: detailed administrative data linking workers and firms, several years of pre-displacement and post-displacement earnings and, of particular importance, a comparison group of non-displaced workers. They focus on workers with six or more years of tenure with the previous employer. Relative to the comparison group of non-displaced workers, earnings losses were very large: 24 per cent of expected earnings even six years after displacement. The time pattern of earnings losses has some striking features. Not surprisingly, average earnings drop precipitously—by about 50 per cent—upon displacement. During the next two to three years, earnings recover to an important extent, prior to levelling off. A salient feature is that average earnings plateau at a level substantially below their pre-displacement level, and even further below the average earnings of the comparison group of non-displaced workers. There is little evidence in their data that earnings of displaced workers will ever return to their pre-displacement level or to the earnings levels experienced by their non-displaced counterparts. They also find that the earnings losses of displaced workers (relative to those who do not become displaced) began about three years prior to separation, suggesting that the events that lead to workers' separations cause their earnings to depart from their normal levels even prior to separation.

Farber (2005) analyzes U.S. data from over 20 years of Displaced Workers Surveys covering the period 1981–2003. In the most recent period, 35 per cent of displaced workers are not re-employed three years later, while about 13 per cent of full-time job losers are re-employed part-time. Full-time job losers re-employed in full-time jobs earn 17 per cent less than their earnings before displacement. The average earnings loss increases dramatically with prior job tenure.

The more limited Canadian evidence yields results similar to those reported for the United States. Morissette, Zhang, and Frenette (2007) focus on displaced workers aged 25–49 with at least five years of job tenure. They find substantial and long-lasting earnings losses from firm closures and mass layoffs. As in the Jacobson, LaLonde, and Sullivan (1993) Pennsylvania study, earnings start to decline before displacement. As expected, there is a sharp decline in earnings at displacement. A particularly noteworthy finding, similar to that observed in the Jacobson, LaLonde, and Sullivan study, is the modest subsequent earnings recovery. Five years after displacement, earnings losses among high-seniority displaced workers are 25 per cent to 35 per cent for men and 35 per cent for women.

These and other studies of displaced workers may understate earnings losses. One reason for possible understatement is that most studies compare earnings prior to displacement to earnings in the new job among those who obtain re-employment within the period covered by the data. However, those who are not re-employed by the survey date may do even worse than their counterparts who obtain a new job. In addition, most studies compare post-displacement to pre-displacement earnings. However, as noted in both the Jacobson, LaLonde, and Sullivan (1993) and Morissette, Zhang, and Frenette (2007) studies, pre-displacement earnings may underestimate “normal earnings.” In particular, the event that leads to displacement shows up in declining earnings up to three years prior to displacement.

At the same time, earnings losses may be overstated if downsizing firms selectively lay off the least productive employees (Gibbons and Katz 1991). This type of “layoffs and lemons” behaviour does not, however, apply to plant shutdowns, and is unlikely to apply to mass layoffs. Both are important sources of displacement.

What explains the large earnings losses that persist for many years after permanent job loss? A common explanation involves loss of firm-specific or industry-specific human capital. Evidence supporting this view includes studies by Jacobson, LaLonde, and Sullivan (1993) and Neal (1995), which find that those who change industries after job loss suffer much greater losses. Another explanation is the presence of internal labour markets and wage profiles that depend on seniority. For a variety of reasons, employers and employees may prefer wage structures such that workers earn less than their value to the firm early in their career and more than their value to the firm later in their career. This type of behaviour produces a wage profile that increases with tenure with the firm—indeed, one that increases with seniority more rapidly than does worker productivity. Employees with substantial tenure who permanently lose their jobs thus lose this “premium” (wages in excess of productivity) when they re-enter the job market and become re-employed at wages that more closely reflect their productivity. An additional factor is that some displaced workers may have been earning “economic rents” and cannot be expected, on average, to be able to find new jobs that also pay wages in excess of worker productivity. For example, Kuhn and Sweetman (1998) find that earnings losses are larger for workers who lose jobs in the union sector and become re-employed in the non-union sector, compared with those who make a transition from the non-union to union sector or who remain in the union sector.

