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IRPP

Income Inequality

The Canadian Story

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Institute for Research on Public Policy
Institut de recherche en politiques publiques

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Income Inequality in Canada: Driving Forces, Outcomes and Policy

David A. Green, W. Craig Riddell and France St-Hilaire

Context and Rationale

In the late 1970s, the American economist Henry Aaron famously declared that studying inequality was "like watching the grass grow" because it changed so little over time. At about the same time, Lars Osberg (1981), in his seminal book on inequality, also noted the lack of movement in inequality in Canada since the Second World War. Within a few short years, however, the topic became anything but boring and a lot less predictable: earnings inequality in a variety of countries, including Canada, shot up and kept on growing. Along with it grew a voluminous literature on the causes and consequences of inequality. By 2008 even the Organisation for Economic Co-operation and Development (OECD) — typically a cautious and centrist institution — was sounding the alarm about "the pervasive, decades-long rise in income inequality" in most member countries (OECD 2015a, 21).[1] Although late to the party, the OECD was forceful, some years later, in describing the level of concern sparked in many countries by the 2008 recession and financial crisis, which brought inequality to the centre of the public consciousness:

> Income inequality has been rising over the years in the vast majority of OECD countries. Addressing these trends has moved to the top of the policy agenda in many countries. This is partly due to worries that a persistently unbalanced sharing of the growth dividend will result in social resentment, fuelling populist and protectionist sentiments and leading to political instability…Another reason for the growing

> interest in inequality is the concern that cumulatively large and sometimes rapid increases in income disparity might have an effect on economic growth and on the pace of exit from the current recession. (OECD 2015a, 60)

Meanwhile, in Canada, the discussion about inequality has been polarized and, at times, confusing. From across the border, we hear the growing chorus of concern about rising inequality from our US cousins. Speaking of the challenge inequality represents for the United States, President Barack Obama called it "the defining issue of our time." But is it the defining issue for Canada? Some of the debate on this side of the border has relied on US facts and arguments to imply that it is. The truth, as we will see, is more complicated. As Fortin et al. (2012) and others have shown — and as documented in detail in this book — the Canadian experience includes substantial increases in earnings and income inequality since 1980, but little movement in aggregate measures of inequality in the past 10 years. It also has an important regional dimension that is masked by the usual national indicators.

As Keith Banting and John Myles point out in their contribution to this volume, the complex pattern of inequality growth in Canada has led to conflicting interpretations of what is happening and even whether a problem really exists. "In effect, the country has become engaged in a vigorous struggle to define or 'frame' the new inequality and the social stresses it brings in its wake" (510). And there is no clear winner so far. This malaise or ambivalence was evident in the 2015 federal election. Although party platforms and electoral debates focused on policies and programs aimed at addressing inequality — for example, child benefits, tax reductions for the middle class and increases for those at the top, employment insurance (EI) — the term and the issue itself were conspicuously absent from the parties' messaging. The focus instead, as Banting and Myles point out, was very much on helping the broadly defined "middle class" and working families with children. There are probably many reasons for this, but it is no doubt fair to say that it partly reflects a general lack of consensus regarding whether income inequality really is a problem in Canada and, if so, whether it can be mitigated.

In our view, this is an unsatisfactory state of affairs. As Canada begins to feel the economic effects of population aging and pursues efforts to engage more broadly in the global economy through trade, foreign investment and immigration, many of its labour market, education, skills development and tax-and-transfer policies need to be revisited. Determining which new policy approaches or directions are best suited to counteract inequality trends while promoting economic growth requires a deeper understanding of these complex dynamics.

Starting from that perspective, we set out to conduct a comprehensive and in-depth examination of the Canadian experience relating to income inequality. The project stems from a unique collaboration between the Institute for Research on Public Policy (IRPP), Canada's premier policy think tank, and the Canadian Labour Market and Skills Researcher Network (CLSRN), a pan-Canadian network of researchers in academia, government and the private sector. This volume, which draws on research and analysis by many of Canada's leading scholars working on inequality, is the result of this multiyear collaborative initiative.

In this chapter, we draw together the research presented in the book to address three questions of central interest. First, has inequality increased in Canada? Although the question is bluntly phrased, the answer, as we will see, is in many ways nuanced. Second, what policy tools are available to affect inequality and how have they performed? Third, what should Canada do about inequality going forward? In answering these questions, we will try to convey some of the complexity and key insights to be derived from the evidence, but for a fuller analysis, we direct the reader to the relevant chapters elsewhere in the book.

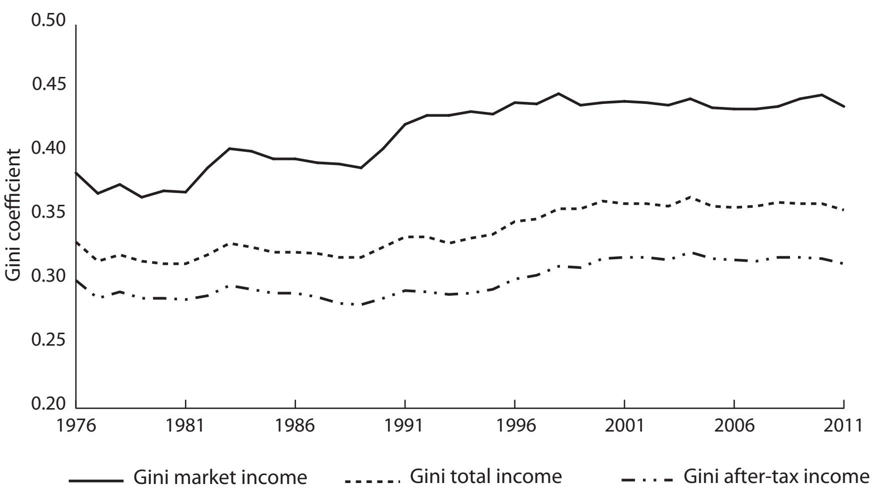
Has Inequality Increased?

Many Canadians are aware that their society has become less equal over the past 30 to 40 years, and that the incomes of those at the very top of the income distribution have risen much more than the incomes of others. Despite this awareness and the broad academic consensus that supports it, there are conflicting narratives about the "facts" relating to growing income inequality in Canada. As Banting and Myles point out, there are "inequality Cassandras" and "inequality deniers" — much as there are believers and skeptics on other high-profile issues such as climate change. Media attention given to these opposing narratives might have contributed to confusion and some uncertainty about the extent to which inequality is growing and whether rising inequality is really a serious problem. One objective of this volume is thus to provide a comprehensive picture of the Canadian experience, including important new evidence on a number of dimensions not previously explored.

Our focus is on *income* inequality, in part because that has been the main object of the public and policy discussion about inequality. In addition, in contrast to measures of wealth, a variety of measures of income are available on a regular and timely basis. But the principal reason for focusing on income inequality is that income — especially labour market income — is the key contributor to the well-being of Canadian families. Although several chapters focus on labour market earnings and show that these are the primary locus of the rise in inequality over the past three to four decades, we start with family income, which more fully captures changes in the economic well-being of Canadians.

The story about inequality in Canada is potentially confusing, in part because of the way inequality has changed over time. This is effectively summarized in figure 1, which plots the Gini coefficient,[2] a commonly used measure of income inequality, for market income (income before taxes from all sources other than government transfers), total income (income before taxes from all sources, including government transfers) and after-tax income (total income after taxes and transfers) over the period from 1976 to 2011. To take account of differences in family size, the figure presents adult-equivalent-adjusted family income, which incorporates an adjustment for the fact that it costs less than twice as much to feed and house two people living together as it does for each individually.[3]

Figure 1
Income inequality before and after transfers and taxes, Canada, 1976-2011



Source: Statistics Canada, CANSIM table 202-0709.
Note: This is figure 3 in Heisz and Murphy (in this volume).

Several points are evident in figure 1. First, inequality in family market income increased substantially over the 35-year period, with the Gini coefficient rising from 0.365 to 0.446, an increase of about 22 percent. As Banting and Myles note, this is "a huge change in a measure that is difficult to move" (511). Second, the trend was not steadily upward. In particular, sharp increases in market income inequality occurred during the recessions of the early 1980s and early 1990s, the two most severe Canadian recessions of the postwar period. Third, although market income inequality declined during the recovery and boom of the 1980s (from 1983 to 1989), inequality continued to rise during the latter half of the 1990s, a period of strong economic growth.

Figure 1 also plots the Gini coefficient of adjusted after-tax family income. The difference between this line and the market income inequality line shows how much the tax-and-transfer system reduces inequality in real family incomes. This reduction is substantial: in the most recent year (2011), it reduced the Gini coefficient by more than 28 percent, from 0.436 in market income to 0.313 in after-tax income. Also noteworthy is the changing role of the tax-and-transfer system in offsetting increases in market income inequality. Between the mid-1970s and the mid-1990s, after-tax income inequality did not increase, despite a significant rise in market income inequality and two major recessions. The tax-and-transfer system "did its job" and, accordingly, rising market income inequality was not regarded as a serious policy concern in Canada. Since the mid-1990s, however, the redistributive impact of taxes and transfers has fallen substantially and, as a consequence, after-tax family income inequality increased even more rapidly than market income inequality for a period of several years. This pattern of changes in the tax-and-transfer system — exacerbating, rather than offsetting, inequality — was especially evident in the latter half of the 1990s. The net outcome is an increase in after-tax income inequality of about 10 percent since 1980.

We can obtain an alternative perspective on inequality trends by examining inequality in consumption, rather than income. A forthcoming article in the *Canadian Journal of Economics* by Sam Norris and Krishna Pendakur, summarized in this volume,[4] provides new evidence on consumption inequality in Canada. As they argue, consumption is a good proxy for lifetime income, which is not as subject as annual income to the effects of life-cycle transitions (from school to work and then to retirement) and short-term fluctuations in financial circumstances. Indeed, households' consumption decisions are informed not only by their current income and savings, but also by their expectations of future income and costs. This "consumption smoothing" means that inequality in consumption might come closer than inequality in annual income to what we truly care about: differences in lifetime well-being and opportunities. Unfortunately, data on consumption are not available to the same extent as those on income, and consumption surveys have much smaller sample sizes, making them less reliable.

Norris and Pendakur use Statistics Canada's Survey of Household Spending to study consumption inequality in Canada over the period from 1997 to 2009. As expected, given our prediction of greater volatility in annual income, they show that inequality in consumption (with a Gini coefficient of 0.275 in 2006) is lower than inequality in income (with a Gini coefficient for after-tax income of 0.316). Unfortunately, changes in survey data-processing procedures complicate comparisons of data before and after 2006. Nonetheless, the authors show that the Gini coefficient for consumption rose by almost 10 percent, from 0.251 to 0.275, between 1997 and 2006, an amount similar to the increase in after-tax income inequality that took place following the tax-and-transfer cuts of the mid-1990s and early 2000s. After 2007, in comparison, consumption inequality changed very little, matching the relative stability of income inequality over the same period. Thus, consumption inequality patterns support our overall conclusion from income data: inequality rose in the late 1990s and early 2000s and stabilized after the mid-2000s.

Canada is not alone in experiencing rising wage and income inequality. The chapter by Andrew Heisz provides an overview of Canadian trends and how our situation compares with that of other OECD countries. Based on comparative work by the OECD, Heisz notes that in 2008, Canada (with a Gini coefficient of 0.324) ranked in the middle of OECD countries in terms of the level of after-tax family income inequality. Income inequality in Canada exceeded that in most European countries, including France, Germany, Denmark, Sweden, Norway and Finland (where the Gini coefficient ranged from 0.248 to 0.295); was similar to that in Japan, New Zealand and Australia; and was below that in the United Kingdom (0.345) and the United States (0.378). Over the 1985-2008 period, inequality rose in most OECD countries, including in low-inequality countries such as Sweden and Finland, and again the increase in Canada was about average (see Heisz, figure 2). According to the OECD, several European countries have experienced further increases in inequality in the aftermath of the global economic crisis, as have high-inequality countries such as Mexico and the United States, where the Gini coefficient now exceeds 0.4 (OECD 2015a). In contrast, Canada saw a slight decline in inequality from 0.321[5] in 2008 to 0.315 in 2011 (the latest year for which data are available), although it maintained its middle ranking among OECD countries.

The fact that income inequality has increased in many developed countries over a similar period suggests common underlying causes. Although disagreement remains about the relative importance of the contributing factors, a large research literature has investigated the causes. The driving force that has received the most emphasis is technological change, especially advances in information and computer technologies. The core idea is that these new technologies complement skills, in terms of both education and competence in performing cognitive tasks. That is, the new technologies enhance the productivity (and with it, the wages) of skilled workers while replacing workers who perform routine tasks that computers can do easily, resulting in lower wages and employment for those workers (see, for example, Autor, Levy and Murnane 2003). We review the evidence on these technological change effects in the Canadian context later in this chapter.

A related driving force is the globalization of economic activity. Many tasks that computers can perform can also be carried out by workers in countries with lower wages — a phenomenon captured nicely by the title of Richard Freeman's 1995 paper, "Are Your Wages Set in Beijing?" Technological change has also contributed to the "decline of distance," as the costs of moving manufacturing and other operations from one location to another have declined. The consequences might be higher earnings for those at the top of the income distribution — associated with the increased global reach of multinational corporations — and downward pressure on the wages of those in the middle and at the bottom of the distribution.

Although all industrialized countries are influenced to varying degrees by these underlying factors, Heisz notes that there is still considerable variation in both the level of inequality and the extent to which inequality has increased among OECD countries. This is where the third set of driving forces is most relevant. Institutional factors such as the regulatory environment, minimum wages and unionization can play an important role in affecting the level of inequality in a country, as well as the extent to which inequality increases in response to technological change and globalization. Several chapters in this volume examine the contribution of institutional factors in the Canadian setting, and we return to these issues later in this chapter.

Just as there is noteworthy variation in inequality among countries, there are also differences among regions within a country. In Canada, after-tax family income inequality varies significantly by province. For instance, during the 2007-11 period, the Gini coefficient ranged from 0.265 on average in Prince Edward Island to 0.325 in Alberta. And although inequality has risen in all provinces since the mid-1980s, the largest increases occurred in Ontario, British Columbia and Alberta, with negligible changes observed in Prince Edward Island and Saskatchewan (see Heisz, figure 3).

Looking at these overall inequality patterns, some analysts emphasize the relative stability in the level of inequality over the past decade to argue that inequality is not a pressing problem. According to this argument, inequality might be greater than it used to be, but it appears to have stabilized in recent years. Moreover, focusing on after-tax income inequality — the disposable income that people actually have to spend — rather than on market income inequality implies much smaller increases in inequality over time. Our view is that the trends in inequality we have described are a greater cause for concern than posited by these "inequality deniers." We hold this view for several reasons. For instance, the OECD finds that "the long-term rise in inequality of disposable incomes observed in most OECD countries has…put a significant break on long-term growth" (2015a, 26). It estimates that the 2-point increase in the Gini coefficient of inequality across 19 countries between 1985 and 2005 served to undercut cumulative growth by 4.7 percentage points over the period from 1990 to 2010 (67). To put this in perspective, Canada experienced close to a 3-point increase in the Gini coefficient over the same period.

Some researchers argue that greater inequality affects long-term growth through its impacts, both positive and negative, on incentives to invest — in particular, by causing low-income individuals to underinvest in their skills and education — as well as through its dampening effects on domestic demand and the adoption of advanced technologies. Stiglitz (2012) argues that higher inequality can harm efficiency by reducing work effort among people at the bottom of the income distribution, who come to view their society as less fair — a belief that can also harm the fundamental functioning of our democracy. To the extent that these arguments are true, we have reason to be concerned about the higher level of inequality today than 30 years ago, even if inequality has stabilized over the past decade.

