

Distributional Outcomes in Canada in the 1990s

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247

INTRODUCTION

This article examines the Canadian labour market during the 1990s and contrasts it to prior decades, with a special focus on distributional outcomes. It discusses changes in relative earnings between groups, changes in relative labour market outcomes of women and older workers, changes in earnings and income inequality and changes in low income.

The labour market in the 1990s is thought to have differed in many ways from earlier decades. Such differences can influence income levels and distributions and the relative earnings of various groups. For example, the “new economy” spurred on by the computer-technology revolution and expanding international trade has created new opportunities for many people, but also may have left behind less-skilled workers. New employment relationships have become increasingly common, as reflected in the growing number of self-employed workers. The very rapid growth in the educational attainment of workers, particularly among younger women and older

workers, has certainly influenced relative earnings, and likely resulted in firms significantly altering their production processes. This in turn influences the relative wages of the less-skilled and highly skilled workers through shifts in labour demand. Changes in public institutions and transfer programs have no doubt affected the incomes of less well-off Canadians. Finally, all these factors have occurred in the context of slow macroeconomic growth, at least for the first half of the decade.

This article asks two questions: How has this environment affected the relative pay of various workers and the distribution of income among families? What groups of workers have gained and lost as a result of these changing patterns of work? Our primary objective is to present results on the distribution of income in Canada, which we hope will serve as a useful introduction to this subject. This article is descriptive in nature and draws on previously reported findings from many different sources.

The article focuses on four topics: (1) earnings and income inequality, (2) the relative earnings of the young and old and the

Andrew Heisz, Andrew Jackson and Garnett Picot

more and less educated, (3) the changing relative position of men and women, and (4) changes in low income in Canada during the 1990s.

Earnings inequality rose modestly for men during the 1990s (compared to faster increases in the 1980s) but changed little for women. For workers as a whole there is little evidence of rising earnings inequality, at least to 1997. At the family level, however, earnings inequality did rise, driven largely by changes in family formation patterns.

248 Through the middle 1990s inequality in family disposable income (after taxes and transfers) remained stable, as it had in the previous few decades in Canada. Generally speaking, the tax/transfer system prevented rising family earnings inequality from translating into rising family disposable income inequality, although there is evidence that family income inequality started to rise in the later 1990s.

However, aggregate inequality trends often mask significant changes in relative wages. Even within the context of little change in earnings inequality, there can be significant movements in the relative wages of various groups, movements that often offset one another when added together. During the 1990s there was a continued decline in real wages among young men overall, but wages for young university-educated men and women rose in the last years of the decade. The position of women has continued to improve in terms of labour-market outcomes and wages relative to that of men.

Low-income trends are significantly influenced by the business cycle, generally rising in periods of recession and falling in periods of expansion. During the 1990s, however, as weak expansion took hold

throughout the 1993-96 period, the low-income rate did not fall as expected but continued to rise. The result was that during the latter half of the 1990s in particular, both the low-income rate (the share of the population in low income) and the low-income gap (the depth of low income) were higher than they had been in comparable periods during the 1980s, at least among the non-elderly population.

WHY DID RELATIVE INCOMES CHANGE IN THE 1990S?

Following are five broad factors which help to explain why incomes and work arrangements among Canadians may have changed during the 1990s.

Changes in Trade and Technology

Shifts in labour demand associated with trade and technology are thought to have resulted in considerable structural change in the economy. At the core of this change, workers with more skills or experience are thought to be in greater demand, while other workers are left behind. All other factors being equal, this would result in increasing relative wages for the more highly skilled. If the supply of highly skilled workers rose alongside demand, the wage impact of increased demand could be offset by the increased supply. The shifts in relative demand for the more or less highly skilled could potentially affect either relative wages or employment levels. In a country where wages are comparatively rigid, the impact of technological change may result in declining relative employ-

ment for less skilled workers rather than changing relative wages. This is sometimes called the “skill-biased technological change hypothesis,” since technologies are thought to favour the outcomes of skilled over unskilled workers.

New Employment Arrangements

At the same time, many firms changed the way they managed their workforces. “Downsizing” and “contracting out” became buzzwords of the 1990s. Self-employment, which by its nature is a less stable form of employment than traditional “paid” work, grew substantially as a fraction of total employment in Canada.

These new employment arrangements may have affected labour-market performance. Betcherman and Lowe (1997) argue that six threads run through employers’ search for a new model of management: global integration, technological change, innovations in work organization, business rationalization, the pursuit of high performance workplaces and new forms of labour relations. We know little about the extent to which most of these phenomena apply to Canadian firms, let alone their impact on labour-market outcomes or the incomes of Canadians. Osberg et al. (1994) provide interesting case study analyses describing the effect of new management principles on relationships within some workplaces in Nova Scotia.

The Rapidly Increasing Human Capital of Canadian Workers

While the above factors reflect changes in labour demand, changes in labour supply were perhaps equally dramatic. Most notably,

the supply of highly educated workers continued to increase at a remarkable rate in the 1990s, spurred on by the expansion of the post-secondary education system begun in the 1960s and the retirement of less-educated cohorts of workers (Riddell 1995). Within the context of a general rise in the educational attainment of workers, there has also been a shift in relative education levels. In particular, the educational attainment of older workers and younger women has been rising faster than that of young men. Given the strong association between education and earnings, shifts in relative educational attainment will contribute to shifts in relative wages. The experience levels of Canadian workers also rose during the 1990s, as the workforce aged due to a maturation of the “baby boom” generation. Because of rising education levels and experience, the human capital embedded in Canadian workers rose significantly. Finally, historical increases in women’s participation rates and their rapidly rising educational attainment reflect important social changes in Canada that have the potential to affect the supply of skilled workers, the relative earnings of men and women, and the income of families.

Beyond the direct impact of a more educated, experienced workforce on relative and real earnings, Acemoglu (1998) and Beaudry and Green (1999) argue that firms invested more in technology in order to take advantage of the rising educational attainment of workers. According to this hypothesis, the increased educational attainment of the workforce has encouraged firms to alter their production methods to make use of the higher skills. A strong investment in technology tends to push down demand for unskilled workers. This argument stands in

Andrew Heisz, Andrew Jackson
and Garnett Picot

contrast to the skill-biased technological change argument, wherein it is technology that is the prime mover.

Changes in the Institutional Landscape

The institutional landscape was also altered during the 1990s. Substantial revisions to Employment Insurance (EI) could have influenced structural unemployment, employment and the income of low-income Canadians relative to earlier decades. Major revisions to the social assistance system in many provinces in the late-1980s (expansion) and mid-1990s (contraction) and the introduction of the child tax benefit system by the federal government also could have affected incomes and employment among low-income Canadians. Minimum wages have changed little since the early 1980s, but the unionization rate has fallen (Sargent 2000). Fortin and Lemieux (1997) found that deregulation, declining real minimum wages and falling unionization were important determinants of rising wage inequality in the United States.

Aggregate Demand During the 1990s

Finally, all these changes took place within a national context of weak aggregate demand, which characterized the economy for most of the decade. Real GDP grew almost 3 percent per year over the 1980s, but at only 1.8 percent per year from 1990 to 1998. Associated with weak demand was weak employment growth rooted in stagnant hiring. The final years of the decade were years of strong growth, however, with the economy posting 4.5 and 4.7 percent real growth rates in 1999 and 2000, respectively. Canada's per-

formance in 2000 was impressive compared with that of the other G7 nations, with only the United States posting faster expansion (Cross 2001). Growing aggregate demand translated into growing employment, as the unemployment rate fell to 6.8 percent, its lowest annual level since the current labour-force survey was begun in 1976. Mishel et al. (2001) argue that persistently low unemployment was a major factor behind faster wage and income growth in the United States in the late 1990s. Persistently low unemployment, it is argued, helped raise growth in productivity and gave workers an opportunity to shift away from contingent jobs. Changes in aggregate demand over a business cycle influence both relative and real wages. Earnings inequality and low-income rates tend to increase in economic contractions and fall in expansions. This is an important consideration when studying distributional trends. In attempting to determine if there are structural (i.e., longer-term and more permanent) changes in inequality and relative earnings, it is necessary to abstract from cyclical changes in aggregate demand and its effect on inequality.

CHANGES IN INCOME AND EARNINGS INEQUALITY

Few labour-market issues have evoked as much interest in the past two decades as earnings and income inequality. Differing trends among countries, particularly between Canada and the United States, often lead to confusion regarding Canadian outcomes. Adding to the confusion is the fact that trends may differ according to whether one is referring to individual earnings inequali-

Distributional Outcomes in Canada in the 1990s

ty, inequality in family market earnings, or inequality in family disposable income. This review focuses on all three levels, and contrasts Canadian outcomes with American.