The pattern of earnings losses with prior job tenure accords well with explanations built on loss of employer-specific and/or industry-specific human capital, as well as those based on internal labour markets with seniority-based wage profiles. For example, Jacobson, LaLonde, and Sullivan (2005) analyze the earnings of displaced workers in Washington State according to three categories of prior job tenure: 6 to 11 quarters, 12 to 23 quarters, and 6 or more years. Prior to displacement, the high-seniority category (6 or more years) earned approximately double that of the low-seniority category, and about 50 per cent more than the middle-seniority group (12 to 23 quarters). After displacement, the average earnings of the three groups are almost identical. This common earnings pattern persists for four years after job loss, with the result that the group with most prior job tenure has suffered the largest earnings losses, and the group with the least prior job tenure the smallest earnings losses.

Although age and previous job tenure are related, age also appears to play an independent role in the magnitudes of earnings losses. In particular, older displaced workers are less likely to become re-employed within the time period covered by the data. For example, recent Canadian data indicate that the proportions of male displaced workers who are re-employed within five years of job loss are 83 per cent for men aged 25–44 but only 64 per cent for men aged 45–59 (Expert Panel on Older Workers 2008).

Permanent job loss has additional negative consequences, which are only briefly noted here despite their economic and social significance. A recent U.S. study by Sullivan and von Wachter (2007) concludes that displacement leads to a 15 per cent to 20 per cent increase in death rates, equivalent to a reduction in life expectancy of about 1.5 years for someone displaced at age 40. There are also adverse consequences for the families of displaced workers. Parental job loss reduces the likelihood that teenaged children will pursue post-secondary education (Coelli 2005). Children whose fathers were displaced have, as adults, lower annual earnings (about 9 per cent) and have higher incidence of employment insurance (EI) and social assistance receipt (Oreopoulos, Page, and Huff Stevens 2008).

In summary, the research on the consequences of displacement yields a number of salient and consistent findings:

- Earnings losses from permanent job loss are very large, especially for long-tenure workers.
- A major part of the earnings loss arises not from post-displacement unemployment, but from re-employment at wages substantially below their pre-displacement levels.
- These substantial losses appear to be long-lasting (perhaps permanent).
- Losses are similar in magnitude to other catastrophic events, e.g., having one's house burn down (LaLonde 2007).

In contrast, most unemployed workers become re-employed relatively quickly and do not suffer permanent earnings losses.

These findings have important policy implications. As noted previously, private insurance markets for losses associated with displacement do not exist. In Canada, publicly provided insurance (Employment Insurance Act, Part I) does not provide adequate insurance against the risk of permanent job loss. In particular, EI does not take into account the fact that earnings losses are much larger for long-tenure displaced workers. EI benefits depend only on employment in 12 months prior to displacement, so the EI program treats job losers with long tenure and short tenure in an equivalent fashion. Furthermore, EI covers only a portion of the lost income during the unemployment period, whereas a substantial portion of the earnings loss suffered by long-tenure displaced workers is associated with permanently lower earnings in subsequent jobs. In many ways, the current EI program is similar to having automobile insurance that pays the same amount for "fender-benders" as for vehicles that are totalled.

## **POLICIES TO DEAL WITH DISPLACEMENT**

A variety of policies to deal with displacement and its consequences have been proposed or implemented. I briefly discuss these here, under two headings: (i) *ex ante* (preventive) policies and (ii) *ex post* (adjustment assistance) policies.

### **Ex ante policies**

Policies that promote education and skill development may, in addition to their well-known benefits in other dimensions, also enhance the adaptability of the workforce to changing circumstances. A variety of evidence from case studies and more broadly based empirical research suggests that education improves the ability of individuals to adjust to changing circumstances (Schultz 1975). In the context of displacement, education is a strong predictor of the probability of re-employment after job loss. Displaced workers with more education have higher probabilities of re-employment and are more likely to be re-employed full-time (Farber 2005). Furthermore, this relationship appears to reflect underlying causal forces rather than simply being a correlation between education and re-employment rates: Riddell and Song (2007) conclude that education has a causal impact on re-employment. This recent evidence is consistent with the view that investment in skills can enhance adaptability.

Ex ante policies that focus more directly on workforce adjustments include those that restrict a firm's ability to lay off workers or that require advance notice of layoffs and/or severance pay. In Canada, such restrictions arise from both the common law and from employment standards legislation in the federal and provincial jurisdictions (Kuhn 2000). According to the common law, most labour contracts can be discontinued either by firing workers for cause or providing a reasonable amount of notice. All Canadian jurisdictions have minimum mandatory notice provisions for permanent layoffs in their employment standards laws. Most jurisdictions also require greater notice for mass terminations and plant shutdowns. Jurisdictions with mass layoff provisions also often require the employer to establish and finance a workforce adjustment committee, with employee representation, to develop an adjustment program for displaced workers and to help workers find new job opportunities. Severance pay is also required in some jurisdictions.