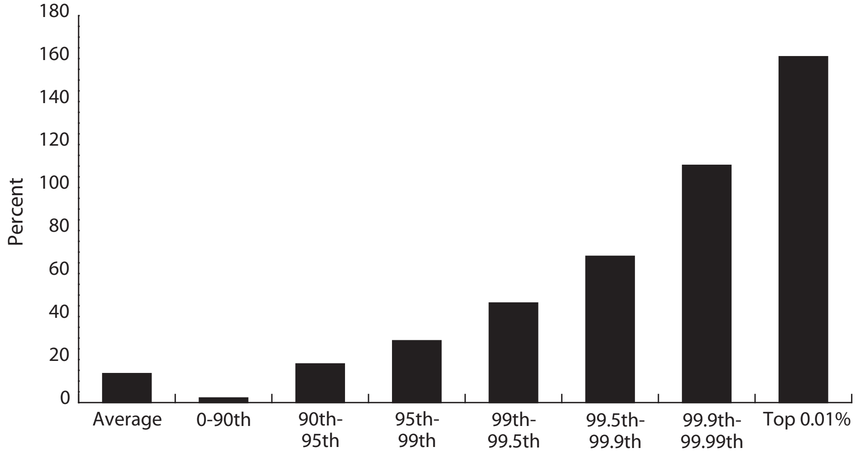
There is also reason to be concerned about the more substantial rise in market income inequality, even if partly mitigated by taxes and transfers. Many people form their notion of the fairness of society and self-respect based on their role relative to that of others in the productive system. Accordingly, a more unequal distribution of rewards in the labour market can challenge this notion of fairness and be detrimental to both the self-respect of those at the bottom of the pay scale and the respect they get from others, despite subsequent income redistribution through taxes and transfers. It is, after all, one thing to obtain one's share of the pie as remuneration for work and quite another to obtain it as a combination of low remuneration and government transfers. That said, the decline in the effectiveness of the tax-and-transfer system in offsetting market income inequality is also problematic.

To these concerns we add another that arises from the main reason for the relatively stable level of inequality in Canada in the 2000s. In several of the chapters, the evidence points to the resource boom as having played an important role in that stability. In particular, the oil boom in Alberta raised the wages of low-skilled workers in that province, even in industries and occupations not directly related to the resource sector (see the chapters by Nicole Fortin and Thomas Lemieux and by Joseph Marchand). In contrast, in Ontario, those at the bottom end of the earnings distribution did not experience wage increases in the 2000s, and overall inequality in that province increased. As the resource boom ends, however, we could very well see a ratcheting up of market income inequality for the country as whole in the coming years.

Inequality measures: A closer look

Digging below summary measures of inequality such as the Gini coefficient leads us to a more nuanced view of changes in the income distribution. Figure 2 plots the growth of market income — that is, all income except transfers and capital gains — of various segments of the income distribution between 1982 and 2010. The real market income of Canadian taxfilers rose on average by 13.5 percent. However, that growth was strikingly uneven. The income of the bottom 90 percent increased by a meagre 2 percentage points. In contrast, the income of the top 10 percent increased by more than 75 percent and that of the top 0.01 percent by 160 percent. Among

Figure 2
Total income[1] growth by fractile, Canada, 1982-2010 (percent)



Source: Authors' calculations based on F. Alvaredo, T. Atkinson, T. Piketty and E. Saez, World Top Incomes Database (http://topincomes.parisschoolofeconomics.eu/).
Note: This is figure 2 in Lemieux and Riddell (in this volume).
[1] Based on market income, which includes all income except government transfers and capital gains. The data are based on all taxfilers, including those with zero income.

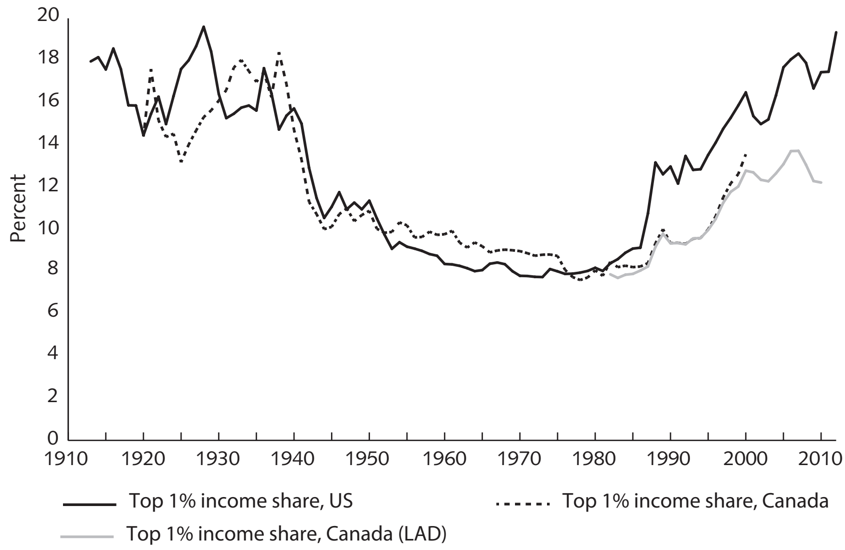
the top 10 percent, the further up the income distribution one goes the larger are the percentage gains in real market income. It is worth looking more closely at the component parts of this pattern.

The top

The dramatic growth of income at the top of the distribution has, of course, garnered considerable attention. In this volume, Heisz provides an overview of this development, and Lemieux and Riddell present a detailed analysis. Apart from temporary setbacks associated with recessions, the share of income received by those at the top of the distribution has increased steadily over time. Based on data from income tax files, the share of market income received by the top 1 percent increased from 7.6 percent in 1982 to 13.6 percent in 2006, before declining slightly to 12 percent in 2011. Increases in income shares were even more pronounced at the very top of the income distribution, with the share of the top 0.1 percent more than doubling from around 2 percent in the early 1980s to around 5 percent in recent years. In other words, the income of this small group (one taxfiler out of a thousand) went from 20 times average income to 50 times average income over this period. Much of the surge in top incomes occurred in the 1990s, but the trend was evident starting in the 1980s.

One advantage of administrative data on taxfilers is that they are available over long periods — essentially since the introduction of income tax. Heisz, for example, compares the share of market income going to the top 1 percent in Canada and the United States since the 1920s (see figure 3). During the period from the 1920s to the beginning of the Second World War, income was highly concentrated in both countries, with the top 1 percent earning between 15 and 20 percent of all market income. This concentration declined substantially during the postwar period, hovering between 7 and 9 percent in the United States and slightly higher in Canada through the 1950s and into the early 1980s. The sharp increase in the share of market income going to those at the very top of the

Figure 3
Share of market income held by the top 1 percent of earners, Canada and the United States, 1913-2012



Source: F. Alvaredo, T. Atkinson, T. Piketty and E. Saez, World Top Incomes Database (http://topincomes.parisschoolofeconomics.eu/).
Note: This is figure 6 in Heisz (in this volume).
LAD = Longitudinal Administrative Databank

income distribution since the early 1980s is thus a major departure from earlier trends, marking a return for both countries to levels of income concentration not seen since the "Great Gatsby era" of the 1920s. Although the surge in earnings of the top 1 percent appears to have been much larger in the United States than in Canada, this might be due in part to differences in how income is reported for tax purposes in the two countries. Once these differences are taken into account, however, the rise in the income share of the top 1 percent in Canada is much greater than that shown in figure 3, and closer to the increase in the United States (Wolfson, Veall and Brooks, forthcoming).[6]

The steep rise in earnings of Canadians at the very top of the income distribution has far outpaced that of other income earners over the past three decades. Who are Canada's top-income earners, and how has the composition of this group changed over time? In their chapter, Lemieux and Riddell provide a detailed picture of the evolution of top incomes from 1981 to 2011 and examine the characteristics of earners in the top 1 percent relative to those of all earners. In 2011, the income cut-off for the top 1 percent was $160,000 and their average annual income was $320,000 (in 2000 dollars). Contrary to what might be expected, investment income represents only a small fraction of this group's high income, which consists for the most part of labour earnings (80 percent, compared with 60 percent for all earners). Less surprisingly, Lemieux and Riddell also find that an overwhelming majority (close to 80 percent) of top-income earners are men ages 35 to 64, and that they tend to work substantially longer hours and to be more highly educated than other earners: in 2011, 68 percent of top earners had at least a university degree, compared with only 22 percent of all income earners.

One noteworthy finding relates to the importance of particular occupations and industries in the rise of top incomes. Specifically, senior executives and those working in the financial and business services sectors have been driving the growth in top incomes in Canada. As in the United States, these two groups have come to represent a much larger proportion of the top 1 percent over the past three decades, and their incomes have grown much more rapidly than those of other top earners. Senior executives are 19 times more likely and those working in business services and finance are 3 to 4 times more likely than average to be in the top 1 percent. Holders of medical degrees are also substantially overrepresented among the top 1 percent, although in terms of income growth they have generally lost ground relative to other top earners. Unlike in the United States, however, the oil and gas sector also played an important role in income growth at the top in Canada. As a result, Alberta is one of only two provinces (Ontario is the other) with a disproportionate share of top-income earners.

Given the prominent role of technological change in explanations of the growth of top incomes, it is perhaps no surprise that earners in science, engineering and computer science have also made substantial income gains in recent years, though their earnings levels are still well below those of senior managers and top earners in the finance and business services sectors. Lemieux and Riddell find that earners with an education in mathematics and in computer and physical sciences experienced somewhat larger gains over the 1986-2006 period than did their counterparts in commerce, management and business, but the former started from a lower earnings base and their average earnings were still lower than those in the latter fields in more recent years. Earners in the natural and applied sciences occupations had both much lower earnings and smaller earnings gains than did their counterparts in business, finance, administrative and management occupations. Lemieux and Riddell also point out that those with degrees in the natural and applied sciences, including computer science, accounted for barely 1 percent of those in the top 1 percent of earners, whereas the increased presence of computer scientists among the top earners is basically in line with their increased share of earners in general. Although technological changes can affect the earnings of different groups of workers in different ways, Lemieux and Riddell conclude that technological change is “only a modest part of the explanation of what has happened at the very top of the distribution” in Canada (133).

The middle

The dramatic rise in earnings at the very top of the income distribution relative to the rest has also led to considerable concern about the decline of the middle class and its broader implications. The possible erosion of the middle class implies polarization in the distribution of economic well-being, but it also raises issues of basic fairness, declining economic opportunity — “the chance to get ahead” — and broader social cohesion.

In his chapter, Charles Beach provides new evidence on what has been happening to middle-class earnings and middle-class earners over the period from 1970 to 2012. Beach defines middle-class earners as those earning between

50 percent and 150 percent of their gender-specific median earnings level. He thus carries out his analysis at the level of the individual worker, rather than at the family level. He examines both the size of the middle-class workforce and the share of total earnings these workers receive compared with the proportion and earnings share of lower earners (those earning less than 50 percent of gender-specific median earnings) and higher earners (those earning more than 200 percent of median earnings). Earnings include annual wages and salaries and income from self-employment. Beach analyzes two groups of workers: all workers with positive income (that is, including those working part-time and part of the year) and the more homogeneous group of full-time, full-year (FTFY) workers. Based on these definitions, the middle-class range of earnings for FTFY women in 2005 was $18,500 to $55,500 and for FTFY men it was $24,500 to $73,500.

Beach's analysis yields several key results. First, beginning in the 1970s and up to 2005, there was a marked decline in the proportion of middle-class workers among male and FTFY female workers — for instance, the proportion of male workers receiving middle-class earnings dropped from 54 to 42 percent over the period — and a corresponding increase in the proportion of both lower- and higher-earning workers, although there is evidence that this trend has subsided since 2005. Second, as of the early 1980s, there was an even larger decline in the share of earnings going to middle-class workers. The earnings share of middle-class FTFY male and female workers fell by 20 and 17 percentage points, respectively, while their higher-earning counterparts saw their share of earnings increase by 13 percentage points. There was little change in the earnings share of lower-earning workers (see Beach, tables 2 and 3). This shift in earnings from middle-class workers to higher-earning workers is consistent with evidence we have already noted.

These changes in earnings shares are due both to shifts in the relative size of each earnings group and to changes in each group's average earnings relative to the others. In order to gauge their relative importance, Beach decomposes the changes in earnings shares into these two components and finds that more than half of the decline in the earnings share of middle-class workers over the 1970-2005 period can be attributed to their falling share of the labour force, while the increasing proportion of higher-earning workers explains more than 75 percent of the very substantial increase in their earnings share. Looking more closely at the 2000-05 period, however, Beach notes a reversal in the relative importance of the two contributing factors: the decline in the relative earnings of middle-class workers, rather than the decline in their share of the workforce, became the more significant contributor to their loss of earnings share. Similarly, the steep rise in the relative earnings of the high earners became the dominant factor contributing to the sharp increase in that group's earnings share.

In interpreting these findings and relating them to other measures of income inequality, it is important to keep in mind the difference between how Beach defines his three earnings groups and definitions based on percentiles of the market income distribution, such as those employed by Heisz and Lemieux and Riddell. When using percentiles, the relative size of the top 1 percentile cannot change: by definition, it represents the 1 percent of the population with the highest incomes; if incomes rise at the top, the income cut-off between the top 1 percent and the rest adjusts upward. In contrast, when using definitions based on a range of earnings relative to the median, as Beach does, what changes is the relative size of the groups and their average earnings. Both definitions are useful, but for different purposes. Beach's definitions allow us to see how the size of the middle class has changed over time, as well as how middle-class earnings have evolved relative to those of higher- and lower-earning workers.

Beach's results thus point to a marked decline in both the size of the middle class and its share of overall earnings over an extended period, and they raise concerns about the potential consequences of a more polarized workforce, economy and society. At the same time, as Beach points out, the relative growth in the size of the higher-earning group may in part be a "good news" story — one that presumably reflects sectoral shifts that have been going on for some time, such as the shift from manufacturing to services and from blue-collar to white-collar occupations, as well as the substantial upgrading that has occurred in the education level of the Canadian labour force over the past few decades.

A forthcoming article in the *Canadian Journal of Economics* by David Green and Benjamin Sand, summarized in this volume, provides further insight into these patterns and their possible causes. Green and Sand study the extent of polarization of the Canadian labour market over the period from 1971 to 2011 and compare it with the experience of the United States and several European countries.

Polarization refers to the hollowing out of the middle of the distribution, in terms of either wages or jobs, and increases at both the bottom and the top.

The leading explanation of wage and employment polarization is technological change — in particular, the widespread adoption of computers in the workplace. Routine tasks — often found in middle-skill secretarial and clerical occupations — are those most vulnerable to being replaced by computers. In contrast, demand for cognitive task occupations, such as management and the professions, in which worker productivity is enhanced by information technology, is likely to increase with the more widespread use of computers. At the other end of the distribution, low-skill occupations such as sales and services, which entail non-routine tasks and personal interaction, are not easily replaced by computers and are less likely to be affected by greater use of information technology. This theory predicts rising demand for high-skilled workers, and thus increased employment among those in cognitive-skill occupations and increases in their wages relative to those in middle-skill occupations. Similarly, it predicts declines in both employment and wages for middle-skilled workers.

Green and Sand carry out their analysis at the occupational level based on these three skill-level groups and find that job polarization has been taking place in Canada since the early 1970s, although that secular trend has been less pronounced since 2000. (These results at the occupational level are consistent with those of Beach, who defines his three groups in terms of relative earnings.) The wage pattern, however, is not one of polarization; rather, it indicates an increase in wage inequality during the 1970s, 1980s and 1990s. Again, the trend changed in the 2000s, with evidence of a slight polarization of wages, with wages in low-skill occupations increasing modestly relative to wages in middle-skill occupations and wages in high-skill occupations rising sharply relative to wages in the middle. Green and Sand note, however, that distinct regional patterns of wages and employment emerged after 2000. The same pattern of employment polarization combined with rising wage inequality persisted in Ontario, while in Alberta, in contrast, real wages rose for both low-skill and middle-skill occupations, contributing to the slight polarization in the national occupational wage structure in the 2000s.

The overall pattern for Canada from the early 1970s to the end of the 1990s was similar to the experience of European countries: a combination of polarization in employment and rising wage inequality. The US experience, however, was somewhat different: increased polarization of employment in the 1980s and 2000s combined with rising wage inequality, but polarization of both wages and employment during the 1990s.

There is a substantial international literature on changes in the occupational wage and employment distributions, but little Canadian evidence. Green and Sand help to fill this gap. Their results also raise questions about how well we understand the underlying causes. Canada, the United States and European countries did experience job polarization over the past several decades, which is consistent with the predictions of theory about the effects of technological change. However, employment polarization combined with wage polarization occurred only in the United States in the 1990s and, to a mild degree, in Canada since 2000. The more common pattern in all these countries was job polarization combined with growing wage inequality, which does not accord with the predictions of theory. Rather, the observed outcomes are consistent with rising demand for high-skill occupations — as predicted by the computerization story — but this was accompanied by a combination of falling demand and/or rising supply for low-skill occupations. As Green and Sand note, one possibility is that job loss in highly paid middle-skill occupations in manufacturing has increased the labour supply for low-skill sales and services occupations.