Why focus on all three levels? Inequality of earnings (wages) provides a window on how the labour market is distributing employment earnings among individual workers. It is primarily a reflection of the interaction of labour supply and demand forces, as well as the effect of institutional features of a labour market (e.g., labour legislation, minimum wage levels, social assistance and EI regulations). Inequality of family market earnings simply places individual workers into families, determines family earnings and adds investment earnings. This relates more to the "welfare" of Canadians than individual earnings inequality (which is more of a reflection of events in the labour market), since it is concerned with family outcomes. Finally, inequality of disposable family income is the level at which most analyses concerned with welfare or well-being focus. Social transfer income (e.g., social assistance, public pensions, EI benefits, tax credits) is added to market income, and the distributive effects of taxes are included. This provides a measure of how all monetary income available to Canadian families is distributed. Changes in inequality at this level reflect the distributional outcomes driven by labour-market forces, government transfer and taxation policies, and social forces affecting family formation.

Earnings inequality rose in a number of countries, including Canada, the United States and the United Kingdom, between the 1970s and 1980s. There was a substantial fall in the earnings of lower-paid workers, particularly males, while the earnings of

higher-paid workers either remained stable or increased (Beach and Slotsve 1996; Morissette et al. 1995). The Gini coefficient is a well-known summary measure of inequality. This measure takes on values between 0 and 1, a higher value indicating that earnings inequality is greater, and the variation in earnings among workers has increased. Earnings inequality tends to rise in recessions and decline in economic expansions, and hence when longer-term trends are being sought, the years being considered should be in the same part of the business cycle (or the cyclical variation removed from the series). In Canada, the Gini for individual employment earnings among men rose from 0.351 in 1974 to 0.392 in 1985 (up 11.7 percent), then to 0.402 in 1995 (up 2.6 percent) (Table 1). Among women the changes were less significant, up 5.4 percent between 1974 and 1985 and steady between 1985 and 1995. With the improving economy between 1995 and 1997, Ginis fell for men and women. In the United States, in contrast, earnings inequality for men rose steadily, up 9.5 percent between 1974 and 1985 and up 10.4 percent between 1985 and 1995. As in Canada, changes in earnings inequality among women were more muted.

However, with the rise in the share of women working, the increased educational attainment of young women and the continued movement of younger women into traditionally male occupations, women and men are becoming increasingly integrated in the labour market. From a labour-market perspective, the distinctions between them, while still very evident, are declining. Hence it is useful to view earnings inequality from the perspective of all workers, men and

Andrew Heisz, Andrew Jackson
and Garnett Picot

TABLE 1
Inequality in Individual Earnings, Family Market
Earnings and Disposable Family Income
(1992 dollars)

	1974	Gini Coefficient		1997
		1985	1995	
Individual Employment Earnings¹				
Canada				
Men	0.351	0.392	0.402	0.397
Women	0.407	0.426	0.421	0.411
Both	0.406	0.428	0.423	0.418
United States				
Men	0.377	0.413	0.456	0.456
Women	0.425	0.428	0.441	0.439
Both	0.437	0.446	0.467	0.466
Family Market Earnings²				
Canada	0.389	0.402	0.427	0.423
United States	0.421	0.459	0.501	0.502
Family Disposable Income³				
Canada	0.303	0.293	0.291	0.292
United States	0.327	0.355	0.379	0.392

¹ Includes paid-employment and self-employment earnings. Includes persons aged 18–64 who earned more than \$500 during the year.

² Based on economic families. Includes employment earnings and investment income. Family earnings are adult-equivalent adjusted (to account for economies of scale associated with larger families) and the individual is the unit of analysis.

³ Based on economic families. Family income is adult-equivalent adjusted, and each individual is assigned the adult-equivalent adjusted family income. The individual is the unit of analysis. Includes employment and investment earnings, pension, social transfer income and taxes paid.

Source: Wolfson and Murphy (2000).

women combined, and think about a single labour market. In Canada, earnings inequality among all workers rose throughout the 1980s but increased little in the 1990s. The

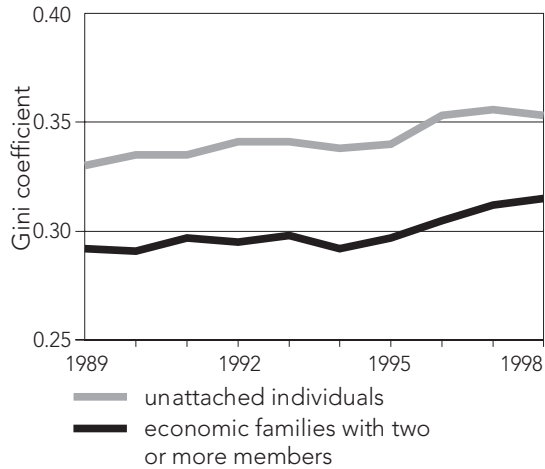
Gini for all workers rose from 0.406 to 0.428 between 1974 and 1985. By 1995, however, a year that is roughly in the same position in the business cycle as 1985, no increase was evident, and by 1997 the Gini had fallen slightly. Although individual earnings inequality rose in the 1980s, there is little evidence of strong increases in Canada in the 1990s (Green 1999; Picot 1998; Wolfson and Murphy 2000). In the United States, on the other hand, earnings inequality continued to increase up to 1997 (Table 1).

However, earnings inequality represents a very broad and general indicator of distributional features of the labour market. No increase in inequality, as was the case in Canada during the 1990s, does not imply that there were no significant redistributional events affecting particular groups or substantial shifts in relative wages. Such movement can be offsetting, so that while there are important changes in the earnings of one group relative to another (say, younger men compared to older men, or women compared to men) overall inequality may not be seen to increase. These and other trends offset each other so that, among all workers, the distribution of employment earnings changed little in the 1990s (Picot 1998).

When earnings are aggregated to the family level, inequality is seen as continuing to increase in the 1990s. Data in Table 1 are adult-equivalent adjusted, so change in the size of families is accounted for and the results include both individuals and families. The Gini for family market earnings inequality rose from 0.389 in 1974 to 0.402 in 1985, and continued to rise to 0.427 in 1995 (and to 0.423 in 1997). From a welfare perspective, this is perhaps a more useful measure of earnings inequality than individual

Distributional Outcomes in Canada in the 1990s

CHART 1
Inequality of Family Disposable Income, Gini
Coefficients



Source: Statistics Canada (2000).

earnings. The differences in outcomes between family and individual earnings inequality primarily reflect changes in marriage and family formation patterns. Increasing numbers of single-parent families (which tend to have low family earnings) and an increasing tendency for “like” to marry “like” (i.e., low earners marrying low earners, high marrying high) resulted in rising inequality in family market earnings, even though inequality in individual earnings did not rise in the 1990s (Zyblock 1997; Wolfson and Murphy 2000).

When one considers only income measures, as we are here (i.e., excluding references to wealth and other aspects of economic well-being), perhaps the best reflection of changes in the relative “economic welfare” of Canadians is inequality in family disposable income. Family disposable income reflects the distribution of total monetary income available to families, including earnings, pensions, social transfers, and other market and non-market sources of income, and also accounts

for the effect of personal income taxes on inequality. There was little change in family income inequality throughout the 1970s, 1980s and most of the 1990s (Wolfson and Murphy 1998). The Gini was 0.303 in 1974 and 0.293 in 1985, and remained at that level, registering 0.292 in 1997 (Table 1). Generally speaking, family income inequality has changed little over the past 30 years. This is because employment earnings losses among lower-income families were largely replaced by increases in social transfer payments (e.g., social assistance, EI benefits, rising public pension income, child tax credit) throughout the 1980s in particular. More recent data do suggest that family income inequality may have increased in 1997-98.

Chart 1 shows Gini coefficients from 1989 through 1998. For families only (excluding unattached individuals), the level of disposable income inequality was steady from 1989 through 1995, at a seven-year average of 0.294, and rose to between 0.312 and 0.315 in 1997-98. Similarly, disposable income inequality among unattached individuals was steady between 1989 and 1995 at an average of 0.337, rising to an average of 0.354 between 1996 and 1998. However, these figures are not adult-equivalent adjusted, and changes in data collection over this period may also have affected these results.¹ More research is needed to better understand the change in family income inequality during the late 1990s. In the United States, on the other hand, family income inequality increased steadily. The Gini rose from 0.421 in 1974 to 0.459 in 1985 and 0.502 by 1997 (Table 1). Although the United States was faced with an increase in earnings inequality similar to that in Canada during the 1980s, the US transfer system did not similarly respond to prevent

Andrew Heisz, Andrew Jackson
and Garnett Picot

increases in inequality (Blank and Hanratty 1993). Much of the common perception in Canada that family income inequality has increased during the past three decades may well stem from these American results.

As noted earlier, inequality and relative wages can change significantly over a business cycle. In particular, during periods of low unemployment and relatively high labour demand late in an economic expansion, the relative position of low-wage workers can improve. Mishel et al. (2001) examined US wage inequality in the 1990s. They found that since 1995 low earners had been closing the gap between them and middle- and working-class workers, while the top earners continued to pull away from the middle. Regarding family income inequality, in the second half of the 1990s the top continued to pull away from the middle and the middle to pull away from the bottom. The authors argue that persistently low unemployment in the late 1990s, coupled with rising minimum wages throughout the decade (after declines in the 1980s), contributed to improvement at the bottom of the distribution, while globalization, deunionization and the shift to low-paying industries kept wages at the top growing. In contrast, distributional changes appeared to be unrelated to technological change. One of their findings is that employers in the high-technology sector have not been the source of growth in employment, nor have they been wage leaders (in terms of growth), in the United States.