A limited amount of empirical evidence is available on the impacts of Canadian employment protection and advance notice provisions. Studies by Jones and Kuhn (1995) and Friesen (1997) conclude that advance warning of mass layoffs and plant shutdowns can have positive benefits. However, the impacts appear to accrue primarily for those who are capable of finding a new job quickly. For these workers, what would, in the absence of advance warning laws, be a short unemployment spell is instead replaced by an even briefer period of unemployment or an immediate job switch. For those who, in the absence of advance warning laws, are expected to have long unemployment durations, the presence of advance notice appears to have little effect (Jones and Kuhn 1995). There is also no Canadian evidence that advance warning reduces the earnings loss associated with lower wages in the post-displacement job compared to the previous job.

### **Ex post policies**

Ex post adjustment assistance policies include a variety of interventions designed to help displaced workers cope with the trauma of losing one's job and the associated reduced income and, importantly, to find suitable employment as rapidly as possible. These "active labour market policies" range from brief and inexpensive interventions like job search assistance to more intensive interventions such as retraining or assistance with relocating to regions with greater employment opportunities. Although Canadian evidence on the impacts of active labour market policies is limited, there is a substantial body of international evidence on these policies.<sup>1</sup> The best evidence comes from the United States, which has a strong commitment to undertaking rigorous evaluations of labour market programs. The U.S. experience suggests that active labour market policies focused on displaced workers have a better track record than those for disadvantaged workers (U.S. Department of Labor 1995; LaLonde 1995). Displaced workers, especially those who have considerable tenure in the pre-displacement job, often require relatively intensive interventions, such as retraining or mobility assistance. Although training programs for disadvantaged adults have a mixed and generally unimpressive record, Jacobson, LaLonde, and Sullivan (2005) present evidence that community college programs for retraining displaced workers can have positive impacts. This study found that the equivalent of one year of community college course work raises earnings of male displaced workers by 9 per cent and female displaced workers by 13 per cent. Jacobson, LaLonde, and Sullivan also concluded that the type of training matters: estimated impacts were larger for those taking more quantitative vocational and academic courses. Eberts (2005) provides a useful review of the U.S.

1. See U.S. Department of Labor (1995); Heckman, LaLonde, and Smith (1999); and OECD (2006) for surveys of the international evidence.

experience with programs and services for displaced workers, including an assessment of what has been learned from recent innovations in publicly provided programs and services.

The Canadian experience with adjustment assistance policies is reviewed in the report of the panel on older workers (Expert Panel on Older Workers 2008). Canadian adjustment assistance policies have typically been limited in their duration and have focused on specific groups of workers or specific industries, e.g., the Program for Older Worker Adjustment (POWA), The Atlantic Groundfish Strategy (TAGS), and the Pacific Fisheries Adjustment and Restructuring Program (PFAR). Evaluations of these programs (which are generally of poor quality) are not encouraging: results range from disappointing to dismal.

Canada should improve both the design of its programs for displaced workers and the manner by which the impacts of these programs are evaluated. The EI program forms the core of adjustment assistance, and improvements should begin there. As noted previously, a major flaw in the current EI program is that it does not provide benefits that reflect the cost of job loss. Long-tenure displaced workers, who lose the most from permanent job loss, are not treated any differently than displaced workers who have been employed for brief periods of time. The Expert Panel on Older Workers recommended enhanced benefits for displaced workers with substantial prior work experience and limited prior EI receipt. As guidance, they suggested that enhanced benefits be available to displaced workers who had been employed for at least ten years and had not received EI benefits during the previous five years. Enhanced benefits could take the form of higher benefit levels, longer benefit durations, or access to funds for training or mobility assistance. By aligning benefits more closely with magnitude of loss, this change would improve the social insurance dimension of Canada's EI program.