The bottom

Although rising income inequality is often associated with growing poverty, most recent media attention and public discourse on inequality has focused on the rise of the top 1 percent and the decline of the middle class. Is this relative attention warranted? What has been happening at the bottom of the earnings and income distributions?

In his chapter, Heisz provides an overview of low-income and poverty trends since the mid-1970s. Statistics Canada produces two measures of low-income incidence on a regular basis. The low-income cut-off (LICO) is an absolute poverty measure that tells us the share of the population whose income falls below a fixed threshold based on the average share of household spending on necessities (food, shelter and so on), updated to reflect changes in the cost of living. The low-income measure (LIM) is a relative poverty measure that indicates the share of the population with income less than 50 percent of median income. We would expect both measures to rise in recessions and decline in periods of buoyant economic growth. However, the two measures, which exhibited very similar paths between the mid-1970s and 1990, have since diverged substantially. As figure 4 shows, the LICO-based rate rose much more steeply during the prolonged recession of the early 1990s, but then dropped steadily from over 15 percent in 1996 to under 9 percent in 2011. In contrast, the LIM-based rate has remained fairly stable in the 12 to 13 percent range.

According to these measures, poverty levels have been relatively stable or have declined substantially compared with the levels in the mid-1970s. The difference between the two measures reflects the fact that, although there has been some income growth among those at the bottom of the distribution since the mid-1990s (hence the decline in the LICO rate), this growth has essentially been in line with increases in the median income (hence the stability of the LIM).

That the incidence of low income has been stable or has declined is clearly a favourable development. Two cautionary notes, however, should be added. First, there might still be high and persistent levels of poverty among more vulnerable segments of the population, a point to which we return below. Second, although the stability of the LIM-based rate means that inequality has remained stable in the bottom half of the income distribution, both low- and middle-income earners,

Figure 4
Share of population in low income under LICO and LIM measures, Canada, 1976-2011

Source: Statistics Canada, CANSIM table 202-0802.
Note: This is figure 8 in Heisz (in this volume).
LICO = low-income cut-off
LIM = low-income measure

as we have discussed, have seen little progress in their standard of living over an extended period of time. The vast majority of the gains from economic growth have gone to a small minority of the population at the very top of the earnings distribution.

Summary indicators of the incidence of low income are useful and important but they fail to convey two key dimensions of poverty that should concern policy-makers: mobility and persistence. In his chapter, Heisz summarizes evidence on the degree of income mobility in and out of low income. He finds there is considerable "churning" among the low-income adult population (Murphy, Zhang and Dionne 2012). For example, during the 2002-07 period, the average low-income rate was 10.8 percent, but as much as 20 percent of Canadian families experienced at least one year of low income, while only 5 percent experienced low income for four or more years over the period. Rates of entry and exit from low-income status are also high; for example, about one-third of those in low income in one year escape the following year. Substantial caution should be exercised, however, in interpreting these churning rates, since the underlying study does not differentiate movements by age or education status. Thus, part of the churning reflects young people who are in school in one year (with associated low earnings) and enter the labour force in the next. A better measure of low-income persistence for policy purposes thus would focus on groups with poor lifetime prospects, rather than including normal life-cycle transitions that do not reflect true poverty in a permanent-income sense.

In their chapter, Tony Fang and Morley Gunderson examine the incidence of low income and transitions in and out of poverty between 1993 and 2010 among Canada's most vulnerable groups: Aboriginal persons living off-reserve; recent immigrants (in Canada less than 10 years); lone parents; persons with disabilities; and unattached persons ages 45 to 64 living on their own. The authors also look at youths ages 20 to 24 who are not in school because of the potential long-term repercussions of their initial experiences in the labour market.

Fang and Gunderson find that the decline in LICO-based poverty rates observed for the population overall was even more substantial among the vulnerable groups. Nonetheless, vulnerable individuals continue to experience significantly higher rates of poverty than those who are not vulnerable. In 2010, the average poverty rate among vulnerable groups ranged from 9.8 percent for youths to 30.6 percent for unattached individuals, compared with 3.9 percent for the nonvulnerable group. Unattached older individuals and disabled persons together represented less than 39 percent of the population but more than 60 percent of the poor. Poverty was also more persistent among vulnerable groups: on average over 9 percent remained in low income for three or more years between 2005 and 2010, compared with only 2.8 percent of nonvulnerable individuals. In the case of unattached individuals, that proportion was 25 percent.

We noted previously that the level of income inequality is highly sensitive to economic recessions. Similarly, Fang and Gunderson find that vulnerable groups are disproportionately harmed by recessions. Although their rates of entry into poverty trended downward between 1993 and 2010, this trend tended to stall and even reverse during years of economic slowdown and high unemployment; by comparison, the nonvulnerable group suffered much smaller effects. Furthermore, although nonvulnerable individuals who fell into poverty did so only temporarily, individuals belonging to vulnerable groups were much less likely to escape from poverty, especially following an economic downturn.

Fang and Gunderson also find that, for the most part, the greater incidence of low income among vulnerable groups (with the exception of persons with disabilities) cannot be explained by observable characteristics such as education and health status. Thus, other (possibly unobserved) factors must account for the differences in outcomes between vulnerable and nonvulnerable groups.

Overall, poverty rates of vulnerable groups have trended downward over time, as has been the case for the overall population, although this progress stalled during years of recession. Vulnerable groups remain more likely to fall into poverty and to stay poor. They are helped most by strong economic conditions and better job prospects, and thus, as Fang and Gunderson point out, a vibrant labour market should be viewed as the first line of defence in combating poverty.

The role of immigration

Canada is one of the world's main immigrant destinations, with between 225,000 and 260,000 immigrants arriving annually since the early 2000s. Indeed, Canada and Australia have the highest immigration rates in the Western world, admitting approximately 0.8 percent of their populations annually. The magnitude of the immigrant inflow is large enough that it could affect the incidence of poverty and income inequality at the national level, as well as in regions and cities that receive substantial numbers of immigrants.

In previous research, Garnett Picot and Feng Hou (2003) found that the rising proportion of immigrants and increases in their low-income rates accounted for almost all of the increase in the national low-income rate during the 1990s. Indeed, the decline in the economic outcomes of successive cohorts of immigrants arriving since the 1980s has been the topic of considerable research, and it prompted significant changes in immigrant selection policies and practices in the 2000s.

In their chapter, Picot and Hou follow up on their earlier research to see if immigration might have contributed to the significant decline in the low-income rate from 12.5 to 8.8 percent at the national level between 2000 and 2010. They find that the low-income rate among recent immigrants (whom they define as those in Canada for five years or less) fell substantially from 39 percent to 32 percent over that period, but not as much as it did for the Canadian-born, which means the situation of recent immigrants failed to improve relative to the rest of the population. Indeed, the low-income rate among recent immigrants, which in 1980 was 1.4 times that of the Canadian-born, increased to 2.4 times that of the Canadian-born by 2000 and showed no relative improvement in the 2000s, despite declining poverty rates. Thus, Picot and Hou conclude, it is primarily the falling rate of poverty among the Canadian-born that explains the decline in the low-income rate at the national level.

Picot and Hou also examine the extent to which the decline in recent immigrants' poverty rate is associated with policy reforms and with changes in the characteristics of incoming immigrants during their study period. They find that about one-third of the decline in the low-income rate among recent immigrants can be attributed to rising educational attainment and changing source countries, although these effects vary substantially by province and by city. Most of the improvement thus appears to be due to other factors, such as the strong economic expansion between 1995 and 2000 and the resource boom of the 2000s.

The authors' investigation of the direct impact of immigration on overall income and earnings inequality over the 1995-2010 period also indicates that immigration contributed very little to either the rise in family earnings inequality or family income inequality over that time.

Finally, Picot and Hou review the evidence of the indirect labour market effects of immigration. Canadian evidence on this issue is very limited, but the question has been extensively studied elsewhere, especially in the United States.

The indirect effect is the potential impact of immigrant inflows on domestic workers. For example, by adding to the supply of low-skilled labour, immigrants might reduce the wages of native-born, low-skilled workers, thus increasing earnings inequality. Similarly, highly educated immigrants might compete for employment with the well-educated native-born, reducing the latter's relatively high earnings and thus reducing inequality. Picot and Hou's carefully reasoned assessment of this evidence is that the indirect effect of immigration on income inequality is likely quite small.

In a forthcoming article in the *Canadian Journal of Economics*, summarized in this volume, Casey Warman and Christopher Worswick also examine the extent to which Canada's large immigrant inflow, together with the declining labour market fortunes of immigrants in recent decades, has affected earnings inequality. They focus on how technological changes — especially advances in information technology — have influenced immigrants' earnings and whether the interaction of high levels of immigration and technological change has affected income inequality.

Like Green and Sand, discussed previously, Warman and Worswick carry out their analysis at the occupational level. In particular, they examine the task composition of occupations held by cohorts of immigrants who arrived since the mid-1970s and how these compare with that of the cohort of immigrants who arrived between 1970 and 1974 and who had better employment and earnings outcomes. They find that more recent immigrant cohorts became increasingly likely to be employed in low-paid manual occupations and less likely to be employed in occupations with cognitive and nonmanual task requirements, compared with earlier cohorts. This trend seemed to reverse somewhat beginning in the mid-1990s with the increased emphasis on educational attainment in immigration selection policy, but this reversal disappears when the authors control for education, signalling an underlying trend toward immigrants in all education groups being employed in manual occupations. The fact that recent immigrants, including those with high educational attainment, have been moving into occupations adversely affected by technological change and not into occupations requiring cognitive/analytical tasks that benefit from such change helps us to understand the declining economic fortunes of recent immigrants over the past several decades.

In order to examine implications for income inequality, Warman and Worswick measure earnings inequality among immigrant and Canadian-born workers, as well as the two groups combined, over the period from 1991 to 2006.

They find that earnings inequality among immigrants was much higher than among the Canadian-born, although the Gini coefficients of both groups trended upward at a similar rate. Combining the two groups, however, results in a Gini coefficient very close to that of the Canadian-born, which implies that immigrants do not have a significant effect on earnings inequality in Canada's labour force as a whole.

Has the combination of high levels of immigration and worsening employment and earnings outcomes among immigrants contributed significantly to rising income inequality in Canada? The chapters by Picot and Hou and by Warman and Worswick analyze this question from different perspectives, and both conclude that the answer is no.

Mobility across the income distribution

Our discussion so far has focused on trends over time in aggregate measures of inequality and changes in income shares for different segments of the distribution. But the income mobility of individuals across the distribution is also important. We would evaluate an income distribution in which low-income individuals were stuck at the bottom throughout their lifetimes differently than one that produced the same Gini coefficient but displayed more churning over time. For example, the degree of concern we might attach to the fact that around 12 to 13 percent of Canadian families have incomes that fall below the low-income threshold depends in part on whether that situation is temporary or persistent. As we have seen, poverty in Canada tends to be a transitory state for most individuals, although, of course, it is much more persistent for a non-negligible number of vulnerable individuals. Moreover, notions of equal opportunity in a society are strongly related to intergenerational mobility, that is, the extent to which children are afforded the same life chances regardless of their parents' income status.

The study of income mobility requires us to follow the same individuals or families over time. Unfortunately, such longitudinal data are limited in Canada, but a few studies of this important phenomenon exist. For example, the chapter by Fang and Gunderson focuses on poverty dynamics and mobility at the lower end of the income distribution. In his chapter, Heisz also summarizes evidence from a recent study by Zhang, Chung and Saani (forthcoming) of mobility across the entire income distribution, an important indicator of the degree of opportunity in society. He concludes that income mobility is relatively high in Canada overall, but that it appears to have declined in recent years. Tracking taxfilers over five-year intervals between 1982 and 2010, Zhang and colleagues find that the proportion of individuals that remained in the same income decile increased substantially over that period, from 25.7 percent in 1989-94 to 30.1 percent in 1993-98 and to 32.5 percent in 2005-10. This indicates a greater degree of income "immobility," which also suggests that the level of income inequality observed at any point in time is more likely to persist going forward.

Another important indicator of equality of opportunity is the extent of income mobility across generations. Heisz's review of Canadian and US evidence comparing the income quartiles of fathers and sons indicates that intergenerational mobility is greater in Canada than in the United States, although in both countries recent research suggests that the degree of intergenerational mobility might be less than previously estimated. Corak (2013) shows that more unequal societies tend to have less intergenerational mobility — a correlation labelled "the Great Gatsby curve." Although this correlation can be interpreted in several ways, it does raise the concern that income inequality not only affects the current distribution of economic well-being of individuals and families; it also might reduce economic opportunity from one generation to the next, particularly among those in the lower half of the income distribution. Indeed, the OECD has found that this is the main mechanism through which inequality affects long-term economic growth. The effects of income inequality on equality of opportunity can be found in the lower levels of educational attainment and skills acquired through education and the higher risk of unemployment of individuals from low-education family backgrounds as inequality rises. In essence, "higher inequality of incomes of parents tends to imply higher inequality of life chances of their children" (OECD 2105a, 27). This is important for predicting future trends in intergenerational mobility for Canada. Corak's evidence is for one set of cohorts, with the children's earnings being observed in the mid-1990s and the father's at least 20 years prior to that. With more income inequality among subsequent cohorts of fathers, we can expect declines in intergenerational mobility in Canada.

Where Do We Stand?

ALTHOUGH THE INEQUALITY TRENDS WE HAVE HIGHLIGHTED ARE SUFFICIENTLY COMPLEX to allow different interpretations, we believe that a consistent pattern emerges: income inequality (as well as consumption inequality) has increased in Canada, to an important extent because of the dramatic increases in income among top earners over the past 30 years. In contrast, incomes have grown very little among those in the middle and at the bottom of the distribution. The lack of progress in income in the middle combined with a shrinking share of workers receiving mid-range earnings has led to considerable angst about the decline of the middle class. The evidence reviewed here indicates that this concern is justified. Poverty rates in Canada have been either flat or declining, but these reflect similarly meagre income gains in the middle and at the bottom of the distribution. Perhaps most important, income mobility across the distribution has declined, and there is every reason to believe that intergenerational mobility is also deteriorating. Thus, middle-class and low-income families face not only a lack of progress in income for themselves, but also a genuine worry that their children will not be able to improve their lot. Although some observers have found ways to interpret the relative stability in the Gini coefficient of inequality since 2000 as indicating no great cause for concern, we view the longer-term trends and underlying patterns as real alarm bells. The combination of greatly increased concentration of income at the top and reduced chances of getting there for the rest signals a society that is substantially less equitable, inclusive and fair than it was three decades ago. Moreover, based on analysis of regional inequality patterns that we describe in more detail below, a strong case can be made that the relatively stable level of inequality since the early 2000s is in good part due to the increased demand for lower-skilled workers associated with the resource boom. And with the boom now turning into bust, Canada might very well return to a path of rising inequality.

In his chapter, Lars Osberg argues that whatever reasons we might have for being concerned about high levels of inequality are compounded if inequality has been growing for some time, as has been the case in recent decades. As he points out, most analyses of inequality compare different countries at a point in time or differences in inequality in a given country at a few points in time. The level of inequality in a country in a particular year is thus treated as if it were a steady-state outcome that can be expected to persist over time, which leads to questions about which level of inequality we want to emulate and what policies will get us there. But income inequality in Canada is not in a steady state, as is reflected in the increasing share of income going to the top 1 percent of earners over several decades documented in this volume. As Osberg notes, in that context, the question we really need to ask is, What happens in a society when inequality increases continually over time?