CHANGES IN RELATIVE EARNINGS

Changes in inequality are in general related to changes in relative earnings among groups — for example, older compared to

younger workers, more skilled compared to less skilled workers. However, the two concepts are not synonymous. Inequality trends include changes in relative wages not only *among* groups (defined by age, education, gender, etc.) but also *within* groups. And changes in within-group inequality have been a very important, though often ignored, part of the inequality story. Furthermore, aggregate inequality measures, such as the Ginis presented above, can show little change while beneath this apparent stability lies important, and offsetting, movement in the relative wages of various groups. Here, we focus on the changes in the relative earnings of older and younger workers, the more and less educated, and men and women. These are topics that have received considerable attention in recent decades.

Declining Real Earnings Among Young Workers, Particularly Men

Cross-sectional data clearly indicate a widening earnings gap between younger and older workers, particularly among men, in the 1980s and 1990s. This was related mainly to a fall in the real earnings of young male workers (Betcherman and Morissette 1994; Picot 1998). Real weekly earnings of young men (under 35) working full-time fell throughout the recessions of both the early 1980s and the 1990s. Modest increases for 18-24-year-olds during the 1980s expansion, and for both 18-24 year-olds and 25-34-year-olds during the late 1990s expansion, failed to fully offset these declines. Meanwhile, earnings rose for older men (aged 45-64), further widening the wage gap (Chart 2). For women, earnings declined only for the youngest group, the 18-24-year-olds (Chart 3).² Rising relative wages

Distributional Outcomes in Canada in the 1990s

for older men might suggest an increase in returns to experience. Young workers may start out with relatively low earnings but catch up as they age and gain experience. However, this does not appear to be the case. Beaudry and Green (2000*b*) found that when successive cohorts of men were examined as they entered the labour market and gained experience, the age-earnings profile shifted downward for the more recent cohorts. Wages have fallen for young men entering the labour market, and do not catch up to those of earlier cohorts as the men gain experience. This decline in wages was observed for both the more and the less educated. More recent work using data from a longitudinal graduates survey uncovered similar trends for male bachelor graduates, although the magnitude of the decline was not as great over the 1990s (Finnie 2001).

Little is known about the cause of the declining earnings, both real and relative (to earlier cohorts), of young workers, men in particular. Changes in supply do not explain the drop, since the supply of younger workers has been falling, not rising, both in absolute terms and relative to the overall supply of labour; this would tend to increase rather than reduce relative wages.

Proponents of the skill-biased technological change hypothesis draw a connection between increasing returns to skill and changes in the distribution of earnings by age. These influential authors argue that skill-biased technological changes increased the demand for skills of all types and that rising male earnings inequality was consistent with increasing returns to experience or age (Juhn et al. 1993; Katz and Murphy 1992; Bound and Johnston 1992; Davis 1992).

As was the case with the role of technological change explaining the shifts in rel-

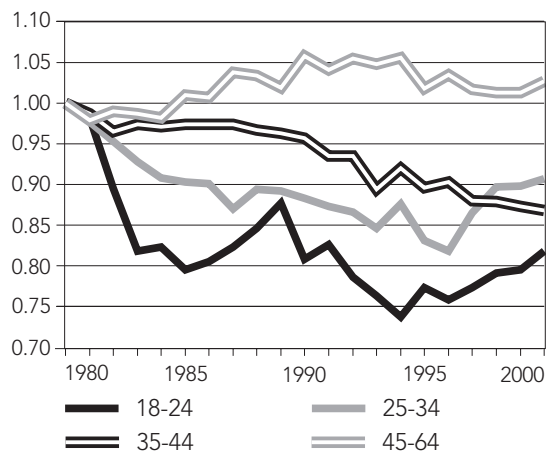
ative earnings by education level, some argue that the role of technological change in explaining falling real wages among young men may also have been overstated. Green (1999) and Sargent (2000) argue that the changes in labour-market outcomes and industrial structure that prevailed in the 1990s are not necessarily the changes one might expect to see in an economy where technological change is driving structural change. Changes in information technology have clearly had an impact on labour-market outcomes for workers, and are part of the evolution of the 1990s labour market. But some important phenomena cannot be explained and are at times inconsistent with the belief that technology is the sole driving force, or perhaps even the primary one.

For example, earnings inequality in Canada has risen and continues to rise among men but has changed little among women (Picot 1998). Green (1999) asks how one can reconcile this fact with technological change, which presumably continued into the 1990s and should have affected women as well as men. Also, as discussed above, wages have declined across cohorts — increasing returns to experience have not taken place within cohorts — so there is little validity to the argument that increasing wage premiums for experience is consistent with the effects of technological change (Beaudry and Green 2000*b*). And if technological change in the shift to the knowledge-based economy is boosting the demand for skilled labour, why have the earnings of young men been falling? It is among the young that computer-related skills are the highest.

In the United States, where the increase in the wage premium for education and experience has been substantial, the increase

Andrew Heisz, Andrew Jackson
and Garnett Picot

CHART 2
Indexed Median Earnings, Full-Time Male
Workers, \$1992



Source: Survey of Consumer Finances 1980-97, Labour Force Survey 1997-2000.

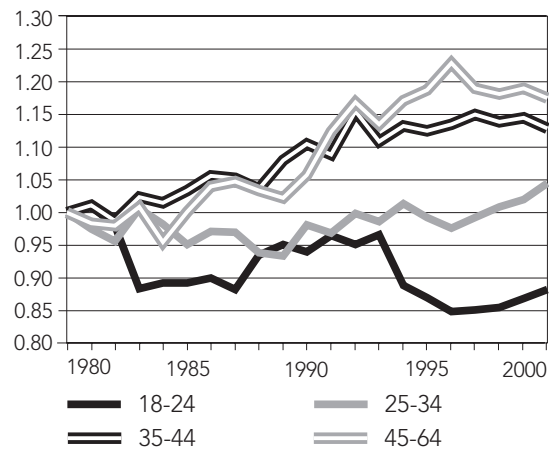
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accounts for only about 45 percent of the overall rise in inequality. The remainder is found within groups of similar educational attainment and experience (Mishel and Bernstein 2001). Hence, even if the rise in the education and experience wage premium were fully driven by technology, much of the overall increase in earnings inequality remains unexplained. However, technology likely is only one of several factors that explain this premium. The others include a drop in the real federal minimum wage over the 1980s and a continued decline in unionization in the United States (Mishel and Bernstein 2001). These and other inconsistencies in the evidence supporting the skill-biased technological change hypothesis have encouraged researchers to look to other explanations such as the impact of changes in institutions, as argued by Fortin and Lemieux (1997).

It may be that changes in labour supply partly explain why young males in particular saw their relative earnings fall. This relates especially to the rising education lev-

els of older workers and younger women. In 1981, 16.4 percent of men aged 25 to 34 held a degree, compared with 11.8 percent of men aged 45 to 54. By 1995, the gap had disappeared, the numbers rising to 22.2 and 22.5 percent, respectively; both age groups had become much more educated, particularly the older group. The gap did not close to the same extent for women, largely because of the dramatic increase in the educational attainment of young women. In 1981, 16.6 percent of younger women held a degree, compared to 6.9 percent of older women. By 1995, the figures had risen to 25.3 (higher than for young men) and 19.2 percent, respectively. The rapid increase among 45 to 54-year-old workers was related to the rapid increase in university enrolment rates during the 1960s and early 1970s: these cohorts were now moving into the 45-54 age group, replacing much less educated cohorts. Kapsalis et al. (1999) conclude that the changing relative educational levels of the young and old accounted for about one quar-

CHART 3
Indexed Median Earnings, Full-Time Female
Workers, \$1992



Source: Survey of Consumer Finances 1980-97, Labour Force Survey 1997-2000.

ter of the widening cross-sectional earnings gap between younger and older workers in the 1980s and, even a larger share during the 1990s. We discuss the declining educational advantage of young men in more detail later in this article.

Wage Premium for Higher Education: No Marked Increase Among Workers Overall, Rising Among Younger Workers

The basic facts suggest that in Canada throughout the 1980s and up to the mid-1990s, there was no overall increase in the returns to education (Morissette et al. 1994; Bar-Or et al. 1993; Beach and Slotsve 1996). This is in contrast to developments in the United States, where the wage premium rose among the more highly educated (Juhn et al. 1993; Freeman and Needels 1991).

There is a developing literature on the role played by technological change in explaining the phenomenon of increasing relative wages for more educated Americans. According to the skill-biased technological change hypothesis, technological change has increased the demand for highly skilled workers. This would result in increased wages for this group relative to the less skilled — unless wages were highly rigid, causing a shift in relative employment, or the supply of educated workers rose sufficiently to offset demand.