Design of this enhanced benefits feature requires careful assessment to ensure that the social benefits arising from improved insurance are maximized, while the social costs resulting from any adverse side effects are minimized. Some lessons can be drawn from the European experience. Many European countries have unemployment insurance (UI) benefits and durations that depend on prior work experience (OECD 2007). In Austria, for example, those with less than three years of prior work experience (possibly with several employers) are entitled to 20 weeks of benefits, whereas those with three or more years of previous work experience are entitled to 30 weeks of benefits. In addition, employers that permanently lay off workers with three or more years of job tenure with that firm are required to make severance payments that equal approximately two months' salary. By exploiting these sharp discontinuities at three years of previous work experience and three years of tenure with the employer, Card, Chetty, and Weber (2007) obtain convincing evidence that these features have noteworthy effects on the duration of unemployment following displacement. In particular, entitlement to 30 weeks of benefits reduces the job finding rate by 5 per cent to 9 per cent, compared to workers displaced with less than three years of previous work experience. Similarly, the severance payment associated with reaching the 3-year job tenure threshold reduces the job finding rate by 8 per cent to 12 per cent. Interestingly, they also find that longer unemployment spells do not result in improved matches in the subsequent job, using both wages and the duration of the re-employment job as measures of job-match quality. Thus, enhanced EI benefits for long-tenure displaced workers may have adverse side effects, and the social costs of any such effects need to be balanced against the social benefits from improved insurance against the risk of permanent job loss.

Enhanced EI benefits for long-tenure displaced workers may improve the insurance value of the EI program by reducing the income loss during the post-displacement unemployment spell. However, enhanced EI benefits do not help insure against the most significant income loss associated with job loss among long-tenure workers—the lower earnings in the post-displacement job compared to the pre-displacement job. As discussed previously, these reduced earnings continue for many years after permanent job loss, and are particularly pronounced for workers with substantial tenure in their previous job. To address this source of income loss, some scholars (e.g., Kletzer and Rosen 2006; Kling 2006; LaLonde 2007) have recommended wage (loss) insurance. Such wage-loss insurance would supplement the employment income of the displaced worker in the post-displacement job. An example of wage-loss insurance would be an earnings supplement for up to three years in the post-displacement job, equal to 50 per cent of difference in earnings between pre- and post-displacement jobs. This type of earnings supplement recognizes that, for long-tenure displaced workers, most of the income loss occurs after re-employment rather than during the post-displacement unemployment spell. In contrast, for other unemployed workers, the income loss occurs during the unemployment spell.

Wage-loss insurance is an interesting policy proposal that has some attractive features. It deserves careful assessment. I support the recommendation of the Expert Panel on Older Workers that Canada undertake a rigorous demonstration project (preferably one with random assignment to program and control groups) to assess the impacts of wage insurance.

## **CONCLUSION**

Canada's economy performed reasonably well in the postwar period, achieving high rates of employment growth and advances in living standards (Riddell 1999). A key contributor to this good performance has been a dynamic labour market that shifts workers into sectors where they are needed and out of declining sectors without lengthy intervening periods of unemployment. Canadians as a whole benefit from this reallocation process of adjusting to changing circumstances and opportunities. However, the costs of adjustment are unevenly distributed in the population.

The benefits to society of adjusting to change was a theme throughout David Dodge's distinguished career, from his central role in the federal government Task Force on Labour Market Development in the early 1980s to his experience as Governor of the Bank of Canada. This paper deals with displaced workers, those who permanently lose their jobs because of changing circumstances. My analysis examines what we know about permanent job loss and its consequences and assesses policies designed to assist workers adversely affected by economic change.

Despite the importance of displacement and its consequences, it is a subject that is significantly under-researched in Canada. The main reason for this is the limited data that are available on the extent and consequences of permanent job loss.

A central finding of empirical research on displacement is that some workers suffer much more from losing their jobs than do others. Those who have held their jobs for an extended period of time experience substantial earnings losses, while those who have been employed for relatively brief periods of time experience small losses. Long-tenure displaced workers experience earnings losses due to reduced income during the period of

unemployment following displacement and because many become re-employed at significantly lower wages than they received in their pre-displacement jobs. Our existing social insurance programs, particularly EI, do not take into account these salient features of the consequences of job loss.