The first key claim underlying Osberg's argument is that the rising share of income going to top earners is a secular trend that should not be expected to abate without active intervention. As we have seen, this is true for Canada in broad terms — that is, comparing average shares across decades. According to Osberg, this is simply a natural outcome of the operation of the global economy in recent decades, and therefore there is no reason to think top-income shares will stabilize. Osberg, of course, is not alone in portraying modern capitalism as having an inherent tendency toward inequality. Piketty (2014), in his now famous book, argues that such a tendency arises because of a built-in imbalance in which the rate of return on capital outstrips the rate of economic growth. The result is an increasing concentration of income in the hands of owners of capital. But, as Osberg notes, such a mechanism overlooks a key point from Lemieux and Riddell's analysis — namely, that most of the income of the top 1 percent is in the form of labour income, not capital income. Based on this observation, Osberg instead sets out a model in which a hierarchical labour structure within a firm implies that a few top executives extract substantial rents based on the size of the global market for the firm's output. Given that the size of the global market can be expected to grow and along with it the size and reach of multinational firms, Osberg predicts an ever-increasing share of income going to the very top of the distribution — a prediction that fits with Lemieux and Riddell's finding that senior business executives have had the strongest income growth among the top earners. Moreover, Osberg argues that there is no inherent mechanism in the system to offset these inequality-driving forces. Indeed, it is the operation of the market that has generated the problem.

Osberg foresees far-reaching consequences for society of having an ever-increasing share of output distributed to a small share of its members. Perhaps most important, as the top 1 percent gradually pulls farther away from everyone else in terms of income, they will have a tendency to form a separate society within the broader society. This means that they could also form a different set of preferences about the direction for society from that of their fellow citizens. And with their increased relative income comes an increased ability to influence policy through lobbying and other means. This political economy channel is the one Stiglitz (2012) emphasized as both the source and the means of perpetuation of increasing inequality. The troubling implication is a future in which an increasingly disaffected majority suffers from policies made by and for the few.

We share this concern. The inequality trends depicted in this volume have the potential over time to tear at the fabric of our society, not just economically but also in terms of the strength of our democracy and the quality of social interactions. In Adam Smith's *The Theory of Moral Sentiments* — in which he sets out his views on society in much broader terms than in his famous *The Wealth of Nations* — he argues for the value of a society built on empathy (what he calls "sympathy") for one's fellow citizens. Smith states that societies can exist based on pure self-interest in the same way the market does, but that human nature implies a better model:

> It is thus that man, who can subsist only in society, was fitted by nature to that situation for which he was made. All the members of human society stand in need of each other's assistance, and are likewise exposed to mutual injuries. Where the necessary assistance is reciprocally afforded from love, from gratitude, from friendship, and esteem, the society flourishes and is happy. All the different members of it are bound together by the agreeable bands of love and affection and are, as it were, drawn to one common centre of good offices. (Smith 1759, 100)

Although some make a case for the concentration of wealth based on self-interest — arguing that everyone gets more when the top earners get more — it is hard to see how the patterns depicted in figure 2 could be anything but destructive of attempts to build a society based on mutual esteem and "the agreeable bands of...affection." Those at the top will be inclined to pull up the ladder and jealously guard what they have for fear that they or their children could fall into the stagnant middle or lower parts of the income distribution. And the people in the lower-income echelons, stressed by their lack of progress in a society built on the promise of progress, will find it harder to offer the type of reciprocal assistance to their neighbours on which Smith says a flourishing society is based. Is there a problem with inequality in Canada when measured against our own past or against other countries? We think the answer is clearly yes.

Policies: What Has Been Tried So Far?

If inequality is a problem, then the obvious next question is, What can be done about it? Everything government does and does not do influences the degree of inequality in our society. This means that policy has already been affecting inequality, and so before considering future directions, we need to examine to what extent existing policies work to reduce inequality. We will frame our investigation of this question in three parts: pre-labour-market policies (mainly building human capital); policies that directly affect labour market outcomes (minimum wages and unions); and postmarket redistributive policies (taxes and transfers).

Before reviewing these policies, it is important to note that their predicted efficacy and conceptions of how they affect fairness in society depend critically on how earnings are determined in the Canadian economy. One model used in economics is that of a perfectly competitive economy in which prices in product markets and wages in labour markets are set by the impersonal forces of demand and supply, and firms have no discretion over the prices they charge for their products or the wages they pay their workers. Such a model assumes that there is perfect information in product and labour markets — for instance, that workers are fully informed about all jobs that are available, the wages paid and the quality of those jobs. Similarly, employers are assumed to be fully informed about all workers available, their productivity and the wages paid by other employers throughout the economy. A perfectly competitive economy also requires a large number of firms producing each product, each firm being small relative to the size of the market and thus having no discretion over the product price. Firms are thus "price takers" in product markets, so that charging a price above the market price would result in zero sales because fully informed consumers would buy elsewhere. Similarly, employers are "wage takers" in the labour market and have no discretion over wages paid.

In this idealized neoclassical model of the economy, the only scope for affecting the welfare of society is found in altering the endowment of resources with which people start their lives. Beyond that, policies that intervene in the functioning of markets, such as minimum wages and labour unions, would have only negative effects on economic well-being. Minimum wages, for example, would reduce employment in sectors covered by such wages, forcing disemployed workers into sectors that are not covered (thus reducing wages there) or out of the labour force altogether. Minimum wages would also increase prices for consumers, and the total real value of output produced by the economy would fall. Similarly, there is no scope for unions in the neoclassical environment. In addition, firms in a perfectly competitive economy earn only a "normal" rate of return and would discontinue operations if their return on capital were lower. Therefore, there would be no “economic rents” — profits in excess of the market rate of return — for workers to capture.

Departures from the extreme assumptions of the neoclassical model lead us to consider an economy in which firms have some discretion over the price they charge for their product and the wages they pay their workers. Economists today frequently use a search-and-bargaining framework associated with the Nobel-Prize-winning work of Diamond, Mortensen and Pissarides (for a review, see Rogerson, Shimer and Wright 2005). In this framework, imperfect information in the labour market results in the need for a search-and-matching process and implies some discretion over wage setting. A match between a worker and a firm generates a surplus or “economic rent” to be shared between the two. Wages are influenced by worker productivity but are not solely determined by it. As Green (2015b) discusses, in such a world, there can be “good” jobs and “bad” jobs. Firms that offer wages below those prevailing do not lose all their employees, but they do have higher turnover — they receive fewer applicants and existing employees are more likely to quit. The key implications for our purposes are twofold. First, the notion of workers' bargaining power is meaningful in this framework, since there are economic rents to be shared between workers and firms, and there is scope for bargaining over that surplus. Second, in this economic model, there is scope for labour market policies to improve the economic welfare of workers and broader society.

Does the standard neoclassical model accurately represent how Canada's labour market functions, or is a search-and-bargaining framework more appropriate? Forthcoming articles in the *Canadian Journal of Economics* by Nicole Fortin and Thomas Lemieux and by Joseph Marchand, summarized in this volume, provide interesting insight into this question. Both articles examine what happened to wages during the resource boom of the 2000s. Marchand compares wage growth in western Canada in regions with and without a strong energy sector (defined as crude oil, natural gas and coal). He shows that in energy-intensive regions the resource boom led to significant wage growth, particularly in low-wage and high-wage occupations. And it was not only workers in the resource sector who benefited: the higher wages were spread across sectors in those regions.

Fortin and Lemieux examine the same phenomenon in the context of a wider study of interprovincial differences in wage movements between 1999 and

2013. In particular, they show that the three most resource-intensive provinces (Alberta, Saskatchewan, and Newfoundland and Labrador) experienced much stronger wage growth than did the other provinces. For example, over the period, the average wage in these three provinces grew by 22 to 25 percentage points more than in Ontario. Investigating whether the boom in the extractive resource sector (mining, oil and gas) can explain this wage differential, Fortin and Lemieux find that the direct effects on the overall average wage of wage increases in the sector itself are not large because, even in the resource-intensive provinces, the resource sector does not dominate employment. In earlier work, Beaudry, Green and Sand (2012) show, however, that in a model where workers and firms bargain over wages, an increase in wages in an important sector (such as energy in the resource-intensive provinces) leads to wage increases in other sectors in the local economy as well. Workers in the other sectors can use the threat of getting a job in the expanding resource sector as a means of bargaining for a higher wage. Once Fortin and Lemieux account for these wage-spillover effects, they estimate that the resource boom was responsible for about half of the faster wage growth in the resource-intensive provinces relative to Ontario. This fits with Marchand's finding that wages also rose in nonresource sectors such as construction, retail trade and services in energy-intensive local areas of the western provinces during the boom years. These findings are relevant because they accord with a view of the labour market in which workers' wages are related to their productivity but not solely determined by it. Instead, there is some room for wage increases stemming from shifts in bargaining power.

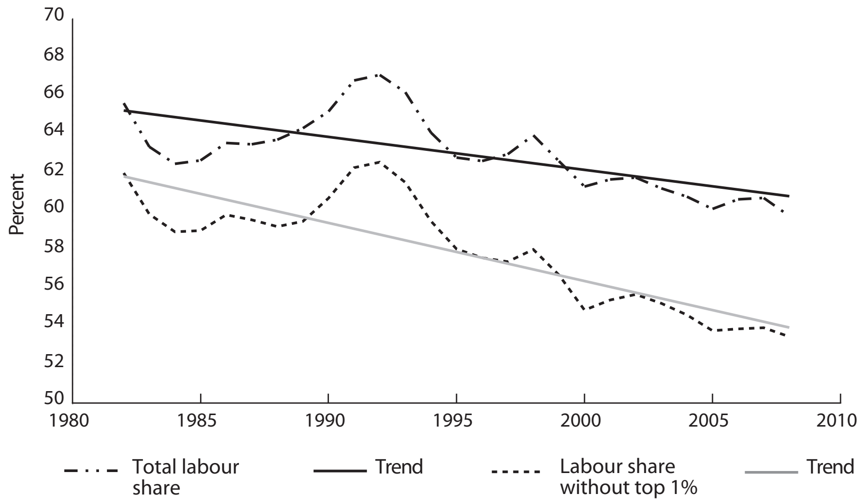
These results are also important because they indicate that the resource boom had a significant effect in raising wages in the middle and at the bottom of the distribution in resource-based provinces during the 2000s. According to Fortin and Lemieux, the boom even brought about a small decline in wage inequality in Alberta, Saskatchewan, and Newfoundland and Labrador. It is worth recalling that, for Canada as a whole, wage inequality was relatively flat or slightly decreasing in the 2000s. But, as Green and Sand point out, a strong regional element underlies the overall pattern: there was polarization of Ontario's wage distribution, while in Alberta there was strong wage growth in the bottom half. Based on these observations, it seems reasonable to predict that, with the end of the resource boom, demand for lower- and medium-skilled workers will decline, which could cause further increases in inequality overall.

The two economic models we discussed above also have interesting echoes in the explanations that have been suggested for the growth of top earnings. Proponents of the market-based view argue that this growth is a consequence of increasing demand for specialized skills and abilities linked to technological change, globalization and the increased number of larger firms with a global reach. On the other side of the debate are explanations based on the increased ability of top earners to extract economic rents — that is, to receive more than the market value of their services.

Lemieux and Riddell's description of the characteristics of earners in the top 1 percent provides useful insight into this debate. They find that the growth of top incomes has been much greater in certain sectors (especially finance and oil and gas) and occupations (especially among senior executives), which, they suggest, is consistent with rent extraction associated with opportunities specific to those sectors. As they argue, "In the case of finance, deregulation and lack of oversight have created opportunities for finance professionals to earn extraordinarily large incomes by taking substantial risks with other people's money…Similarly, the fact that the pay of CEOs has increased more substantially in some countries (especially the United States) than in other advanced nations is more consistent with country-specific features of corporate governance that create rent-extraction opportunities than with a generalized increase in demand for executive talent" (133-4). Lemieux and Riddell also find that, in Canada, top executives have done much better in income growth than medical doctors in recent decades, which also suggests that economic rents or related institutional factors are likely to be at least part of the story of income changes at the very top. In Canada, the ability of doctors and other health care professionals (as individuals or as a group) to extract economic rents chiefly depends on reimbursement rates that are negotiated with provincial health care authorities.

Moreover, Lemieux and Riddell argue that the declining bargaining power of many workers due to the globalization of economic activity and institutional changes such as substantial declines in private sector unionization might have reduced economic rents that would otherwise have flowed to workers lower down the wage distribution and increased earnings received by those at the very top. The erosion of the bargaining power of the majority of workers over an extended period is well illustrated in figure 5. This dramatic change has two elements. The top line shows the decline in the share of total income generated by the economy that accrues to workers. Even more noteworthy is the greater decline (shown in the lower line) in the share of total income going to the bottom 99 percent of workers.

Figure 5
Labour share of total income with and without the top 1 percent of earners, Canada, 1982-2008



Source: Authors' calculations based on Organisation for Economic Co-operation and Development, OECD Data, Productivity Unit Labour Costs (https://data.oecd.org/lprdty/unit-labour-costs.htm).
Note: This is figure 4 in Lemieux and Riddell (in this volume).

Although they point out that some high incomes are surely compensation for hard work and substantial investments in education, Lemieux and Riddell conclude that, on balance, their findings are more consistent with a rent-extraction story than with a market-based explanation. The importance of rent extraction also fits more closely with labour market models that emphasize bargaining over economic rents than with the standard neoclassical model. The bargaining/rent-extraction model therefore informs our review and analysis of specific policies to address rising income inequality.

Pre-labour-market policies

Increasing human capital leads to increased wages in either the bargaining/rent-extraction model or the standard neoclassical model of the labour market. Under the neoclassical model, it also reduces inequality, in part through its direct effects on the wages of those who would otherwise be low-skilled, low-wage workers, and through indirect, general equilibrium effects: each extra person who gets more education is one fewer person to compete with other low-skilled workers, implying a wage increase for these workers.

In their chapter, however, Kelly Foley and David Green come to a different conclusion. They argue that human capital policy, as currently implemented, will not reduce inequality in the short to medium term and may even increase it. Their argument has two components. First, it is not clear that changes in earnings differentials related to education have played an important role in the increase in inequality in Canada. They show that most of the rise in earnings inequality in the past three decades occurred within education groups, rather than between them. Earnings gaps between different education groups did widen in the 1980s and 1990s but narrowed subsequently during the resource boom. In other words, looking at the long-term difference between 1980 and 2015, inequality increased, not so much because the earnings of those with a university education pulled further away from those of high school graduates but because the earnings differentials among workers within each education group increased. And, Foley and Green argue, if education differentials were not the source of the problem, it seems unlikely that they would form the solution to it. Indeed, they point to earlier research by Beaudry and Green (2003), which indicates that, in contrast to conventional wisdom, increases in education levels have served to increase inequality. Essentially, as the number of university-educated workers increased, firms increasingly chose production technologies that make use of highly educated workers. For the less-educated, this meant reduced access to good jobs and falling wages.[7]

The second component of Foley and Green's argument is that how we increase education matters and that continuing to pull the same educational levers as we do now could lead to further increases in inequality. Here, it is important to consider different levels of education separately. At the university level, there is a strong positive correlation between getting a university degree and the student's family income. If this correlation arises simply because lower-income families cannot afford to send their children to university, then policies such as reducing tuition, opening more subsidized seats in universities and increasing the scope of Registered Education Savings Plans (RESPs) should increase rates of university attendance among children of lower-income families and reduce inequality, at least among the young. The evidence suggests, however, that the differences in university attendance by family income are only partly due to budgetary constraints. A key difference between low- and higher-income families may be the extent to which they value education: it is certainly the case that, even with generous government contributions targeting low-income families, it is middle- and upper-earning families that principally take advantage of RESPs. Moreover, even when university admission systems are income-blind, families with more income find ways to get their children admitted. A clear example of this is the requirement that applicants to medical school have considerable hours of volunteering in order to be admitted — a requirement that is much more easily subsidized by higher-income families. The implication of this evidence is that simply expanding the existing system through lowering tuition, enhancing the RESP program and so on — that is, doing more of the same — will reduce education costs for middle- and upper-income families but will do little to increase university attendance among young people from lower-income households. The result, in other words, would be to increase the transmission of inequality across generations.

On the surface, college and apprenticeship programs seem to provide a more hopeful education avenue for children from lower-income families since they entail lower tuition costs and require less time for students to become credentialed. However, results from the Youth in Transition Survey indicate that the dropout rate from colleges in the early 2000s was on the order of 25 percent and reached almost a third for students from lone-parent households. Moreover, only 40 to 60 percent of those who enrol in an apprenticeship actually complete the program. As Foley and Green see it, expanding these programs and enticing more people from lower-income backgrounds into them risks leaving large numbers of such individuals with student debt but without a credential. A key issue related to the poor completion rates in apprenticeships appears to be that many enrollees are underprepared and have insufficient math and science skills. For example, training to become a plumber is not just about learning how to use a wrench; it includes calculating flow rates through tubes.