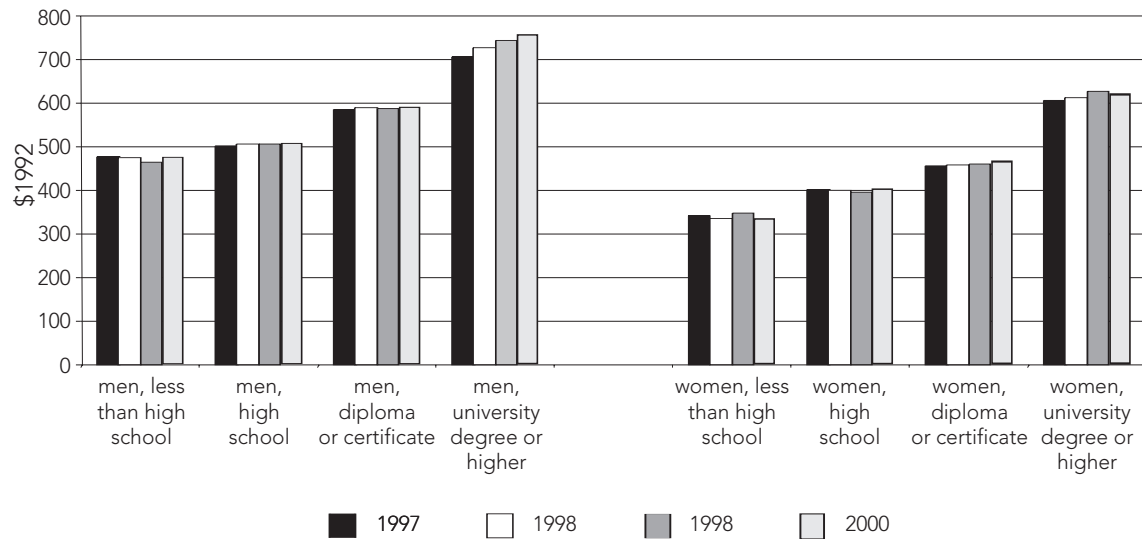
Interestingly, neither relative wages nor employment rates appear to have changed significantly for the more highly educated in Canada among workers as a whole. The employment-to-population ratios of those with a university or high-school education show no relative gain among the educated in terms of the likelihood of being employed,

although for those with less than a high school education there has been a drop in the likelihood of being employed (Sargent 2000). It is not that the relative position of the very highly educated improved, but that the position of the least educated deteriorated. One explanation for this stable pattern of relative earnings in Canada, which is consistent with the skill-biased technological change hypothesis, is that the relative supply of highly educated workers increased at a rate that offset the increase in the relative demand. Increases in supply offset increased demand caused by technological change, resulting in little change in the relative labour-market status of skilled and unskilled workers (Freeman and Needels 1991; Murphy et al. 1998). This is a commonly accepted explanation of the difference between Canada and the United States with respect to changing relative wages among the highly educated. Riddell and Sweetman (2001) examine labour market outcomes of the more and less educated and find substantial evidence consistent with the view that there has been a steady increase in the demand for skills in Canada.

A second hypothesis, recently put forth by Beaudry and Green (1999), argues that the role of technological change in the relative earnings gap in the United States may be overstated. They argue that firms invested more in technology in order to take advantage of the rising educational attainment of workers. According to this model, sometimes called the “endogenous technical choice” hypothesis, the increased educational attainment of the workplace has encouraged firms to adapt their production methods to make use of the higher skills. When firms invest heavily in technology, the demand for unskilled workers tends to go down. In this

Andrew Heisz, Andrew Jackson
and Garnett Picot

CHART 4
Average Real Weekly Wages, 20–34 Age Group, 1997–2000



258

Source: Labour Force Survey.

scenario, it is the rising educational attainment of the workforce that is the principal cause of many of the changes in the relative wages. This possibility is also stressed in theoretical work by Acemoglu (1998).

A third explanation, which has received less attention in Canada, is that institutional factors underlie the changes in real wages. Fortin and Lemieux (1997) found that declining real minimum wages, falling unionization and deregulation were important determinants of rising wage inequality in the United States.

The relative merit of these explanations continues to be debated. Most recently Beaudry and Green (2000a) compared the changing structure of wages in the United States and Germany over the past 20 years. They point out that while the educational composition of the two workforces evolved similarly, the wage premium for education rose more in the United States. The OECD (1994) offers the explanation that because

Germany had relatively rigid wages, skill-biased technological change manifested itself in rising unemployment rates among the less skilled. Beaudry and Green (2000a) offer the alternative hypothesis that the United States under-accumulated physical capital relative to human capital, while Germany invested in a more balanced manner; Germany's more rapid accumulation of physical capital helped ensure sufficient demand and productivity gains for less-skilled workers that kept their wages from declining. In addition, Kuhn (2001) concludes that differences in labour market rigidities between Canada and the US are unlikely to explain much of the Canada-US unemployment rate gap.

In any case, to state that there has been no increase in the education premium for workers in Canada is to obscure relative changes within some groups. Bar-Or et al. (1995) examined wages by education group from 1971 to 1991 using Survey of Consumer Finances data. They found that

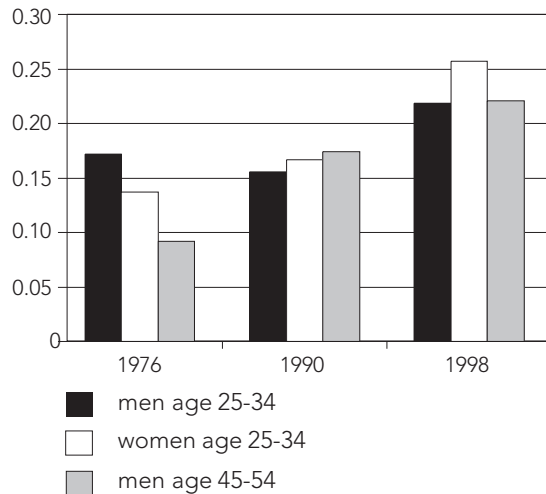
returns to higher education did not rise in the 1980s except among the youngest group (those with experience levels of one to five years), who saw modest increases. Furthermore, recent data from the Labour Force Survey show that the earnings of young university-educated workers, both real and relative to the less educated, have increased in recent years. Chart 4 shows average real weekly wages for the 20-34 age group from 1997 (the first year the LFS collected wage information) to 2000. While other groups stagnated in earnings, young men, in particular those with university degrees, enjoyed small wage increases over these years.

THE SHIFTING RELATIVE LABOUR MARKET POSITION OF MEN AND WOMEN

The changing relative position of women and men is one of the more interesting labour-market phenomena of the past two decades, and one that may not be receiving the attention it is due. The changing position of women has several dimensions. Young women have rapidly increased their education levels relative to men. They are occupying more jobs, and while wages remain lower for women, the gap is closing. Generally speaking, the likelihood of being employed has increased for women and declined for men, while that of being unemployed has increased for men and declined for women. The offsetting trends between the two groups are seen in earnings levels, earnings inequality, the likelihood of being employed (employment-to-population ratios) and the likelihood of being unemployed. We discuss each of these in turn below.

Distributional Outcomes in Canada in the 1990s

CHART 5
Proportion of Population with a University Degree



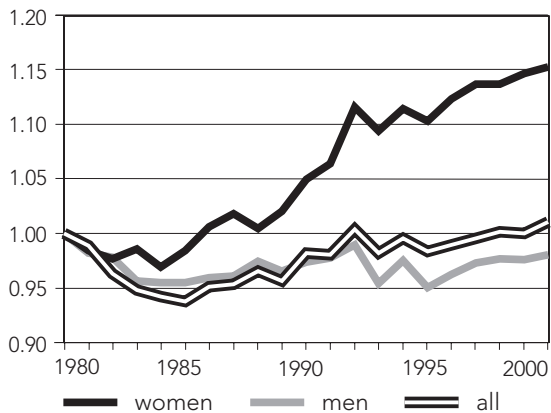
Source: Labour Force Survey.

Educational Attainment Rising Faster for Women

Women have increased their educational attainment, both in real terms and, perhaps more significantly, relative to men. For example, between 1976 and 1998 the fraction of women in the labour force with a university degree increased by 7.7 percent a year, compared to 4.2 percent for men. The result is that the gap between men and women in the share holding a degree disappeared by 1998. In fact, the 1976 educational advantage of younger men (over younger women and older men) had more than disappeared by 1998, at which time a larger share of young (25 to 34-year-old) women than men held a degree (Chart 5). Since human capital is a major determinant of labour-market outcomes, it should not be surprising to learn that the relative earnings, employment and unemployment of women are improving. However, there are likely other factors at play. Picot and Heisz (2000) note that even after controlling for change in human

Andrew Heisz, Andrew Jackson and Garnett Picot

CHART 6
Indexed Median Earnings, Full-Time Workers, \$1992



Source: Survey of Consumer Finances 1980-97, Labour Force Survey 1997-2000.

capital characteristics (education and age), employment and unemployment outcomes deteriorated for men but not for highly educated women and relatively little for other women. And, as will be shown below, even after controlling for broad education and age (experience) levels, women's earnings rose more rapidly than men's in the first half of the 1990s.