I conclude with a set of modest proposals for Canada. They are intended to address both the research and knowledge gaps relating to displacement and its consequences, as well as the policy gaps in addressing this important problem. To address the gaps in research and knowledge, Canada should follow the United States and carry out a regular Displaced Workers Survey—for example, one undertaken every other year and covering permanent job loss that occurred during the previous three years. This survey could be carried out as a supplement to the Labour Force Survey and, therefore, need not be expensive. The U.S. experience with a regular Displaced Workers Survey clearly indicates its value in providing timely information on the incidence of permanent job loss, the duration of unemployment following displacement, and the consequences for individuals and their families of such events. The U.S. survey has also been an important source of data for research on the causes and consequences of permanent job loss. In a country like Canada, with significant exposure to external and internal economic shocks, the case for such a survey seems to be obvious. Indeed, it is shocking that we do not devote sufficient public resources to gathering information on the extent and consequences of permanent job loss, especially since the costs of doing so would be relatively modest.

There is also a strong case for enhanced EI benefits for long-tenure displaced workers and, more generally, a case for altering the parameters of the EI program to recognize that such workers suffer much more from job loss than do other unemployed workers. I would follow the recommendation of the Expert Panel and restrict the receipt or magnitude of these enhanced benefits to long-tenure displaced workers with little or no previous EI receipt. These enhanced benefits should also be designed to minimize any adverse effects on the duration and intensity of job search. For similar reasons, the benefits and support measures provided under EI, Part II should focus more on long-tenure displaced workers—especially relatively intensive interventions such as retraining and mobility assistance.

Finally, since most loss from displacement occurs after re-employment, wage insurance seems promising. Canada should carefully assess the advantages and disadvantages of such a policy. The best way to do so would be to carry out a rigorous demonstration project, preferably using random assignment to program and control groups.

## REFERENCES

- Baldwin, J., T. Dunne, and J. Haltiwanger. 1998. "A Comparison of Job Creation and Job Destruction in Canada and the United States." *Review of Economics and Statistics* 80 (3): 347-56.
- Card, D., R. Chetty, and A. Weber. 2007. "Cash-on-Hand and Competing Models of Intertemporal Behavior: New Evidence from the Labor Market." *Quarterly Journal of Economics* 122 (4): 1511-560.
- Coelli, M. B. 2005. "Leading Determinants of Education Attainment." PhD thesis. Department of Economics, University of British Columbia.

- Davis, S. J. and J. Haltiwanger. 1999. "Gross Job Flows." In *Handbook of Labor Economics*, edited by O. Ashenfelter and D. Card, 2711-805. Amsterdam: Elsevier.
- Eberts, R. W. 2005. "After the Doors Close: Assisting Laid-Off Workers to Find Jobs." Federal Reserve Bank of Chicago *Economic Perspectives* 29 (2): 75-85.
- Employment and Immigration Canada. 1981. "Labour Market Development in the 1980s: A Report of the Task Force on Labour Market Development prepared for the Minister of Employment and Immigration." Ottawa: Employment and Immigration Canada.
- Expert Panel on Older Workers. 2008. "Supporting and Engaging Older Workers in the New Economy." Ottawa: Expert Panel on Older Workers. Available at: <[http://www.hrsdc.gc.ca/eng/publications\\_resources/lmp/eow/2008/older\\_workers\\_2008.pdf](http://www.hrsdc.gc.ca/eng/publications_resources/lmp/eow/2008/older_workers_2008.pdf)>.
- Farber, H. S. 1999. "Mobility and Stability: The Dynamics of Job Change in Labor Markets." In *Handbook of Labor Economics*, edited by O. Ashenfelter and D. Card, 2439-484. Amsterdam: Elsevier.
- . 2005. "What Do We Know about Job Loss in the United States? Evidence from the Displaced Workers Survey, 1984-2004." *Economic Perspectives* 29 (2): 13-28.
- Friesen, J. 1997. "Mandatory Notice and the Jobless Durations of Displaced Workers." *Industrial and Labor Relations Review* 50 (4): 652-66.
- Gibbons, R. and L. F. Katz. 1991. "Layoffs and Lemons." *Journal of Labor Economics* 9 (4): 351-80.
- Green, D. A. and W. C. Riddell. 1993. "The Economic Effects of Unemployment Insurance in Canada: An Empirical Analysis of UI Disentitlement." *Journal of Labor Economics* 11 (1): S96-S147.
- Gunderson, M. 1986. "Alternative Mechanisms for Dealing with Permanent Layoffs, Dismissals and Plant Closings." In *Adapting to Change: Labour Market Adjustment in Canada*, edited by W. C. Riddell, 111-62. Toronto: Royal Commission on the Economic Union and Development Prospects for Canada and University of Toronto Press.
- Heckman, J. J., R. J. LaLonde, and J. A. Smith. 1999. "The Economics and Econometrics of Active Labor Market Programs." Chapter 31 in *Handbook of Labor Economics*, edited by O. Ashenfelter and D. Card. Amsterdam: Elsevier.
- Jacobson, L. S., R. J. LaLonde, and D. G. Sullivan. 1993. "Earnings Losses of Displaced Workers." *American Economic Review* 83 (4): 685-709.
- . 2005. "Is Retraining Displaced Workers a Good Investment?" Federal Reserve Bank of Chicago *Economic Perspectives* 29 (2): 47-66.
- Jones, S. R. G. and P. Kuhn. 1995. "Mandatory Notice and Unemployment." *Journal of Labor Economics* 13 (4): 599-622.