More public spending on preschool and primary and secondary education does, however, have the potential to reduce inequality. Better education for these age groups, particularly if targeted at children from lower-income households, leads to improved longer-term outcomes in university attendance and earnings. And, as we have just seen, improving the quality of teaching in math and science, in particular, through primary and secondary school could improve later access to apprenticeships and perhaps also to other postsecondary education. But, Foley and Green note, these are not short-term solutions: the relevant time frame in which to see the actual impact of such policies on inequality is probably generations, not years.

Finally, there is also evidence that increased income support for lower-income households — for example, through earnings supplements such as Canada's Working Income Tax Benefit and the Earned Income Tax Credit in the United States — when the children of such households are very young leads to better educational outcomes for them later. We discuss such policies in more detail in the final section of this chapter.

Policies that directly affect labour market outcomes

If, as we argued earlier, wages are set in part through bargaining, then there is potential scope to affect the wage and earnings distributions through direct policies such as minimum wages and union regulation. In the context of a model in which workers and firms must search to find an appropriate match and then bargain over the wage, a minimum wage can be viewed essentially as the government bargaining on behalf of lower-skilled workers. Moreover, in such a model, the adverse employment effects of minimum wage increases need not be nearly as large as one might predict based on neoclassical-model reasoning. Indeed, in situations where employers have discretion in setting wages — what economists refer to as monopsony power — a higher minimum wage can lead to increased employment.[8]

In their forthcoming article for the *Canadian Journal of Economics*, summarized in this volume, Fortin and Lemieux conclude that the minimum-wage increases that have occurred in many provinces since 2005 have been effective in reducing wage inequality. This evidence is consistent with earlier US studies that found that the decline in the real value of the minimum wage in that country during the 1980s played a major role in the rise in wage inequality there during that decade (see Fortin et al. 2012 and the references cited there). It is also consistent with the fact that European countries that impose higher minimum wages (relative to the average wage) tend to have less wage inequality than does Canada.

Would minimum-wage increases also be effective in reducing family income inequality? The impact of minimum wages on family income inequality depends on which workers are affected by minimum wages. The standard claim is that minimum-wage earners are mostly teenagers from high-income families who live at home, but this is far from true: an earlier study by Fortin and Lemieux (2000) found that more than 40 percent of minimum-wage earners live in families with incomes in the bottom three deciles of the distribution. But the authors also conclude that the net impact of a minimum-wage increase on the distribution of family income is modest in size.

What about the effect of minimum-wage increases on poverty? There are a few studies that examine this question, which is interesting in its own right but also provides insight into minimum-wage effects on overall income inequality, because we expect minimum wages to have noticeable effects only at the bottom of the income distribution: that is, near the low-income cut-offs. However, the few existing studies (for example, Campolieti, Gunderson and Lee 2012; Green 2014) find that the effect is essentially nil. In some ways, this is not surprising. Raising the minimum wage in British Columbia by as much as $2, for instance, would still leave a single individual living in Vancouver and working full-time, full-year at the minimum wage below the pre-tax LICO.[9] This fits with the longer-term patterns portrayed in a recent report by the Caledon Institute of Social Policy, showing that, in all provinces, earnings from full-time employment at the minimum wage fell well short of the after-tax LICO for a period of more than 25 years, from the late 1970s to the mid-2000s, due to a lack of indexing and multi-year freezes (Battle 2015c).[10]

Most provinces have implemented minimum-wage increases as part of their poverty reduction strategies in recent years. Nonetheless, the historic relationship between the minimum wage and the poverty rate indicates that adjusting the minimum wage within its usual range (around 35 to 50 percent of the average wage) has not been effective in reducing poverty. As with postsecondary education policy, therefore, it appears that a bit more of the same would not make a major contribution to reducing either family income inequality or poverty.

The other obvious labour market policy goal to consider in this context is increasing union coverage. If wages are set at least partly through bargaining, it is plausible that workers who act collectively can negotiate better wages. In essence, the threat of a set of workers withdrawing their labour is much more potent than each worker individually threatening to stop working. The chapter by Scott Legree, Tammy Schirle and Mikal Skuterud examines the potential impact of more union-friendly laws on the proportion of workers who are unionized and, through that, on the degree of inequality in the wage distribution. Their simulation exercise is interesting, in part, because it is solidly rooted in the laws and regulations that have actually been used in Canada. That is, rather than asking what would happen if unionization rates were to increase by some percentage (through some unknown means), they ask what would happen if all jurisdictions in Canada adopted the most union-friendly regulations among those actually in use. They answer this by estimating the impact of those regulations on the proportion of workers covered by a collective agreement in the various provinces over time.

Their results are perhaps surprising. Although moving to the most union-friendly set of regulations would substantially increase union density rates among college- and university-educated men in the public/parapublic sector (by about 16 percentage points and 7 percentage points, respectively), doing so would have no effect on the union density rates among high-school-educated men or women with a trade or college education. To an important extent, Legree, Schirle and Skuterud's results reflect the nature of Canada's current workforce, which has very low union coverage in the private sector and high coverage in the public and quasi-public sectors. Since workers in sectors such as health, education and social services tend to be well educated and have middle-to-upper-range earnings, increasing union density among these groups of workers would have little impact in terms of raising wages at the low end of the distribution and, as a consequence, a limited effect on wage inequality. Indeed, they find that if all provinces were to adopt the most pro-union legislation, wage inequality among men, as measured by the wage differential between the 90th and 10th percentiles, would be reduced by 2 percent — a third of the 6 percent increase in that differential between 1984 and 2012 — but female wage inequality would be little affected.

These findings do not necessarily imply that unionization is unhelpful as a mechanism for reducing inequality. For instance, Legree, Schirle and Skuterud do not consider the spillover effects of stronger unions on nonunion wages. Also, laws and regulations not currently in use in Canada might be more effective in increasing unionization among lower-wage, less-educated workers. But given the nature of today's unionized workforce, marginal changes in the laws and regulations governing unions and collective bargaining do not seem to offer a promising solution to inequality.

Postmarket redistributive policies

In addition to policies intended to alter wage outcomes directly, the problem of inequality could also be approached through income redistribution — that is, by taxing market incomes and redistributing the resulting revenue through transfers.

We have already seen the effectiveness of tax-and-transfer redistribution (see figure 1), which, in some sense, is a cause for optimism. As documented in the chapter by Andrew Heisz and Brian Murphy, in the 1980s and 1990s, when market income inequality was rising steadily in Canada, redistribution through taxes and transfers rose accordingly, reaching a peak in 1994, when it offset market income inequality by a third. As a result, after-tax income inequality remained stable up to the mid-1990s despite the underlying increase in market income inequality. Since the mid-1990s, however, policy changes at both provincial and federal levels have reduced the redistributive capacity of the tax-and-transfer system. As a consequence, after-tax and after-transfer income inequality rose in the late 1990s and continued to increase in the early 2000s even as market income inequality slightly declined and stabilized.

Heisz and Murphy show that there were some important dynamics at play underneath this simple narrative. As they point out, the amount of redistribution generated by individual taxes and transfers depends on both their size (as measured by average tax and benefit rates) and their progressivity — that is, the extent to which transfers are targeted at lower-income individuals or families and marginal tax rates are structured so that higher-income individuals pay relatively higher taxes. They find that the decline in redistribution after the mid-1990s was most pronounced on the transfer side and was associated mainly with reductions in benefit rates for EI and social assistance. So even though social assistance remains the most progressive of the transfer programs, its redistributive impact was greatly diminished by program cuts. Less known is that, while average tax rates also declined for all income groups after the mid-1990s, they fell more at the bottom, which made the tax system itself more progressive. Without these countereffects, the increase in inequality would have been much larger. Regardless of this undercurrent, however, the pre-1990s experience shows that redistributive tools do exist and can be effective in counteracting rising levels of inequality. So why have they not been used more extensively in recent years?

There are two possible answers. One is that the nature of inequality has changed in such a way that standard tax-and-transfer policies are no longer as effective as they used to be (or are effective only at a high cost in economic efficiency). As the chapters by Heisz and by Lemieux and Riddell show, a fundamental change took place in the composition of market income inequality after the late 1990s. In the decade and a half before then, broad-based measures of market income inequality such as the Gini coefficient continued to show strong increases, meaning that inequality was increasing across the earnings structure. After 1998, the Gini coefficient for market income inequality stopped rising, and the inequality picture came to be dominated by the rise in the share of income going to the very top earners, a phenomenon that had begun more than a decade earlier. Until then, standard progressive taxation could have the kind of broad-based impact that was called for, given inequality trends. Since the late 1990s, however, increasing the taxation of those at the very top of the distribution — as many, including Osberg in his chapter, advocate — appears to be what is called for. But would this approach have a real impact on inequality, or would top earners, with access to high-priced tax lawyers and accountants, simply find ways to avoid increased taxation?

In their chapter, Kevin Milligan and Michael Smart examine whether increasing provincial taxes on the top 1 percent of earners would have a meaningful effect on the concentration of income at the top. They base their analysis on elasticity estimates derived from previous research, where they measure taxpayers' response to tax increases in terms of changes in reported income for tax purposes due to reduced work effort, increased use of tax shelters and income shifting to other jurisdictions (Milligan and Smart, forthcoming). For each province, they consider the effect of introducing a tax surcharge of 5 percent on income above the top-1-percent income threshold.

Milligan and Smart reach three main conclusions from their simulation exercise. First, the net revenue the provinces stand to gain once behavioural responses are taken into account would be much less (in most cases less than half) than what might be anticipated from simply applying the new tax rate to current reported income. Moreover, the revenue gains would vary significantly by province, and poorer provinces with a smaller share of top incomes and higher prevailing tax rates would stand to gain the least. Second, because raising top-end provincial taxes would reduce reported income, provincial attempts to tax high incomes could have a negative spillover effect on federal revenue. Indeed, the federal government would see its own tax base shrink without getting the benefit of higher revenue from increased tax rates. In the worst-case scenario (where reported revenue is reduced by means other than shifting income to another province), the loss in federal revenue could even exceed the net revenue gained by the provinces.

Third, and most important, Milligan and Smart conclude that overall, due to the high elasticity of reported income, the provinces have limited scope to raise extra revenue by increasing tax rates on top incomes. It is worth highlighting that the authors' estimates of the high degree of responsiveness to tax changes at the top end are specific to provincial-level taxation. Because it is much easier to move assets from one province to another than out of Canada altogether, the tax-avoidance response to changes in federal tax rates likely would be lower. Be that as it may, Milligan and Smart's results do indicate that provincial governments have limited room to raise revenue through unilateral tax increases on top earners. This is particularly salient in the current context, given that, in recent years, seven provinces have introduced new top tax brackets at higher rates, and the new government in Ottawa is about to follow suit. Earlier work by Frenette, Green and Milligan (2009) shows that much of the policy response to the rise in earnings inequality in the 1980s and early 1990s occurred at the provincial level through increased social assistance benefits and income surtaxes at the top end. Milligan and Smart's results suggest that it might not be possible to rely on renewed leadership by the provinces to address the new inequality challenge: the rise of the top 1 percent.

Thus, one reason there have been fewer active tax-and-transfer measures targeting inequality since the late 1990s might be the relative ineffectiveness of top-end taxes (at the provincial level). In their chapter Keith Banting and John Myles argue, however, that the main reason is the lack of public — and hence policy — consensus on inequality. They point out that the somewhat complicated story of inequality in Canada over the past several decades opens the door for different interpretations of the nature of the inequality problem in this country and even raises the question of whether there is a problem at all. Those they call the "inequality Cassandras" can point to the ratcheting up of earnings inequality in the 1980s and 1990s, its persistently high level since then and the rise of the top 1 percent to argue that inequality is an ongoing problem. Meanwhile, the "inequality deniers" can bring up the lack of an increase in the after-tax Gini coefficient since about 2000, the decline in the income share of the top 1 percent in the past few years and the long-run decline in LICO-based poverty rates as evidence that there is no inequality problem that needs addressing.

Because of these competing narratives, Canada is still in a period of flux when it comes to the debate on inequality. According to Banting and Myles, there is a long-standing struggle over who gets to generate the dominant frame for inequality, the outcome of which will determine what, if any, policy actions will be taken in coming years. They describe how the policy frame moved from an emphasis on inequality just after the Second World War (helping regular workers get their fair share of the pie) to an emphasis on poverty beginning in the 1970s and 1980s. In more recent years, the rise of the top 1 percent has been the focus of much attention in the framing debate, but it is one that Banting and Myles view as having limited power to dominate the agenda. Instead, they argue, the more recent emphasis on the deteriorating economic prospects of the middle class could play the dominant role, as demonstrated in the 2015 federal election, when "the redistributive agenda shifted sharply to focus on a vaguely defined 'middle class,' not the 'poor'" (532). That, in itself, makes for a highly complex situation because even very well-off families in Canada consider themselves middle class. Moreover, policies purporting to help those in the middle and lower parts of the income distribution often end up benefiting high earners at least as much. We saw a clear example of that in the tax measures for family income splitting, enhancements to Tax-Free Savings Accounts and reforms to child benefits put forward by the previous government in the run-up to the election.

According to Banting and Myles, the policy platform proposed by the newly elected Liberal government "represented an amalgam of inequality frames" (501) with tax cuts for the middle class, tax increases for those earning over $200,000 and the expansion of income-contingent child benefits — although, again, the Canada Child Benefit was presented mainly as providing help for the middle class (Liberal Party of Canada 2015). Yet, as the authors point out, none of these measures addresses the real issue of what to do about stagnant middle-class earnings. Here, the uncertainty remains. Banting and Myles conclude that "With control over the critical tools of labour market, health, education and welfare policy in the hands of the provinces, the Prime Minister faces major constraints in building a comprehensive strategy to address the new inequality" (533).

What More Can Be Done?

Our main conclusion from examining the patterns of Canadian income inequality and the effects of policies over the past several decades is that there is little scope for substantially reducing inequality through small or even possibly medium-sized extensions of existing policies relating to human capital, minimum wages and unionization. Reducing tuition fees and expanding RESPs would help middle- and upper-income families, without offsetting the strong correlation between family income and postsecondary attendance. Expanding apprenticeship and college education without other changes in the education system seems likely to be doomed by low completion rates. Minimum-wage increases within the range of previous changes likely would have only small or modest effects on family income inequality and little, if any, effect on poverty. Even extending the most union-friendly regulations to all provinces would make only a small dent in inequality. In other words, marginal changes to existing policies would do relatively little to solve the problem.

If larger policy shifts are required, then there would have to be fairly broad consensus on the overarching goal we, as a society, want to achieve through these measures. We view social equality as the goal Canadians should aspire to — that is, Canada should strive to be a society in which all citizens have the wherewithal and opportunities to participate as equals. Of course, this is an aspirational goal, and we need more concrete objectives in order to propose actual policy directions — hence our focus on income inequality. Our broad goal signals that our ultimate concern extends well beyond income, but income is both a useful metric and an effective place to start. In examining policies that affect income inequality, we will inevitably come across non-income areas where efforts are also needed. Setting a broader goal also helps to put economic growth in its proper place: not as an objective in its own right, but as an instrument with which to provide everyone equal opportunity to fulfill their potential and participate in society in ways they find personally satisfying. Indeed, economic growth is one of the most important instruments in this regard because, functionally, it provides greater resources to help those at the lower end of the income distribution and, politically, it eases potential conflicts that can arise when redistributing scarce resources in a stagnant economy. Still, to reiterate, economic growth is an instrument, not a goal. In recent decades, Canada, like many other developed countries, seems to have placed so much emphasis on economic growth for its own sake that it has undermined social inclusion and equality. Our point of departure in our policy suggestions is to search for a better balance — to work toward a more equal society by, among other things, supporting the economic growth that makes it more feasible.