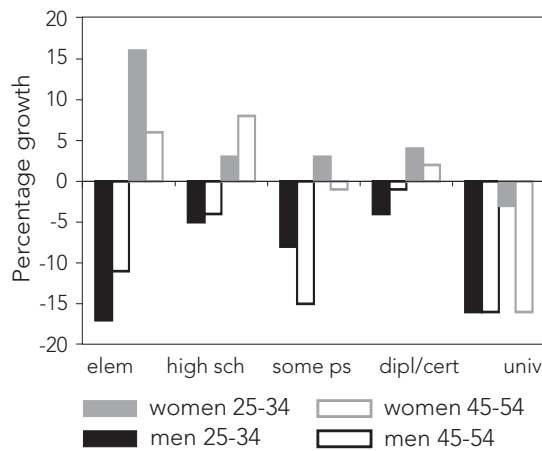
Narrowing of Male-Female Earnings Gap

While aggregate data indicate that women continue to earn less than men, the gap has been narrowing. The ratio of annual earnings of women to men working full-year full-time rose from 58.4 percent in 1967 to 72.5 percent in 1997 (Survey of Consumer Finances data). Annual earnings are not the best indicator of relative wages, however, since they do not fully control for weeks worked in the year or hours worked per week, which are known to be higher for men. Drolet (2000) found that in 1997 the raw hourly wage ratio of women to men was 80 percent, but increased to 89 percent after

controlling for a host of human-capital, productivity-related, and industrial and occupational characteristics.

And over the 1990s, women's aggregate earnings increased much more quickly than men's. The weekly earnings of female full-time workers increased significantly more in the 1990s than in the 1980s, rising 13 percent between 1989 and 2000 (Chart 6). Weekly earnings were stable among comparable male workers. Controlling for age, education, full-time/part-time status and industry produces much the same results. Kapsalis et al. (1999) ran wage equations for men and women (separately) in different age groups and computed expected weekly earnings, controlling for industry, region and full-time/part-time status. During the 1989-95 period, the growth in expected weekly earnings was greater for women than men (except among the university educated) (Chart 7). Basically, men's weekly earnings were declining and women's were rising. Evidence based on annual earnings suggests that this phenomenon is independent of

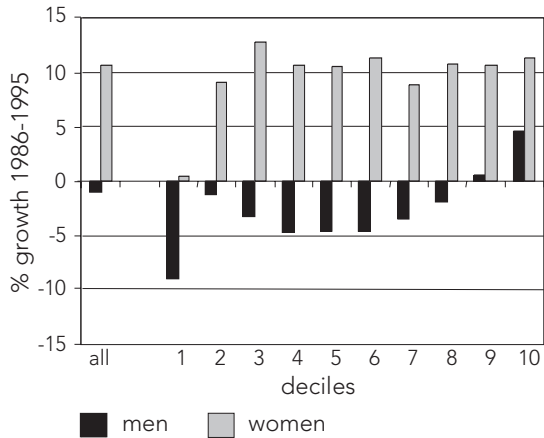
CHART 7
Growth in Average Weekly Earnings, 1989-95



Source: Kapsalis et al. (1999).

Distributional Outcomes in Canada in the 1990s

CHART 8
Growth in Average Annual Real Earnings,
1986–95



Source: Kapsalis et al. (1999).

location in the earnings distribution. The growth in annual earnings of women has far outstripped that of men across the entire earnings distribution. Between 1986 and 1995, two years roughly comparable in terms of position in the business cycle, women's annual earnings rose 10.6 percent and men's fell by 1 percent. Except for women at the very bottom of the earnings distribution (where earnings rose by only 0.4 percent), earnings growth was between 9 and 11 percent. Men's earnings fell across the entire earnings distribution except among those in the top two deciles, where there were earnings gains (Chart 8). There are numerous possible reasons for these phenomena. Women are moving into higher-paid occupations and fields of study at an increasing rate, and such effects would not necessarily be controlled for in the broad type of controls used in the work reported here. The wage gap has been narrowing for male and female graduates, and the higher the education level, the narrower the gap. Finnie and Wannell (1999) found that among the latest cohort of graduates in their study (1990), the male/female wage gap for

doctoral graduates had disappeared, at least during the five years following graduation.

Employment Indicators Improving for Prime-Aged Women Relative to Men

Earnings growth during the 1990s was largely positive for women and stable or declining for men. This dichotomy is reflected in employment and unemployment outcomes as well. There may be special conditions influencing the outcomes of younger workers (changing employment patterns among students) and older workers (increasing early retirement), which could affect the relative positions of men and women. Hence we focus on prime-aged workers, those 25 to 54 years old. Labour-force statistics suggest that the position of prime-aged men deteriorated between the late 1980s and the late 1990s, while that of women improved. We computed average employment and unemployment rates for the 1987-89 period and compared them to average rates for the 1998-2000 period. These two periods are at a roughly comparable position in the business cycle (approaching the cyclical peak), and hence the comparisons represent a structural change between the decades, not just cyclical variation.

Labour-force participation fell for men (by 2.7 percent) and rose for women (by 7.2 percent) (Table 2). The unemployment rate remained largely unchanged for men (falling 0.1 percentage points) but fell substantially for women (1.5 percentage points). Hence, while unemployment was higher among women during the 1980s, this situation was reversed by 1998-2000. The employment-to-population ratio fell for men (2.6 percent) and rose for women (8.9 percent). The one statis-

Andrew Heisz, Andrew Jackson
and Garnett Picot

TABLE 2
Labour Force Statistics, Prime-Aged Workers (25-54 Age Group)

		1987-89	1998-2000	% Change	Difference
Labour-Force Participation Rate	All	83.2	84.6	1.6	1.3
	Men	93.6	91.1	-2.7	-2.5
	Women	72.9	78.1	7.2	5.2
Unemployment Rate	All	7.2	6.4	-10.2	-0.7
	Men	6.6	6.5	-2.0	-0.1
	Women	7.9	6.3	-19.5	-1.5
Employment to Population	All	77.3	79.1	2.4	1.9
	Men	87.4	85.1	-2.6	-2.2
	Women	67.2	73.1	8.9	6.0
		1984-86	1994-96	% Change	Difference
Inflows to Unemployment ^{1,2}	All	1.95	1.86	-4.4	-0.1
	Men	1.73	1.84	6.1	0.1
	Women	2.25	1.89	-15.7	-0.4
Duration of Unemployment (Months) ²	All	4.3	4.4	2.5	0.1
	Men	4.6	4.5	-2.8	-0.1
	Women	3.8	4.3	11.7	0.4

¹ Fraction of labour force entering unemployment.

² 1996 is the most recent year available for inflows to and duration of unemployment.

Source: Labour Force Survey.

tic that worsened for women was unemployment *duration*, which rose by 11.7 percent among women but declined marginally among men (2.8 percent) — comparing 1984-86 to 1994-96, the most recent years for which data are available. These changes in duration were more than offset by increases in the *incidence* of unemployment among men and declines among women (by 15.7 percent).

Changes seen in the cross-section are reflected in similar change by age cohort. Beaudry and Green (2001) compare high-school and university graduates for 1971-1993, tracing the employment of various cohorts of labour market entrants as they age. Cohorts of male high-school graduates entering later in this period did poorly relative to those that entered earlier. Men with university degrees and women saw only small secular declines.

There are certainly many reasons for this change in relative labour-market position. These include changes in the types of jobs held by women and the industries in which women work. However, little is known about these relative shifts in earnings, employment and unemployment. This remains one area requiring further research.

LOW-INCOME TRENDS IN THE 1990S

While inequality measures indicate how income is distributed among all Canadians, low-income measures focus on the families at the bottom of the distribution. Traditionally, analysis focuses on the share of the population below some low-income cut-

Distributional Outcomes in Canada in the 1990s

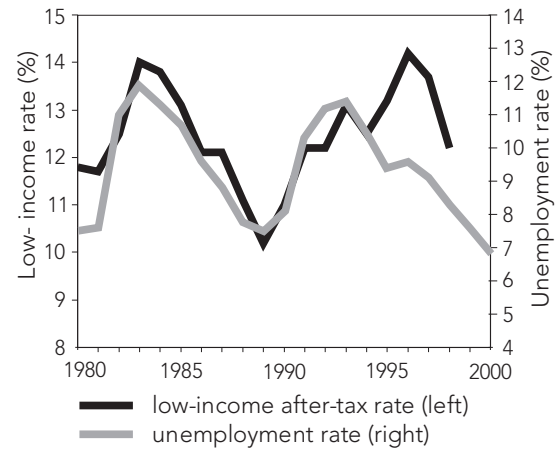
off (the low-income rate) and asks whether this rate is rising or falling, and why. But it is also important to know whether the families in low income are better or worse off than they were in the past. This is determined by the low-income gap (the income gap between the low-income cut-off and average family income among low-income families). A final important dimension of low income is its persistence. How long do families tend to stay in low income once there? If families are “trapped” in low income for many years, this represents a more serious issue than if families move relatively quickly in and out of low income. This section discusses trends in these three components — the low-income rate, the low-income gap and the persistence of low income among Canadian families.