- Kletzer, L. G. and H. F. Rosen. 2006. "Reforming Unemployment Insurance for the Twenty-First Century Workforce." Brookings Institution, Hamilton Project Discussion Paper No. 2006-06.
- Kling, J. R. 2006. "Fundamental Restructuring of Unemployment Insurance: Wage-Loss Insurance and Temporary Earnings Replacement Accounts." Brookings Institution, Hamilton Project Discussion Paper No. 2006-05.
- Kuhn, P. 2000. "Canada and the OECD Hypothesis: Does Labour Market Inflexibility Explain Canada's High Level of Unemployment?" In *Adapting Public Policy to a Labour Market in Transition*, edited by W. C. Riddell and F. St-Hilaire. Montréal: Institute for Research on Public Policy.
- Kuhn, P. and A. Sweetman. 1998. "Wage Loss Following Displacement: The Role of Union Coverage." *Industrial and Labor Relations Review* 51 (3): 384-400.
- LaLonde, R. J. 1995. "The Promise of Public Sector-Sponsored Training Programs." *Journal of Economic Perspectives* 9 (2): 149-68.
- . 2007. *The Case for Wage Insurance*. Council on Foreign Relations, Council Special Report No. 30. New York: Council on Foreign Relations.
- Morissette, R., X. Zhang, and M. Frenette. 2007. "Earnings Losses of Displaced Workers: Canadian Evidence from a Large Administrative Database on Firm Closures and Mass Layoffs." Statistics Canada Analytical Studies Branch Research Paper No. 291.
- Neal, D. 1995. "Industry-Specific Human Capital: Evidence from Displaced Workers." *Journal of Labor Economics* 13 (4): 653-77.
- Oreopoulos, P., M. Page, and A. Huff Stevens. 2008. "The Intergenerational Effects of Worker Displacement." *Journal of Labor Economics* 26 (3): 455-83.
- Organisation for Economic Co-operation and Development (OECD). 2006. "Boosting Jobs and Incomes." *OECD Employment Outlook*. Paris: OECD.
- . 2007. *Benefits and Wages 2007*. Paris: OECD.
- Riddell, W. C. 1986. *Adapting to Change: Labour Market Adjustments in Canada*. Toronto: Royal Commission on the Economic Union and Development Prospects for Canada and University of Toronto Press.
- . 1999. "Canadian Labour Market Performance in International Perspective." *Canadian Journal of Economics* 32 (5): 1097-134.
- Riddell, W. C. and X. Song. 2007. "The Causal Effects of Education on Adaptability to Employment Shocks: Evidence from the Canadian Labour Market." Canadian Labour Market and Skills Researcher Network (CLSRN) Working Paper No. 7.
- Schultz, T. 1975. "The Value of the Ability to Deal with Disequilibria." *Journal of Economic Literature* 13 (3): 827-46.

- Schumpeter, J. A. 1942. *Capitalism, Socialism, and Democracy*. New York: Harper & Brothers.
- Sullivan, D. and T. von Wachter. 2007. "Mortality, Mass-Layoffs, and Career Outcomes: An Analysis Using Administrative Data." National Bureau of Economic Research Working Paper No. 13626.
- Trebilcock, M. J. 1986. *The Political Economy of Economic Adjustment*. Toronto: Royal Commission on the Economic Union and Development Prospects for Canada and University of Toronto Press.
- U.S. Department of Labor. 1995. *What's Working (and What's Not): A Summary of Research on the Economic Impacts of Employment and Training Programs*. Washington: U.S. Department of Labor.