Before we turn to our discussion of specific elements of an improved policy agenda to reduce inequality, a few caveats are in order. First, as demonstrated in this chapter and elsewhere in the volume, income inequality is the product of the evolving interplay of economic forces, public policy and income dynamics over several decades. Thus, the policy response to inequality also needs to be considered from a medium- to long-term perspective, in part because the response entails structural changes — which, by definition, will not produce immediate outcomes — but also because Canada's current economic context and prospects are such that the policy tradeoffs and appropriate timing will need to be carefully assessed in the short run. Second, the complex trends and factors we have described also mean there is no "silver bullet" against rising income inequality; rather, a multipronged and coherent approach is called for. Finally, we do not pretend that ours is an exhaustive list of possibilities or the only course of action. Instead, by putting forward broad policy options and directions we hope to encourage and contribute to a fundamental discussion that has been largely absent from recent political discourse.

Calibrating the response in the current policy context

Redistribution through taxes and transfers is perhaps the first approach that comes to mind when discussing policy responses to rising income inequality. The fact that Canada's tax-and-transfer system did manage to offset market income inequality increases in the 1980s and early 1990s[11] provides some reason for hope; at the very least, it shows that inequality is not an intractable problem. But that earlier effort was led primarily by the provinces, and to the extent that a major part of the inequality problem Canada now faces is income concentration at the very top, Milligan and Smart's results suggest that an effective tax solution is unlikely to exist at the provincial level. Of course, in a federation such as Canada's, the division of provincial and federal responsibility is rarely clean. The increases in social assistance benefits by the provinces in the 1980s and early 1990s were facilitated by conditional cost-sharing transfers from the federal government under the auspices of the Canada Assistance Plan. And the sharp reductions in provincial spending in the mid-1990s came as the federal government downloaded part of its deficit to the provinces by cutting health and social transfers while removing spending strings. Finally, as recent reports from the Parliamentary Budget Officer indicate (see, for example, Canada 2015), the provinces face serious structural fiscal challenges now and into the future — in particular, from growing cost pressures on health care due to aging populations — whereas the federal government's fiscal situation is much more favourable. Altogether, this implies that real tax-and-transfer solutions will also require substantial federal leadership and, potentially, the federal government's reinsertion into jealously guarded provincial domains. This might make implementing an effective response through taxes and transfers politically difficult.

But while the history of the 1980s and early 1990s offers some hope for the effectiveness of tax-and-transfer policies, the subsequent reversal of those policies in the late 1990s raises further questions about the appropriate role of such initiatives in reducing income inequality. Indeed, the mid-1990s marked an important turning point in the economic and social policy stances of Canadian governments, which resulted in their determined efforts not only to eliminate long-standing deficits but also to reduce corporate and personal income taxes, deregulate broad segments of the economy and encourage more flexible labour markets, all with the stated goal of improving competitiveness and stimulating economic growth.[12] As Heisz and Murphy document in this volume, the mid- to late 1990s and early 2000s saw important cuts in social assistance and EI and significant tax reductions. These program cuts came at a time when research on the drawbacks of passive income-support programs and the need to shift to active labour market policies came to public attention, which perhaps explains the relative lack of public opposition to the cuts. Indeed, both programs generate well-known disincentives to work and they continue to lack broad support because of their widely recognized limitations.[13] According to this interpretation of events, there could be greater public support for redistributive policies provided effective work incentives were designed and adopted.

An alternative interpretation is that responses to rising inequality through redistribution might not be politically stable. To the extent that Canadians see transfers as something akin to charity, rather than as a reflection of the rights of citizenship, generous transfers always stand the chance of being taken away. In contrast, policies that raise earnings of those at the bottom end of the distribution imply redistribution through a means that is harder to take away: society views workers as having rights to what they earn. According to this interpretation of Canada's experience in the 1990s, effective responses to inequality are to be found in policies that affect how earnings are allocated in the first place, rather than in taxing earnings and then transferring the proceeds.

We see virtue in both interpretations. Specifically, we see particular merit in policies that affect the distribution of earnings even before taxes and transfers do their part. But we also argue that there is unrealized potential in tax-and-transfer tools, which suggests they can be both more effective and more politically stable.

Human capital and its long-term effect on earnings

Human capital policy has the appearance of a "silver bullet." In principle, increasing access to education can help equalize opportunity for all while promoting economic growth. By the same token, rising inequality is associated with reduced educational attainment, skills acquisition and employment prospects for people from poorer socio-economic backgrounds (OECD 2015a). We have argued, however, that when thinking about the impact of human capital policy on inequality, one needs to differentiate among the different levels of education. Starting with higher education, policies that are a little, or even a lot, more of the same as those that have been tried — such as lowering tuition costs or increasing the size of the Canada Learning Bond — are, in our view, unlikely to alter inequality in a meaningful way. What is needed is something that radically alters perceptions among low-income families of the returns to investment in higher education as well as their opinion of the intrinsic value of education. Such an attitudinal shift could take generations and require increases in education levels for each successive generation. That said, the evidence that lower-income households do not take advantage of RESP incentives, while they seem to respond to earnings supplements delivered through the tax system by supporting increased education for their children, suggests that something more complex underlies differences in university attendance by family background. Indeed, it may have less to do with the value these families place on education than with whether investing in education seems like too large a risk for them.

If a child from a low-income family enrols in university but does not graduate, or graduates but does not find a job with good pay, then the family is not in a position to help with the resulting student debt. In that instance, investing in higher education might seem like too much of a leap into the dark. And when no one you know has a postsecondary degree, such a leap may seem even more daunting. For these families, lowering the level of debt associated with university attendance even by a large amount might not be sufficient to alter their outlook on the riskiness of the venture. But setting tuition to zero for their children could reset their perceptions completely. Thus, we think it is worth debating having fully subsidized university tuition for children from families in the bottom tercile of the family income distribution. Of course, even this might not be enough to encourage students from low-income backgrounds to undertake four years of postsecondary education without earnings. We therefore also suggest an income-contingent student loan program to help these students cover their living expenses while in school. In contrast with existing student loans, such a program would allow students to repay their debt in amounts proportional to their post-graduation income. We believe, further, that the income-contingent loan program should be available to *all* students, not just those from low-income backgrounds, to alleviate the disincentive effects of debt risk. Both measures — zero tuition for students from lower-income families and income-contingent loans — should be available to students attending college as well as university. The goal of these policies would be to change the social norm so that it would seem odd for children not to go on to postsecondary education, given that free tuition and income-contingent loans are available.

Drewes and Meredith (2015) similarly call for an income-contingent loan program to help adults return to education and training later in life. We agree with their argument in favour of better "second-chance" options for those who have not followed a standard, uninterrupted path from school to postsecondary education and training. Indeed, we see this as a good example of emphasizing social equality over economic growth for its own sake, since, for older workers in particular, the economic benefit of extra training might not outweigh the costs of that training (see Cunha et al. 2006). Nevertheless, people should be given not just a one-time opportunity to pursue their goals but also the reassurance that they can try to do so again later in life if they do not find the right path initially.

As Drewes and Meredith (2015) point out, however, the poor completion rates of apprenticeships indicate that the current system is failing in this regard. A substantial overhaul is clearly needed. More generally, the low levels of competency in math and science of too many students graduating from Canadian high schools may need to be addressed if we are to improve the performance of apprenticeship and training programs.[14]

At another level, early childhood education investments targeting low-income families have been shown to have substantial payoffs (see, for example, Baker 2011 and Riddell 2007). Such investments, however, would also need to be supported by providing more direct attention to improving Canada's shameful record on child poverty. A recent UNICEF (2012) report ranks Canada 24th out of 35 countries in terms of child poverty, which suggests that the child benefit system has not done the job so far. Children who go to school hungry and return home to financially stressed households are not able to learn effectively. However, there are reasons to be optimistic on that front: the new government's proposed Canada Child Benefit has been described by a leading expert as "a major step forward in the history of child benefits in Canada" (Battle 2015a).

Finally, it is important to emphasize that, although ensuring more equal access to educational opportunities is an essential part of the policy agenda to reduce income inequality, it will take decades for the potential payoffs of such human capital policies to be fully realized. Also, too many policy-makers seem to think that better education on its own can be the solution to rising inequality. It is not. For more immediate solutions, one must turn to other measures that directly affect the labour market and parts of the tax-and-transfer system.

Policies that directly affect earnings

We have argued that wages reflect not just workers' productivity but also the outcome of bargaining over rents within firms. To the extent that is true, we need to consider measures to ensure a better balance of bargaining power in setting wages. The substantial increase in earnings inequality seen in Canada since the early 1980s suggests that bargaining power has been skewed toward those at the top of the distribution. Further evidence of this shift is the significant decline in the share of national income allocated to labour (see figure 5) after a long period of stability. Getting inequality back to lower levels, then, necessarily involves measures to enhance the relative bargaining power of those at the bottom and in the middle of the earnings distribution, limiting the power of those at the top and beginning to reestablish traditional shares of national income going to labour and capital.

Minimum wages

At the low end of the pay scale, balancing bargaining power means, in part, setting a meaningful minimum wage. Green (2014) argues that minimum wages are set, at least partly, to reflect society's standard of fairness, by effectively banning wages that are unfairly low just as other types of exchanges in the labour market, such as child labour, are banned. Green shows that provincial minimum wages have moved in tandem with the median wage of low-skilled workers in a way that suggests voters see the relevant standard for the minimum wage as some proportion of the “going wage” in the economy. That is, if typical wages of low-skilled workers are on the rise, then the threshold below which a wage is viewed as unfairly low will also rise. But even if the minimum wage moves with other wages, there is still the question of the proportion of the going wage at which it should be set. On this point, we agree with the principle put forward by proponents of a $15-per-hour minimum wage that the minimum wage should be set at a level such that working full-time, full-year (FTFY) does not leave a person below the poverty line.

What, however, would be the implications for employment of increasing the cost of low-skilled labour? International research indicates that the disemployment effects tend to be small, although slightly larger for certain groups, such as youth (OECD 2015c). The existing Canadian literature also suggests relatively small effects, although the estimates in that literature focus almost exclusively on the impact on teenagers. Increasing the minimum wage to $15 per hour, however, would affect a more diverse group of workers. In British Columbia, for example, 36 percent of workers with wages at or below the provincial minimum wage of $10.25 in 2010 were teenagers, but only 5 percent of workers in that province who earned between $12 and $15 per hour in 2014 were teenagers (Green 2015a). Accordingly, working from estimates in Beaudry, Green and Sand (2015), Green (2015a) estimates that increasing the minimum wage in British Columbia to $15 per hour would lead to a 1 percent reduction in the province’s overall employment rate and a 7.6 percent reduction in employment for those currently earning between $10 and $15 per hour. Although this is not inconsequential, the effect on the total wages paid to workers currently earning between $10 and $15 per hour would be substantial.

This estimated impact of moving to a $15 minimum wage is for BC. The predicted employment effects would be smaller for Alberta, where wages are higher and the minimum wage is lower relative to other wages. This raises the important question of whether and how to vary the minimum wage geographically: a $15-per-hour minimum wage might be sufficient to bring FTFY workers above the poverty line in Vancouver, but it is likely higher than would be needed in, say, Kelowna. Regional variation in minimum wages raises the possibility of businesses migrating to avoid higher wages, but as many minimum-wage-paying firms are in the local services sector, this might not be a substantial concern. The experience so far with municipalities in the United States that have adopted higher minimum wages than surrounding areas is that there has not been an outward flight of businesses, but the move to higher municipal minimum wages has only just begun, and more study is needed on this issue.

The minimum wage as a policy tool has other, more subtle potential benefits. Brochu and Green (2013) show that increasing the minimum wage causes a decline in firms' layoff rates, perhaps because it forces firms to shift from a low-wage/high-turnover approach to one geared toward higher wages and lower turnover. That is, minimum wages seem to push the economy toward a better equilibrium in terms of the stability and remuneration of jobs.

Minimum wages are sometimes disparaged as too "blunt" a policy instrument to address poverty and inequality, with criticism often couched in terms of asking if these issues could not be better dealt with by using other instruments such as earnings supplements for low-income families. But posing the problem this way seems a bit like a party game ("If you were stuck on a desert island and could choose only one policy…"). In fact, we are not limited to one instrument; rather, as we discuss below, there is good reason to believe that minimum wages and earnings supplement programs are complementary policies and should be used jointly.

Increasing bargaining power in the middle

As noted previously, the share of national income allocated to labour has fallen steadily since the early 1980s — and precipitously for the bottom 99 percent of the earnings distribution. How, then, should the bargaining power of those in the middle of the pay range be increased?

One factor contributing to the decline in workers' bargaining power in recent decades has been the steady fall in rates of unionization, especially in the private sector. As Legree, Schirle and Skuterud note in their chapter, Canadian governments have contributed to this trend by enacting laws less supportive of unions. The authors show, however, that making current labour legislation more favourable toward unions would have only a small impact on wage inequality. To an important extent, that conclusion reflects substantial changes in the nature of the unionized workforce in the past three or four decades. Traditionally strong in manufacturing, forestry and mining, union presence is now found mainly in the public and quasi-public (health, education and social services) sectors. As of 2014 (the most recent data), private sector union coverage was below 17 percent, while coverage in the public and quasi-public sectors was about 75 percent; well over half of Canada's unionized workforce is in the public sector (broadly defined), even though that sector accounts for less than 25 percent of total employment. Unions traditionally contributed to reducing wage inequality by compressing the wage structure in unionized sectors — raising the wages of low-skilled and semi-skilled workers much more than the wages of high-skilled employees. There is much less scope to do this in the public sector, however, where many employees — teachers, nurses, police, firefighters — are in the middle or upper half of the wage distribution.

Improving workers' bargaining power, in our view, would require stepping outside the traditional North American model of union representation. Often referred to as the "*Wagner Act* model" because it began during the Great Depression with the enactment in 1935 of the *Wagner Act* in the United States and the subsequent adoption of similar legislation by Canada during the Second World War, this legal framework provides workers with the statutory right to form and join unions. If a majority of workers in a given bargaining unit clearly indicate their wish to be represented by a specific union, that union will be certified as the exclusive representative of all employees in the bargaining unit. However, with private sector union coverage below 20 percent in Canada and well below 10 percent in the United States, this model now fails to provide many private sector employees with effective representation in workplace decisions. Many observers of the evolving nature of the employment relationship, such as the distinguished Canadian labour lawyer Paul Weiler, have noted this failure and have proposed ways to address it (see, for example, Weiler 1990). Although dealing with these issues in a thorough manner would entail a major detour from the main purpose of this volume, we comment briefly on them here because of their relevance to income inequality in Canada.

In addition to its potential contribution to increasing employee bargaining power, there is a clear need to improve forms of worker representation in workplace decisions for its own sake. Many Canadians spend a major part of their lives in the workplace, and the quality of their work life is affected by employers' decisions, ranging from scheduling to health and safety to layoffs and work sharing, in response to declines in product and labour demand during economic downturns. Such workplace arrangements have an important public-good character and are dealt with most effectively by collective rather than individual representation. Much evidence (see, for example, Metcalf 2003) indicates that meaningful worker involvement can also enhance productivity, product quality and the overall efficiency and competitiveness of the enterprise.

Beyond these compelling reasons for improved worker representation, international law increasingly recognizes collective bargaining not just as a statutory right (as in the *Wagner Act* model) but also as a human right (Adams 2008). Canada is a signatory — indeed, it was an enthusiastic supporter — of such international agreements as the International Labour Organization's Declaration of Fundamental Principles and Fundamental Rights at Work. Yet Canadian jurisdictions, both federal and provincial, have been slow to promote forms of employee representation in the workplace that go beyond the formally unionized sector. A potentially important impetus might come from recent decisions of the Supreme Court of Canada. Notable among these are the 2007 *BC Health Services* decision, which concluded that the right to freedom of association under the Charter of Rights and Freedoms implies the right to collective bargaining, and the 2015 *SFL v. Saskatchewan* case, which extended this to include the right to strike. In *BC Health Services*, the Court also stated that "Canada's adherence to international documents recognizing a right to collective bargaining…supports recognition of that right" and that "the Charter should be presumed to provide at least as great a level of protection as is found in the international human rights documents that Canada has ratified." The Court's statement in that case that Canadian workers have a "procedural right to collective bargaining" appears to support a broader human right that goes beyond the statutory right prevailing under the current *Wagner Act* model, which is consistent with international human rights law on freedom of association (Adams 2008, 48). Indeed, the Court's use of the term "non-statutory unionism" suggests it agrees with the need for forms of employee representation beyond the traditional collective bargaining relationship based on the *Wagner Act* model.