The Low-Income Rate

There are a number of low-income cut-offs in use. If a family's income falls below the cut-off, it is said to be in the low-income population. Here we use Statistics Canada's LICO (low-income cut-off) based on after-tax and transfer income (i.e., disposable income). In 1998 dollars, the post-tax LICO in a large urban centre was \$14,510 for a single person and \$27,890 for a family of four. How did the low-income rate fare in the 1990s relative to the 1980s? In answering this question it is important to separate cyclical variation from longer-term trends. Low-income rates always rise in recessions and fall during economic expansions. Chart 9 shows the rate of low income among all Canadians (based on after-tax income) for the period 1980-98. It also plots the unemployment rate. Cyclical movements in the low-income rate mirrored cyclical changes in the unemployment rate, at least up to 1994 (the correlation coefficient

CHART 9

Low-Income and Unemployment Rates



Source: Labour Force Survey, Statistics Canada (1997a).

over the period 1980-94 was 0.85). Following 1994, trends in low income diverged from the unemployment rate such that 1996 and 1997 were peak years for low income despite improving labour markets. The low-income rate recovered somewhat between 1997 and 1998, but by 1998 had not fully returned to the level expected based on the business cycle.

Table 3 provides data on persons in low income (based on post-tax LICO) for 1981, 1988, 1989 (the cyclical peak year during the 1980s), 1993 (when the overall economic recovery began to take hold) and 1998. As shown, the overall low-income rate for all persons in 1998 was 12.2 percent, down from 13.1 percent in 1993 but 1.1 percentage points above the 11.1 percent level of 1988, a year roughly comparable in terms of position in the business cycle. Overall, the low-income rate was somewhat higher during the 1990s than the 1980s. It rose for four years following the end of the recession (1992), peaking in 1996. This increase occurred in spite of a slowly recovering econ-

Andrew Heisz, Andrew Jackson
and Garnett Picot

TABLE 3

Low-Income Rate (After Tax) by Gender, Age and Family Status (percentage)

	1981	1988	1989	1993	1998	% of Low-Income Population (1998)
All	11.7	11.1	10.2	13.1	12.2	100
Men	10.0	9.5	8.8	12.0	11.4	46.1
Women	13.5	12.6	11.5	14.3	13.0	53.9
Elderly						8.7
In families	7.2	4.1	3.1	3.3	3.0	2.0
Single	49.1	30.6	27.3	26.3	20.8	6.7
Children (<18)	12.5	12.5	11.8	15.9	13.8	24.8
Two-parent families	n/a	n/a	7.0	9.9	8.3	13.0
Single-parent families	n/a	n/a	48.0	48.6	45.3	11.8
Aged 18–64 in families	7.3	6.8	6.4	8.9	8.1	35.9
Aged 18–64 single	29.9	29.3	27.9	32.7	33.9	28.4

n/a Data are not available for these subgroups.

Source: Statistics Canada (1997a, Table 3; 2000, Table 8.1).

omy and falling unemployment. During the 1980s the increase lasted only one year after the end of the recession (1982), peaking in 1983. Various groups were affected in different ways. Among seniors, low-income rates — already very low for seniors in families — fell in the 1990s. Among the population aged 18–64, in contrast, low-income rates were higher in 1998 than in 1988. This rise was observed among both singles (increasing 4.9 percentage points between 1988 and 1998) and families (increasing 1.3 percentage points between 1988 and 1998).

The low-income rate of children dropped from the cyclical high of 17.2 percent in 1996 to 13.8 percent in 1998. However, the rate in 1998 was still above the 12.5 percent posted in 1988. The low-income rate was higher in the late 1990s than the late 1980s. The opposite trend was observed during the 1980s; the low-income rate among children fell from 12.5 percent in 1981 to 11.8 percent in 1989 (comparing cyclical peaks).

Why this increase in the incidence of low income between 1988 and 1998? Picot, Morissette and Myles (2001) found that the key driver of the trend among the population under age 65 was the inability of the labour market to provide as much employment income to low-income working-age households in the 1990s as in the 1980s. They found that virtually all of the 1.1 percent increase in the low-income rate over the 1988–98 period was associated with declines in employment earnings among families; changes in transfer benefits neither offset these changes in employment earnings (as they did during the 1980s) nor contributed directly to an increase in the low-income rate. They found, however, that during the 1993–96 period alone, when the low-income rate deviated from its expected trend based on movement in the unemployment rate (Chart 9), all of the unexpected increase was due to changes in transfers (e.g., EI benefits, social assistance, child tax benefits) received by low-income families. For the entire 1988–

Distributional Outcomes in Canada in the 1990s

98 period, the effects of the 1993-96 decline in benefits were offset by increases during other parts of the decade. Hence, over the decade as a whole the main story rests with poor growth in employment earnings. This decline in employment earnings among poorer families was observed in the 1980s as well, but rising social transfer payments more than offset the earnings decline and the low-income rate actually fell. Social transfers did not offset earnings losses during the 1990s.

There was substantial variation by province, and the impact of changes in earnings on low income was more severe in central and eastern Canada than in the West, because during the early 1990s the recession was more severe in this part of Canada than in the western provinces.

Canada's Standing Internationally

Internationally, Canada's standing varies according to the population group being considered. Although studies of domestic low income typically rely on Statistics Canada's LICO, for international comparisons the standard is the low-income measure, or LIM, which sets the low-income cut-off at one half the median family income in the country of interest.³

In the mid-1990s, the overall incidence of low income after tax using this measure was 11.2 percent in Canada, far below the 17.7 percent in the United States but well above the 6.5 percent in Sweden (OECD 1998b). Canada was in the middle of the pack internationally when the focus is low income among children, but was one of the best countries in terms of low income among the elderly. The United Nations agency UNICEF recently reported that in the 1990s

the child low-income rate (falling below one half of the median household income) in Canada was 15.5 percent, compared to 22.4 percent in the United States and just 2.6 percent in Sweden, but the low-income rate among the elderly, defined on the same basis, was just 4.8 percent in Canada, compared to 23.7 percent in the United States and 6.0 percent in Sweden (UNICEF 2000). Osberg (2000) found that due to the increase in Canadian low-income rates during the 1990s, the gap between Canadian and American rates narrowed in that decade, to the extent that some US states had low-income rates below some Canadian provinces. This was not the case in the 1980s.

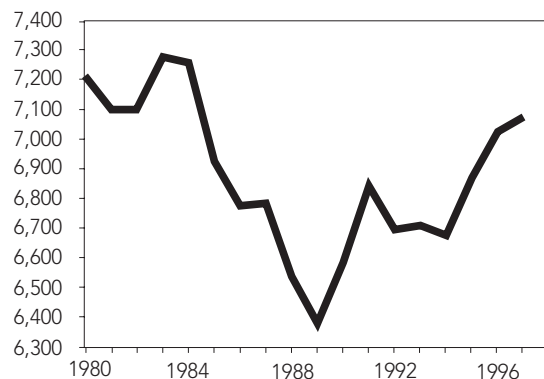
Depth of Low Income

The economist Amartya Sen, a Nobel laureate, has pointed out that the proportion of the population living in poverty (the poverty rate) could be perversely reduced by redistributing income from the very poor to those just under the poverty line. This would move those receiving income over the low-income cut-off but leave the very poor much worse off. Low-income would be seen to be falling, however. This illustrates the fact that the proportion of the population falling below a low-income line is at best a partial measure. It tells us nothing about the depth of low income or whether the economic position of those in low income is deteriorating or improving through time.

The low-income gap is a measure of the depth of low income. It is the difference between the LICO and the average income of low-income individuals and families. This gap narrowed significantly over the 1980s; it was at \$6,400 in 1989, falling from \$7,100 in 1981, both cyclical peaks. Picot et al.

Andrew Heisz, Andrew Jackson
and Garnett Picot

CHART 10
Average Low-Income Gap, All Individuals
and Families (\$1997)



266

Source: Statistics Canada (1997a).

(2001) show that this improvement was largely driven by increases in social transfer payments received by families over this period, and was registered in spite of falling earnings among low-income families. The low-income gap widened during the recession of 1991-92, as one might expect, but, surprisingly, continued to widen until 1997, in spite of substantial economic growth later in the decade (Chart 10). Picot et al. (2001) examined the low-income rate and gap over the 1988-98 period among the population aged 18-64. They found that the average family income of low-income families was 30.8 percent below the after-tax LICO in 1988 and 33.6 percent below in 1998 — the gap widened continuously through to 1998 in spite of substantial economic recovery. This increase in the size of the gap stemmed from changes both in the benefits that low-income families receive from the transfer system and in the employment earnings of low-income families.

Of the increase in the low-income gap between 1988 and 1998, approximately 60 percent was due to declines in employment

earnings and 40 percent to changes in benefits received from the transfer system. The transfer system often has a greater influence on the low-income gap than the low-income rate, since transfers are frequently targeted at families well below the LICO. The benefits received may improve a family's financial position but not necessarily move it over the low-income threshold. The widening of the low-income gap during the 1990s was most evident in Alberta and, in that case, was related primarily to changes in the social transfer payments received by low-income families.