International as well as Canadian experience provides several potentially worthwhile models for greater worker representation outside traditional North American-style unionism. One promising route would build on existing statutory joint labour-management committees that deal with specific mandates at the enterprise level, such as workplace health and safety and work sharing (Adams 1986; Riddell 1986; Weiler 1990).[15] For example, recognizing the importance of the contribution of workers' participation in preventing workplace injuries and illnesses, most provinces have established "internal responsibility systems" that confer rights on employees, such as the right to have joint health and safety committees; the right to refuse hazardous work without penalty; and the right to information, as it becomes available, about the hazards of employment.

Broadening the role of these joint committees to cover a wider range of issues such as work scheduling, flexible work arrangements, technological change, training, retirement and pension arrangements, and the terms of mass layoffs and plant closings would lead to a form of statutory collective representation similar in nature to European-style works councils that provide employees with a "collective voice" outside traditional unionism.[16] Such collective voice mechanisms do not play a role in negotiations on wages and salaries and thus may not directly affect wage inequality. But by providing a means for greater employee involvement in workplace decisions, they may indirectly influence workers' bargaining power over earnings. More important, they would be of substantial value in their own right, and consistent with our emphasis on advancing social equity.

Reducing bargaining power at the top

The dramatic rise in incomes at the very top of the distribution is driven primarily by two groups: senior managers — especially chief executive officers (CEOs) — and those employed in banking and finance. As Lemieux and Riddell discuss, there is an ongoing debate about whether the surge in top incomes reflects a generalized increase in demand for talent (the market-based view) or the ability of specific groups to receive compensation far in excess of their market value (the rent-extraction view). Our assessment of the evidence is that the enormous increases in pay for senior managers and those employed in banking and finance principally reflect the ability of these groups to extract economic rents, thus reducing the share of national income going to the bottom 99 percent. Reducing the ability of these individuals to capture an outsized share of the rents produced by the economy is, to an important extent, a matter of improving compensation practices and corporate governance so that they operate more in the public interest.

The separation of ownership and control in the modern corporation creates potentially conflicting incentives for the shareholders (the owners of the firm), the board of directors (those selected to oversee the firm's operations) and the managers (those chosen to execute operations). Although these incentive challenges — which economists refer to as "agency problems" — cannot in general be eliminated, well-designed compensation packages can better align the interests of managers and shareholders, and good corporate governance policies and practices can mitigate agency problems between shareholders and board members (see Jensen and Murphy 2004; Murphy 2013). Unfortunately, much evidence indicates that in the past three decades, compensation practices — especially for senior executives — have not been well managed.

Executive compensation decisions are made not by the owners of a firm but by its board of directors, usually upon a recommendation by the board's compensation committee. As Jensen and Murphy (2004, 22) discuss at length, however, "remuneration committees routinely lack the information, expertise and negotiating skills necessary for hard-nosed contract negotiations with incumbent and incoming executives. As a result, many pay packages and processes are poorly designed." Furthermore, because members of the compensation committee and the full board are spending the firm's money, not their own, corporate governance and remuneration policies are highly interrelated. For example, Bertrand and Mullainathan (2001) find that CEOs in better-governed firms are less likely to be rewarded for "luck" — where, for example, CEOs of oil-producing firms receive higher remuneration as a result of an increase in world oil prices — and more likely to have their payments in the form of stock options offset by a reduction in other forms of compensation. Improved corporate governance is thus likely to produce better executive compensation practices.

The dramatic rise in executive compensation over the past several decades was propelled by the increased use of stock options and bonuses — a change that began in the United States and has now spread to other countries, including Canada. In principle, the use of stock options can mitigate agency problems by linking executive pay to measures of performance that matter to shareholders. In practice, however, the sharp increase in the use of stock options has resulted in huge gains in pay for senior executives — in many cases, without commensurate improvements in performance (see, for example, Hall and Murphy 2003; Jensen and Murphy 2004; Murphy 2013). As Hall and Murphy (2003) and Murphy (2013) point out, an important factor contributing to the excessive use of stock options is corporate directors' (mistaken) belief that this way of compensating senior executives costs much less than an equivalent cash payment. To an important extent, this mistaken view arises because when a company issues a stock option to an employee, it incurs no cash outlay and bears no accounting charge. In fact, unless options receive more favourable tax treatment than does cash, they are more costly than cash.[17] This is a classic example of confusing accounting costs and true economic costs, and it points to the need to improve the expertise of members of corporate boards and compensation committees.

In fact, corporate governance in Canada in general requires much greater attention. A recent assessment by one of Canada's leading authorities concluded that "shareholder democracy in Canada is remarkably stunted compared to the United States and United Kingdom, despite a shared Common Law heritage" (Morck 2010, 1). On one hand, provincial and federal laws allow shareholders to demand at any time an emergency meeting at which all the directors could be replaced, thus enhancing the power of shareholders. This substantially reduces the attractiveness to senior executives of staggered boards, a key tool used to limit shareholders' power over managers in the United States.[18] Similarly, Canadian courts have limited the use of poison pills, another tool used to reduce shareholder influence. On the other hand, there are two important factors that contribute to poor corporate governance in Canada: dual-class shares and pyramiding (Morck 2010).

A company that has dual-class shares issues two classes of shares: "restricted" voting shares to the general public and "superior" voting shares to corporate insiders. Superior voting shares have many more votes per share than restricted voting shares. As a result, corporate insiders exert disproportionate control in companies that issue dual-class shares. A far greater proportion of major firms have controlling shareholders in Canada than in the United States or the United Kingdom, and these wealthy individuals or families often use pyramiding to increase the voting power of their shares. Pyramiding occurs when the controlling shareholder holds enough shares to control voting in firm A, which, in turn, holds a sufficiently large block of equity in firms B and C to exert effective control over those firms, and so on. This practice is essentially unknown in both the United States and United Kingdom, but it is widespread in Canada and throughout Asia, Latin America and continental Europe — especially in eastern Europe and Russia (La Porta et al. 1998, 1999).

The greater prevalence of dual-class shares and pyramiding are key contributors to Canada's relatively low ranking in international comparisons of corporate governance (e.g. La Porta et. al. 1998). But these practices can be altered by changes in public policy or by capital market institutions. For example, the use of pyramiding disappeared in the United States and the United Kingdom as a result of policy changes.[19] Similarly, dual-class shares fell out of favour in the United States after they were prohibited by the New York Stock Exchange. Obviously, given that top earners are particularly highly paid in both these countries, adopting their policies in this area would not provide a complete solution to corporate governance issues, but there is good reason to think that Canada can learn from their experience.

Improved corporate governance is not just an objective in its own right. A substantial amount of empirical evidence links corporate governance to improved firm performance, as senior executives who are more accountable to shareholders tend to focus more on long-term value and less on short-term considerations (Anand 2013; Bertrand and Mullainathan 2001; Morck 2010). Thus, the economy as a whole, including the many workers in the bottom 90 percent of the income distribution whose pensions and other assets are invested in corporate bonds and equities, would benefit from better corporate governance.

Insider trading provides an example of the link between corporate governance and the income and wealth of the bottom 90 percent, as well as a clear example of rent capture. In countries, such as the United States, where insider trading is carefully regulated and vigorously prosecuted, an announced takeover bid by one company for another typically results in a sudden and large increase in the share price of the takeover candidate, the proceeds of which go to that firm's shareholders. In Canada, however, many of the benefits go to corporate insiders: as Bris (2005) and Eckbo (1986, 1988) show, the share price of the takeover candidate increases gradually prior to the public announcement as insiders accumulate shares and bid up the price. Indeed, Bris (2005) concludes that Canada permits the most lucrative insider trading of any developed country. As a result, much of the economic rent created by takeover bids in Canada goes to corporate insiders, rather than to the original shareholders.

Overall this evidence suggests there is real reason for concern about corporate governance and executive compensation in Canada. We are not experts in either of these areas and are not in a position to suggest specific policy reforms. In particular, one cannot easily point to reforms in other countries and be sure they would be helpful in the Canadian context. Often, such reforms involve specific tax loopholes and institutional features that either do not exist in Canada or take a different form. Furthermore, previous attempts to rein in US executive compensation often have had either little success or unintended adverse consequences. As one leading expert summarizes: "Over the past 80 years, Congress has imposed tax policies, accounting rules, disclosure requirements, direct legislation, and other rules designed explicitly to address perceived abuses in executive compensation. With few exceptions, the regulations have been either ineffective or counterproductive, typically increasing (rather than reducing) agency problems and pay levels, and leading to a host of unintended consequences" (Murphy 2013, 328). Thus, before rushing into action, a careful and thorough assessment is needed of how Canadian tax rules and regulations, as well as other forces, influence the remuneration of senior executives and other top earners in banking and finance in order to establish what is likely to work in light of both international experience and Canadian institutions.

Income transfers

Refundable tax credit policies

As discussed previously, among the various policies that can address rising inequality, there are important reasons to prefer those that operate on market incomes. Nonetheless, as we have also emphasized, an array of measures would be needed, and the tax-and-transfer system could play an important complementary and supplementary role. What approaches are most promising to address income inequality and poverty?

There is a long history in Canada and elsewhere of policies to deal with low incomes. Based on this experience, we prefer policies that combine several features: they should (i) be well targeted at individuals and families with low income; (ii) strengthen, rather than weaken, work incentives; (iii) have broad public support; (iv) be relatively inexpensive to administer; and (v) interact well with other policies and programs. Earnings supplements for the working poor — also referred to as refundable tax credits or "in-work benefits" — represent the approach that best meets these objectives. Prominent examples include the Earned Income Tax Credit (EITC) in the United States, the Working Families Tax Credit (WFTC) in the United Kingdom, the Working Income Tax Benefit (WITB) in Canada and similar programs in several European countries. These programs provide strong work incentives because the earnings supplements are available only to those who work, and the extent to which market earnings are supplemented increases with the amount of employment earnings up to a maximum, before being phased out at higher earnings levels. Because they operate through the income tax system, unlike traditional social assistance (welfare) programs, they do not require caseworkers and government bureaucracy. As a consequence, they are relatively inexpensive to administer. For example, the US Department of the Treasury estimates that EITC administrative costs are only about 1 percent of benefits provided, much less than other programs, which can have administrative costs as high as 20 percent of benefits provided (United States 2011).

The EITC provides the best example of this approach, both because it has the longest history and because there is a substantial body of research on its effects. Introduced in 1975, the EITC has become one of the largest and least controversial elements of social policy in the United States. As stated in a recent survey of the program and its effects, "The EITC has become the centerpiece of the U.S. safety net, dwarfing other means-tested programs in terms of the number of beneficiaries, total expenditures, or poverty reduction impacts" (Nichols and Rothstein 2015, 54). For many years, the EITC has received support from both political parties, with expansions authorized by both Democratic and Republican congresses and under each of the past five presidents.[20] In its targeting, the EITC is very successful as an antipoverty program. Hoynes and Patel (2014) find that EITC benefit payments are concentrated among families whose incomes (after other taxes and transfers) range between 75 percent and 150 percent of the poverty line. Short (2014) finds that refundable tax credits reduce overall poverty in the United States by approximately 15 percent and child poverty by 25 percent. Moreover, the additional income provided under the EITC has important beneficial effects on the health of parents and their children, and on children's academic achievement (Nichols and Rothstein 2015).

The United Kingdom's in-work benefit program was introduced in the late 1980s as the Family Credit; it was expanded and renamed the Working Families Tax Credit program in 1999. The WFTC provides even larger benefits to recipients than does the US EITC (Blundell 2006), and, like the EITC, it has become a core part of the UK social safety net.

Compared with the United States and the United Kingdom, Canada adopted earnings supplements for the working poor much later: the WITB was introduced in 2007 and expanded in 2009. More important, Canada has yet to embrace this approach fully: total spending on the WITB is only about $1 billion annually, compared with spending of over $60 billion on the EITC, while spending on the WFTC dwarfs Canada's WITB expenditures on a per capita basis. In part, this reflects the small size of the earnings supplements in Canada, where the maximum benefit is less than $1,000 annually for singles and about $1,800 for families (in 2014 dollars).[21] In addition, in contrast to the US and UK programs, the WITB affects a very narrow and very low income range, with phaseouts starting at around $11,000 in annual income for singles and at less than $16,000 for families; supplements are fully phased out below $18,000 for individuals and below $28,000 for families. Thus, an individual working full-time, full-year at the minimum wage would receive nothing from the WITB in most Canadian jurisdictions (Battle and Torjman 2012). Similarly, the WITB does not supplement the earnings of those just above or even moderately below the LICO. Only 9 percent of Canadian households were expected to receive WITB benefits in 2014 (Canada 2014). For it to play a significant role in addressing poverty and low income, and to provide meaningful work incentives for the working poor, the WITB needs to be expanded to cover a wider range of low-income individuals and families, either by raising the level of income at which phaseout begins or by reducing the rate at which the earnings supplements are phased out. The size of the maximum earnings supplement also needs to be increased substantially.

One reason the WITB is currently phased out at such a low income level is to minimize any tendency for it to generate high marginal effective tax rates when combined with phaseouts of the National Child Benefit Supplement and provincial income supplements. However, the new government's planned Canada Child Benefit incorporates a phaseout that will be much gentler and will start at higher income levels. Thus, there will be room to expand the WITB without adverse interactions with the Canada Child Benefit and provincial income supplement programs.

In Canada, as in many other countries, an important source of low market earnings is nonstandard work such as part-time employment, self-employment and temporary/contract work arrangements, which affect as much as 30 percent of the labour force.[22] Indeed, as the OECD notes, the earnings gap in Canada between standard workers — that is, workers in full-time, open-ended contracts — and nonstandard workers is the largest such gap in any OECD country: the hourly wage of a nonstandard worker is on average 75 percent that of a standard worker's in OECD countries, but it is only 57 percent of a standard worker's wage in Canada (OECD 2015b). Canada's poverty rate among nonstandard workers is also the highest: 35 percent, compared with an OECD average of 22 percent.

Refundable tax credit programs are particularly well-suited to help individuals and families with low incomes from nonstandard work because they focus on supplementing market earnings. That Canada does not make full use of such credits likely explains in part why its tax-and-transfer system does not compare favourably with those of other OECD countries in alleviating poverty among nonstandard workers. According to the OECD (2015b), Canada's tax-and-transfer system lifts only about 18 percent of households in nonstandard work out of poverty, compared with one-third on average in other OECD countries (OECD 2015b). However, Canada's limited use of this policy approach also presents an opportunity. With the WITB already introduced (albeit on a very small scale), the basic structure is in place; what is needed now is a substantial increase in the magnitude of earnings supplements over a wider range of low market incomes.

One attractive feature of earnings supplement programs such as the EITC and the WITB is that they "make work pay" — that is, they encourage greater labour market participation among low-skilled workers. A potential concern with this approach, however, is that increasing the labour supply might reduce market wages at the low end of the wage distribution, in which case some of the benefit of refundable tax credits would in effect go to employers of low-skilled workers instead of to the workers themselves. Research in the United States and the United Kingdom has found some evidence of this, although the reduction of market wages is relatively modest (Nichols and Rothstein 2015; Blundell, Brewer and Francesconi 2008). However, to the extent that this is the case, minimum wages and earnings supplements can interact in an important way to ensure that most, if not all, of the benefits of refundable tax credits go to low-income workers and their families (see Nichols and Rothstein 2015).

For these reasons, our proposed increase in the minimum wage complements our recommendation that the WITB be expanded to cover a much wider range of incomes and that its benefits be increased substantially. These changes should be phased in over time, both for budgetary reasons and to provide sufficient opportunity to evaluate the consequences of expanding the program.

Other income support for working-age adults

We recognize, of course, the irony of holding up as examples policies from the United States and the United Kingdom — two of the economies that have seen the fastest rise in income inequality in recent decades. But we believe that lessons should be learned wherever they are found, and that a combination of policy tools should be used. At the same time, the high level of inequality in these two countries highlights the need to do more than implement the policies we have just described. For instance, EI and social assistance, which remain the two main pillars of the Canadian income security system, have become much less effective over the past two decades in their capacity to provide income security and prevent poverty. This explains in large part why Canada's tax-and-transfer system is now less effective in offsetting rising inequality than it was two decades ago and also less effective than such systems in other OECD countries (Heisz and Murphy, in this volume; OECD 2105a; Sharpe and Capeluck 2012).[23] Both EI and social assistance have been much criticized for not fulfilling their core mission and allowing too many needy individuals to fall through the cracks, giving rise to various reform proposals to address these issues (see, for example, Banting and Medow 2012; Battle, Mendelson and Torjman 2006; Lankin and Sheikh 2012).