Persistence of Low Income

Information on the duration of low income did not come to light until the 1990s, with the advent of surveys like the Survey of Labour and Income Dynamics (SLID) and the Longitudinal Administrative Database (LAD), both of which follow panels of people over time. It is now clear that a large group of Canadians regularly move in and out of low income, while a much smaller proportion are stuck in this situation over several years. According to research using SLID, in the six years from 1993 to 1998 just under one in four Canadians (24.2 percent) experienced low income at least once, double the rate of low income in the single year of 1998. Of the group experiencing low income at least once, about half (12.8 percent) spent "only" one or two years in low income, the other half spent a more significant period — three to six years. Just over 5 percent of Canadians, or one in 20, spent either five or all six years of the 1993-98 period in low income (Statistics Canada 1998, Table 8.2). About 8 percent spent four years in low income during that period (Morissette and Zhang 2001). Data from the SLID would

Distributional Outcomes in Canada in the 1990s

seem to suggest that at any given point from 5 to 8 percent of Canadians are experiencing a persistent spell of low income.

Finnie (2000), using LAD, found similar patterns. Examining the years 1992-96, Finnie found that 26.4 percent of the population were in low income at some point and 6.9 percent of the population were in low income for all of the five years.

Hence, approximately 6 to 8 percent of the population were, during the mid- to late 1990s, persistently in low income. This persistence was much stronger among certain groups. Morissette and Zhang (2001) found that the group in low income for at least four of the six years was proportionately above average for persons in single-parent families (28 percent), unattached persons (22 percent), persons with work limitations (15 percent), persons from visible minorities (11 percent), recent immigrants (10 percent) and persons with less than a high-school education (9 percent).

The duration of low income, as opposed to the share of the population in persistent low income during a given period, is another matter. To address this issue, one must focus on new spells of low income starting in, say, 1994 or 1995. Morissette and Zhang (2001) found that of these new spells, approximately 50 to 60 percent lasted one year or less and 30 to 35 percent three years or more. Hence most new spells of low income are relatively short. Of all the people entering low income in any given year, the majority will spend one or two years at most in low income. However, perhaps one third of those people will be in low income on a persistent basis.

Some recent work has focused on the factors behind the movement of children into and out of low income. Picot et al. (1999)

found that family formation events such as marriage and divorce are significant determinants of the movement in or out of low income, although labour market events such as unemployment or a change in the number of earners in a family tend to dominate. Finnie (2000) found that becoming a single parent and leaving home as a young adult were strongly associated with entry into low income. Likewise, becoming attached has been found to be associated with leaving low income, for both single parents and other unattached individuals.

267

SUMMARY

The major distributional changes in the 1990s were:

- inequality of individual earnings: no increase overall, but important increases among men;
- inequality of family earnings: an increase as the proportion of single-parent families grew and “like married like” more often;
- inequality of family disposable income: little change over the period 1970s to mid-1990s, as the tax/transfer system served to mitigate the polarization of family earnings; evidence of an increase at the end of the 1990s;
- real earnings of young men: continued decline up to 1996, followed by modest recovery between 1996 and 2000 as the economy strengthened;
- real weekly wages of university educated 20 to 34-year-olds: recent rise;
- labour-market outcomes: significant improvement for women, general deterioration for men;

Andrew Heisz, Andrew Jackson and Garnett Picot

- rate of low income: higher than in the 1980s;
- depth of low income: a deterioration (on average), even during the strong economic recovery up to 1998, following substantial improvement in the 1980s.

CONCLUSION

Inequality arose as a prominent issue in the mid-1980s and has remained near the top of the list of policy issues ever since. Researchers noted that earnings inequality was rising in the late 1970 and the 1980s, after years without changing. In some countries, family income inequality followed suit, but not in Canada. Earnings inequality among men continued its upward path in the 1990s in Canada, but when all workers are considered, there is little evidence of a rapid rise such as that observed in the 1980s. However, family earnings inequality did continue its upward march during the 1990s. There remains substantial uncertainty regarding the cause of this rise in inequality. While skill-biased technological change is the most frequent explanation, there are reasons to believe that numerous other factors are involved. There are many dimensions to the earnings inequality story, such as shifting relative wages among groups (young and old, less and more highly educated, men and women, etc.) as well as changing inequality within groups. It seems unlikely that one single explanation such as technological change can account for all of these underlying trends. Shifts in the characteristics of workers, notably rising educational attainment, are likely to play a substantial role, as are changes in family formation patterns and institution-

al factors such as unionization rates, minimum wages, EI and social assistance.

One of the most striking outcomes of the 1990s labour market is the improved situation of women and deteriorated situation of men. It is likely that these results are associated with improvements in the educational attainment of women, and changes in the types of fields they study and occupations they enter, but much remains unknown regarding these outcomes. In spite of the shift to the knowledge-based economy, it has been known for some time that there has not been an increase in the relative earnings and likelihood of employment among more highly educated workers in Canada, except perhaps among the younger cohorts. More highly educated workers do show higher earnings and a greater likelihood of being employed than less educated workers, but no more so than they used to. Research suggests that the rapid increase in the supply of highly educated workers in Canada offset an increase in the demand for their labour. This may be not be the case for recent young cohorts who have seen a relative rise in earnings.

The earnings of young males have fallen in Canada. Research suggests that this drop may reflect a downward shift in the age-earnings profile of recent cohorts of workforce entrants. While some improvement in the earning position of young men was observed during the rapid expansion of the very late 1990s, this did not offset the earlier declines. The causes of this deterioration are not well understood. The drop could relate to the declining relative education position of young men, abnormally low hiring rates during the 1990s in Canadian companies (weak labour demand) or, possibly, declining rates of unionization among younger workers.

Distributional Outcomes in Canada in the 1990s

Families at the bottom of the income distribution continued to be negatively affected by poor labour-market outcomes throughout the 1990s, as they had throughout the 1980s. Employment earnings among poorer families declined in both decades, continuing to fall even during the 1996-98 expansion. There has been considerable debate regarding the extent to which the earnings declines in the 1980s were related to rising social assistance benefits. Clearly, there is a “work disincentive effect” associated with rising benefits, but what is its magnitude? For some groups, such as single mothers, who have a strong incentive to remain at home and unemployed if there is some other source of income, the effect could be significant. For others it is unclear.

During the 1990s, social assistance and EI benefits were being reduced in most provinces. In many cases, employment earnings and social assistance benefits were falling together. Hence it seems unlikely that the general fall in earnings could be attributed to a work disincentive effect during the 1990s. If anything, the disincentive would have been declining. Other factors related to the rise in family earnings inequality are likely behind the decline in earnings. The difference between the 1980s and 1990s for these families is that rising transfer payments offset earnings losses in the 1980s but not in the 1990s. Hence both the proportion of people in low income and the depth of low income increased in the mid- and late 1990s. This story does not hold for seniors, since for this group low-income conditions have more to do with pensions and transfers than employment earnings. Low income among seniors remained relatively low (by international standards) in Canada during the 1990s.

NOTES

- 1 Adult-equivalent adjustment is a method for adjusting family income to account for family size and the economies of scale associated with larger families. The data in Table 1 are adult-equivalent adjusted and those in Chart 1 are not. If family size is changing over time, it is desirable to adult-equivalent adjust the results. Regarding data sources, in Table 1 the data come only from the Survey of Consumer Finances (SCF), which was discontinued after data year 1998. In Chart 1, data up to 1995 are from the SCF, while those from 1996 to 1998 are from the Survey of Labour and Income Dynamics.
- 2 A consistent series for wages up to 2000 is not yet available. For the indices in Charts 2, 3 and 6 we use SCF data up to 1997, then estimate expected growth in the wage series from 1997 to 2000 using Labour Force Survey (LFS) data.
- 3 This is a *relative* low-income measure, since the cut-off is set relative to the median family income in any given country. Hence, poorer countries will have lower LICOs than richer ones. The notion here is that low income among countries is a relative concept. What constitutes dire financial straits depends upon the norms of the community (in this case country) in which one is living (see Smeeding, O'Higgins and Rainwater 1990 for a discussion). Family income typically is adult-equivalent adjusted to account for differences in family size and the economies of scale that are associated with larger families.

REFERENCES

- Acemoglu, D. 1998. “Why Do New Technologies Complement Skills? Directed Technological Change and Wage Inequality.” *Quarterly Journal of Economics* 113(4).

Andrew Heisz, Andrew Jackson and Garnett Picot

270

- Bar-Or, Y., J. Burbidge, L. Magee and L. Robb. 1993. "The Wage Premium to a University Education in Canada, 1971-1991." *Journal of Labour Economics* 13(4):762-794.
- Beach, C.M., and G.A. Slotsve. 1996. *Are We Becoming Two Societies?* Toronto: C.D. Howe Institute.
- Beaudry, P. and D. Green. 2001. "Employment Outcomes in Canada: A Cohort Analysis", in *Adapting Public Policy to a Labour Market in Transition*, ed. W.C. Riddell and F. St-Hilaire. Montreal: Institute for Research on Public Policy.
- Beaudry, P., and D. Green. 1999. "What Is Driving U.S. and Canadian Wages: Exogenous Technical Change or Endogenous Choice of Technique?" NBER Working Paper Series #6853. National Bureau of Economic Research. Cambridge, MA.
- 2000a. "The Changing Structure of Wages in the U.S. and Germany: What Explains the Difference?" NBER Working Paper Series #7697. Cambridge: National Bureau of Economic Research.
- 2000b. "Cohort Patterns in Canadian Earnings: Assessing the Role of Skill Premia in Inequality Trends." *Canadian Journal of Economics* 33(4):907-936.
- Betcherman, G., and G.S. Lowe. 1997. *The Future of Work: A Synthesis Report*. Ottawa: Canadian Policy Research Networks.
- Betcherman, G., and R. Morissette. 1994. "Recent Youth Labour Market Experiences in Canada." Analytical Studies Branch Research Paper Series, Statistics Canada #63. Ottawa: Statistics Canada.
- Blank, R., and M. Hanratty. 1993. "Responding to Need: A Comparison of Social Safety Nets in Canada and the United States," in *Small Differences That Matter: Labor Markets and Income Maintenance in Canada and the United States*, ed. D. Card and R. Freeman. Chicago: University of Chicago Press, pp. 191-231.
- Bound, J., and G. Johnston. 1992. "Changes in the Structure of Wages in the 1980s: An Evaluation of Alternative Explanations." *American Economic Review* 82(3):34-39.
- Cross, P. 2001. "Year-end Review" Statistics Canada Catalogue #11-010-XPB. Canadian Economic Observer (April).
- Davis, S.J. 1992. *Cross-Country Patterns of Change in Relative Wages*. NBER Working Paper #4085. Cambridge: National Bureau of Economic Research.
- Drolet, M. 2000. *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*. Analytical Studies Branch Research Paper Series, Statistics Canada, Catalogue #11F0019MPE, 157. Ottawa: Statistics Canada.
- Ellwood, D.T. 2000. "Winners and Losers in America: Taking the Measure of the New Economic Realities," in *A Working Nation, Workers Work and the New Economy*, ed. D.T. Ellwood, R.M. Blank, J. Blasi, D. Krause, W.A. Niskanen and K. Lynn-Dyson. New York: Russell Sage Foundation.
- Finnie, R. 1997. "Stasis and Change: Trends in Earnings Levels and Inequality, 1982-92." *Canadian Business Economics* 5(4):84-107.
- 2000. *The Dynamics of Poverty in Canada: What We Know, What We Can Do*. Toronto: C.D. Howe Institute.
- 2001. *Early Labour Market Outcomes of Recent Canadian University Graduates by Discipline: A Longitudinal, Cross Cohort Analysis*. Business and Labour Market Analysis. Ottawa: Statistics Canada.
- Finnie, R., and T. Wannell. 1999. *The Evolution of the Gender Earnings Gap Amongst Canadian University Graduates*. Business and Labour Market Analysis. Ottawa: Statistics Canada.
- Fortin, N.M., and T. Lemieux. 1997. "Institutional Changes and Rising Wage Inequality: Is There a Linkage?" *Journal of Economic Perspectives* 11(2):75-96.
- Freeman, R.B., and K. Needels. 1991. *Skill Differentials in Canada in an Era of Rising Labor Market Inequality*. NBER Working Paper #3827. Cambridge: National Bureau of Economic Research.

Distributional Outcomes in Canada in the 1990s

- Green, D. 1999. *The Knowledge Based Economy and the Canadian Labour Market*. Vancouver: Department of Economics, University of British Columbia.
- Juhn, C., K.M. Murphy and B. Pierce. 1993. "Wage Inequality and the Rise in Returns to Skill." *Journal of Political Economy* 101(3):410-442.
- Kapsalis, C., R. Morissette and G. Picot. 1999. *The Return to Education and the Increasing Wage Gap Between Young and Older Workers*. Analytical Studies Branch Research Paper Series #131. Ottawa: Statistics Canada.
- Katz, L.F., and K.M. Murphy. 1992. "Changes in Relative Wages 1963-1987: Supply and Demand Factors." *Quarterly Journal of Economics* 107(1):35-78.
- Kuhn, P. 2001. "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*, ed. W.C. Riddell and F. St-Hilaire. Montreal: Institute for Research on Public Policy.
- Lee, K.K. 2000. *Urban Poverty in Canada*. Ottawa: Canadian Council on Social Development.
- Mishel, L., and J. Bernstein. 2001. "Wage Inequality and the New Economy in the U.S.: Does IT-Led Growth Lead to Wage Inequality?" Paper Presented at IRPP-CSLS Conference on Economic Growth and Inequality, Ottawa. January.
- Mishel, L., J. Bernstein and J. Schmitt. 2001. *The State of Working America, 2000-01*. Ithaca, NY: Cornell University Press.
- Morissette, R., J. Myles and G. Picot. 1994. "Earnings Inequality and the Distribution of Working Time in Canada." *Canadian Business Economics* 2(3):3-16.
- Morissette, R., and X. Zhang. 2001. *Experiencing Low-Income for Several Years*. Perspectives on Labour and Income (March). Catalogue #75-001-XPB. Ottawa: Statistics Canada.
- Murphy, K.M., W.C. Riddell and P.M. Romer. 1998. *Wages, Skills and Technology in the United States and Canada*. NBER Working Paper #6638. Cambridge: National Bureau of Economic Research.
- OECD. 1998. *Income Distribution and Poverty in Selected OECD Countries*. Economics Working Paper #189. Paris: OECD.
- OECD. 1994. *The OECD Jobs Study: Facts, Analysis, Strategies*. Paris: OECD.
- Osberg, L. 2000. "Poverty in Canada and the USA: Measurement, Trends and Implications." *Canadian Journal of Economics*. 33(4):849-877.
- Osberg, L., X. Wein and J. Grude. 1994. *Technology, Employment and Social Policy*. Toronto: Lorimer.
- Picot, G. 1998. "What Is Happening to Earnings Inequality in the 1990s?" *Canadian Economic Observer* (September). Catalogue #11-010-XPB. Statistics Canada.
- Picot, G., and A. Heisz. 2000. "The Performance of the 1990s Canadian Labour Market." *Canadian Public Policy* 26(1 Suppl).
- Picot, G., R. Morissette and J. Myles. 2001. *Low-Income Intensity During the 1990s: The Role of Economic Growth, Employment Earnings and Social Transfers*. Business and Labour Market Analysis. Ottawa: Statistics Canada.
- Picot, G., M. Zyblock and W. Pyper. 1999. *Why Do Children Move Into and Out of Low-Income? Changing Labour Market Conditions or Marriage and Divorce?* Analytical Studies Branch Research Paper #132. Ottawa: Statistics Canada.
- Riddell, W.C. 1995. "Human Capital Formation in Canada: Recent Developments and Policy Responses," in *Labour Market Polarization and Social Policy Reform*, ed. K.G. Banting and C.M. Beach. Kingston, ON: School of Policy Studies, Queen's University.
- Riddell, W.C. and A. Sweetman. 2001. "Human Capital Formation in a Period of Rapid Change", in *Adapting Public Policy to a Labour Market in Transition*, ed. W.C. Riddell and F. St-Hilaire. Montreal: Institute for Research on Public Policy.
- Sargent, T.C. 2000. "Structural Unemployment and Technological Change in Canada, 1990-1999." *Canadian Public Policy* 26:S1069-1123.

Andrew Heisz, Andrew Jackson
and Garnett Picot

Smeeding, T.M., M. O'Higgins and L. Rainwater.
1990. *Poverty, Inequality and Income Distribution in
Comparative Perspective: The Luxembourg Income Study*.
Lanham, MD: University Press of America.

Statistics Canada. 1997. *Low-Income After Tax, 1997*.
Catalogue #13-592-XIB. Ottawa: Statistics Canada.

——— 1998. *Income in Canada, 1998*. Catalogue #75-
202-XIE. Ottawa: Statistics Canada.

——— 2000. *Income in Canada, 1998*. Catalogue #75-
202-RPE. Ottawa: Statistics Canada.

UNICEF. 2000. *A League Table of Child Poverty in Rich
Nations*. Innocenti Report Card #1. Florence:
UNICEF.

——— 2000, June. Luxembourg Income Survey data
for the elderly. Available: www.csls.ca

Wolfson, M.C., and J.M. Evans. 1990. *Statistics
Canada's Low-Income Cut-Offs: Methodological
Concerns and Possibilities*. Ottawa: Analytical Studies
Branch, Statistics Canada.

Wolfson, M.C., and B.B. Murphy. 1998. "New Views
on Inequality Trends in Canada and the United
States." *Monthly Labour Review* 12(4):3-20.

——— 2000. "Income Inequality in North America:
Does the 49th Parallel Still Matter?" Statistics
Canada Catalogue #11-010-XPB. *Canadian
Economic Observer* (August).

Zyblock, M. 1997. *Why Is Family Market Inequality
Increasing in Canada?* Applied Research Branch
Working Paper W-96-11E. Ottawa: Human
Resources Development Canada.