One common policy proposal to help those at the low end of the income distribution is some type of guaranteed annual income (GAI). Proponents argue that, if set high enough, a GAI would immediately end poverty, provide a basis from which workers could negotiate higher wages, end overlap and complexity in the current income security system — since, in its purest form, it would replace all other transfer programs — and signal a shift in Canada's income-support philosophy whereby income security is viewed as a right of citizenship (Young and Mulvale 2009). Critics are concerned about the strong disincentive to work that a guaranteed income would produce, the justice of simply giving public revenue to people who could contribute but do not, and the high cost of such a program.

Young and Mulvale (2009), for example, estimate that a program that paid each adult $15,000 and $4,000 for each child would have a net cost of $286 billion (in 2005 dollars), after deducting the savings from shutting down all other transfer programs.[24] Since total federal government revenue is currently about $250 billion, taxes would need to be doubled just to pay for such a GAI program. And this does not take into account the resulting economic costs and, with them, the loss of government revenue from any response in terms of reduced work. Clavet, Duclos and Lacroix (2013) analyze the potential impact of a Quebec proposal for a GAI set at 80 percent of Statistics Canada's Market Basket Measure of low income and find it would reduce labour supply substantially; they also estimate that the overall cost of such a program would increase fivefold once this effect is taken into account.[25] One could, of course, always lower the costs by reducing the level of benefits, but that would mean having a smaller GAI that would have a limited effect on poverty and inequality, and potentially leave many people worse off than under the current system. Alternatively, implementing a program of the scope and magnitude proposed would inevitably lead to cuts elsewhere — such as in health care and education — that would have ramifications for equal citizenship that are at least as important as lack of income.

In the end, we agree with Ken Battle's assessment that a pure GAI scheme simply would be too costly and that a multipronged approach is more likely to meet many of the goals of a GAI (Battle 2015b). As Battle points out, there is a useful distinction to be made between a pure GAI scheme and systems that incorporate many elements of a GAI. Both the Canada Child Tax Benefit/National Child Benefit system for families with children and the Old Age Security/Guaranteed Income Supplement system for older Canadians have GAI-like features, in that they provide an income floor irrespective of work status and use the tax system to claw back benefits as the family's or individual's income rises. The system of benefits for seniors is widely credited for dramatically reducing poverty among the elderly, for example. The Liberal government's plan to replace several child benefit programs with a Canada Child Benefit that is income tested, more generous[26] and nontaxable also seems particularly promising in this regard.

Even with these improvements, however, a system that emphasizes earnings supplements plus child and seniors' benefits still leaves out large segments of the working-age population. Although it is beyond the scope of this chapter to cover these issues in detail, we support the Caledon Institute's call for a new architecture for Canada's adult benefits and see much merit in its proposals for a more integrated and comprehensive system that would provide "1. temporary earnings replacement for all jobless Canadians, 2. long-term income support for people with severe disabilities and others who cannot reasonably be expected to earn most of their income from employment, 3. access to essential services (e.g., training and employment, supplementary health care, disability supports) for all low-income Canadians, whether on income assistance or in the workforce and 4. policies and programs to help make work pay" (Battle 2015b, 4; see also Battle, Mendelson and Torjman 2006).

In particular, we see a need for greater policy attention to the needs of people with limited or no attachment to the labour market and for whom even substantial work incentives would not lead them to secure consistent and adequate income from work. This would be the case for some people with disabilities, those with substantial caregiving commitments and those facing multiple barriers to work due to mental illness, a criminal record or a sporadic work history (see, for example, Meredith and Chia 2015). Drummond, Capeluck and Calver (2015), for example, suggest various approaches to support the labour market participation of older workers, persons with disabilities, Aboriginal people and immigrants. As Fang and Gunderson describe in their chapter, however, these groups are among those most at risk of persistent poverty, and the challenges they face are multi-faceted and complex, as are their policy needs. How do we determine "who cannot reasonably be expected to earn most of their income from employment"? How does the system deal with the drug addicted or those whose criminal records prevent access to stable employment? It is conceivable that providing some transfers in kind — in particular, housing — could allow a part of the overall system to address the needs of such people without generating substantial disincentives to work for others.

Taxing top incomes

That the large increase in top incomes relative to the rest has played a substantial role in rising income inequality over the past several decades seems to imply that a substantial part of the solution to this problem resides in compressing that top-income share through various means, such as taxation and new corporate governance measures to address the overcompensation of chief executives. After all, as some argue, top marginal tax rates in Canada since the early 1980s have reached unprecedented lows compared with rates that prevailed over the previous 40 years and are relatively low compared with those in the United States, for example.[27] According to these analysts (see, for example, Osberg 2015), Canada's tax treatment of top incomes is overdue for a reset. However, there are several reasons this solution might not be as straightforward or as effective as it appears.

First, as Heisz and Murphy demonstrate in their chapter, it is transfers rather than taxes that do the heavy lifting in offsetting market income inequality in Canada. In 2011 for instance, two-thirds of the 28 percent reduction in the market income Gini coefficient attributed to the tax-and-transfer system was due to transfers. The one-third contribution from taxes is not negligible, but it puts into perspective what might be accomplished through the tax system, let alone through tax increases on the incomes of the top 1 percent. Moreover, in their chapter, Milligan and Smart advise caution regarding the likely effectiveness of taxing top incomes, for two reasons: first, a higher tax rate on the top 1 percent would apply only to the share of income that exceeded the income threshold to join that group, and thus would have only a marginal effect on that group's average tax rate; and, second, top earners can respond to tax increases by reducing their reported income through the use of tax shelters and income shifting. Due to these behavioural responses, the revenue generated by tax hikes on top incomes invariably is less than might have been anticipated from simply applying the proposed rate to taxable income reported in the preceding fiscal year. There is still considerable debate on the size of that behavioural response, or what economists call the elasticity of taxable income with respect to the tax rate, and the real limit to top-income taxation — that is, the revenue-maximizing rate beyond which the revenue loss due to taxpayer response exceeds the revenue gain from a rate increase — but it is a fine balance that is difficult to achieve (Laurin 2015; Osberg 2015; Piketty, Saez and Stantcheva 2014).[28]

The taxation of top incomes also has a federalism dimension, which Canadian governments need to consider. Because Ottawa and the provinces share the same income tax base, the reduction in reported income caused by a top-rate increase by one level of government could reduce the tax revenue of the other level of government and may even result in a net loss of revenue in aggregate, as Milligan and Smart show in their chapter. Experts seem to agree, however, that the potential for income shifting is larger with a provincial tax increase than with a federal increase. This is, in a sense, the type of scenario at play now with a federal rate increase on taxable income in excess of $200,000 from 29 to 33 percent coming into effect. Given the top-rate increases implemented in most provinces in recent years, the federal tax increase brings the combined federal/provincial top marginal rate up to the 48 to 54 percent range for most provinces and to 58.75 percent in New Brunswick. Marginal tax rates at these levels definitely increase the potential for tax competition among provinces and raise concerns about the loss of mobile labour and capital. Indeed, in light of this, the government of New Brunswick indicated before the federal election that it might reconsider its top rate if the Liberals won and went ahead with their proposed rate increase. This raises two questions: first, does it matter whether top-rate increases are federal or provincial; and, second, is there still room for further increases?

In our opinion, the task of progressive taxation should take place primarily at the federal level. For instance, in their chapter, Milligan and Smart show that the net revenue gains from top-rate increases vary widely by province, depending on their relative top-income shares and prevailing tax rates. In essence, they find that the poorer provinces, which also tend to have higher tax rates, stand to gain the least, whereas the opposite is the case for richer provinces, reflecting their greater revenue-raising capacity. The advantages of progressive taxation at the federal level are that it does not engender inefficient interprovincial tax competition, since the same rate applies across the country; it entails less scope for income shifting to other jurisdictions; and it provides more revenue from progressive taxation nationally to support the funding of redistributive federal transfer programs, not only for individuals but also for provincial health and social programs. All these factors make redistribution through the tax-and-transfer system more effective and equitable across the country.

As for the potential for further increases in the top tax rate, we would argue that, although there may be some room, it would be preferable to first let the dust settle on the series of important tax-and-transfer changes implemented or about to be implemented by the new Liberal government. Indeed, within weeks of its election, the government announced that (effective January 1, 2016), in addition to increasing taxes on top earners, it was reducing the marginal tax rate from 22 percent to 20.5 percent on taxable income between $45,282 and $90,563 and returning the annual contribution limit to Tax-Free Savings Accounts to its previous level, from $10,000 to $5,500. It also confirmed that income splitting for families with children was being repealed and that the Canada Child Benefit will come into effect in July 2016, eliminating the Universal Child Care Benefit and consolidating other child benefits to ensure better targeting of those most in need (Finance Canada 2015). All these measures are expected to make the tax-and-transfer system much more progressive (see, for example, Battle 2015a; Godbout, St-Cerny and Genest-Grégoire 2015). It is important, therefore, to let these reforms filter through the system in order to assess their overall redistributive impact.

Beyond that, we think that a major cleanup of the tax system is in order before considering further changes in the rate structure. In particular, we agree with those who argue that, rather than looking at further rate increases to address rising top-income shares, it would be preferable to work toward eliminating unnecessary tax preferences used disproportionately by high earners (Murphy, Veall and Wolfson 2015). Davies (2013), Veall (2012) and Wolfson, Veall and Brooks (forthcoming) offer much useful analysis in this regard. Among other things, Davies recommends evening the tax treatment of dividends and capital gains by raising the 50 percent inclusion rate. Veall questions the existence of the Employee Stock Option Deduction,[29] while Wolfson and his colleagues examine the role of private corporations in providing preferential tax treatment to certain groups of taxpayers, and suggest that, by not taking into account the income channelled through these mechanisms, we are underestimating both top-income shares and the extent of income inequality in Canada. Overall we agree with Veall that "if the goal is to increase taxes on those with high incomes…the immediate priority should instead be broadening the personal income tax base, particularly eliminating tax preferences that are likely taken advantage of by the upper end of the income distribution," and we support his call for "root and branch research on the effectiveness of these preferences" (1267). Until these issues are addressed, further rate increases would serve only to increase the efficiency costs and horizontal inequities of the income tax system.

Conclusion

THE RESEARCH INITIATIVE THAT LED TO THIS VOLUME STEMMED FROM OUR OBSERVATION of the lack of consensus in Canada about whether income inequality really is a problem and whether it can be mitigated. We took note of the malaise and ambivalence in the public discourse as well as the arguments opposing both the inequality "Cassandras" and the "deniers," and we set out to ask three questions. First, has income inequality increased in Canada? Second, if inequality is an issue of concern, what policy tools are available to address rising inequality and how have they performed? And third, what more could be done? Our goal in this chapter has been to provide a road map for the remainder of the volume, to draw together the evidence presented along with other salient research and analysis in an attempt to begin to answer these questions and to give readers reasons to dip into the volume's many interesting chapters. Of course, readers would first have to be convinced that inequality is an important and relevant question. We have argued that it is, because we see as the ultimate goal of both economic and social policy to move Canada toward a more equal society, a society in which all citizens are provided the wherewithal and the opportunity to fulfill their potential and to participate as full and equal members. Although income is just one dimension of well-being, a growing body of research indicates there is a relationship — if perhaps indirect and complex — between income inequality and inequality of opportunity or of life chances, not only among members of society at a given point in time but also across generations.

Of course, there are many perspectives from which one can view income inequality in a society. In Canada's case, there is the added dimension of a complex history of inequality. From the perspective of the past three decades or more, inequality has increased substantially, particularly in terms of market income. Inequality is apparent whether we examine summary measures, such as the Gini coefficient, that emphasize movements in the middle of the income distribution or ones that focus on particular segments, such as the proportion of income going to the top 1 percent. It is also true that since the early 2000s inequality has been relatively stable in Canada. We have argued, however, that this stability might be in large part a consequence of the increase in demand for unskilled and semiskilled labour brought about by the resource boom during that period. To the extent that this is true, and with the boom now turned to bust, there is reason to wonder whether Canada will rejoin the upward inequality path of such countries as the United States. We also see cause for concern in the growing share of income held by those at the very top of the income distribution over the past several decades and the lack of progress of those in the middle and at the bottom of the distribution, particularly given signs of decline in both income and intergenerational mobility. We do not claim that this represents a definitive reading of the data, but our hope is that readers will be drawn to the chapters that describe Canada's experience with inequality to form opinions of their own.

If readers agree that Canada has long-term inequality patterns that raise real concerns, then the natural question that follows is what policies one might apply to address the problem. Several chapters in this volume examine the efficacy of policies that have been tried in the past. Working from them, we have argued that more of the same in policy areas as diverse as human capital, minimum wages and unionization will not provide an antidote to Canada's inequality problem. In the realm of tax-and-transfer policies, however, we see both real hope in Canada's past effective use of these levers to offset rising market income inequality and reason for concern that Canada has backed away from their use in more recent times, perhaps because of design deficiencies in some existing policies. We think there is much room for improvement on several fronts, informed by evidence of what works and what does not and building on policy instruments and capability that simply did not exist when the pillars of Canada's social policy system were established. One point, though, is clear: although the provinces have, at times in the past, done much of the heavy lifting through policies such as social assistance and personal income surtaxes, the evidence in this volume suggests that in coming years battling inequality will require real leadership on the part of the federal government.

We have set out the elements of an ambitious policy agenda to deal with inequality in Canada. No single policy or approach will be enough to reverse the inequality that has become deeply embedded in Canada's economy and society, and the agenda we propose will require decades and even generations, rather than years, to implement and have an impact. But if the road is long, there is every reason to get started on it right away. The most direct policies are those that operate through the tax-and-transfer system. Here, we are supportive of the planned Canada Child Benefit, and we believe it should be complemented by a substantial expansion of the Working Income Tax Benefit. At the same time, Canada's social assistance and employment insurance systems need to be seriously revamped to better address the needs of working-age adults, particularly those who have neither children nor (currently) a job and who are falling through gaps in the social safety net. In our view, the tax system is also in need of a major review to reassess the purpose and distribution effects of a litany of tax preferences, many of which are disproportionately favourable to top earners.

Moreover, we believe that a longer-term, stable solution to rising inequality will require policies that affect the distribution of earnings before taxes and transfers. Human capital is the natural place to focus attention in this regard. We have argued for a combination of free postsecondary tuition for students from families in the lowest tercile of the income distribution and an income-contingent student loan program, although we recognize that the effects of these policies will be seen only gradually over time. We have also argued for policies that alter the relative bargaining power of people across the income distribution. For those at the bottom, we support a gradual move to higher minimum wages. For those in the middle, workers' rights need to be increased even beyond the framework traditional unions provide. And for those at the top, measures are needed to address issues of compensation of chief executives and of corporate governance more generally.

We offer these measures and policy directions not as a complete plan but to help prompt a lively debate on the best course of action to address income inequality in Canada. We hope and anticipate that debate will build on the evidence provided in this volume.

Notes

1. The OECD has published three major reports on inequality. The first, *Growing Unequal?* (OECD 2008), documents the long-term trend of rising income inequality in advanced and emerging countries; the second (*Divided We Stand,* OECD 2011) explores the underlying reasons for this phenomenon, including technological change and globalization; and the third (*In It Together*, OECD 2015a) examines the role of institutions, policies and relationships between economic actors and how these might be changed to stem or reverse the tide.
2. The Gini coefficient is the most commonly used measure of income inequality, ranging between 0 when everyone has an identical income and 1 when all the income goes to one person.
3. Similar graphs appear in the chapters by Heisz (figure 7) and by Banting and Myles (figure 1).
4. This volume includes detailed summaries of five articles to be published in the *Canadian Journal of Economics* as part of the collaboration between the CLSRN and the IRPP.
5. In 2012, the OECD changed the definition of income used in calculating the Gini coefficient for different countries — hence the difference in the Gini coefficient reported for Canada for 2008 between the 2001 and 2015 reports.
6. Wolfson, Veall and Brooks (forthcoming) add income from Canadian-controlled corporations to the data on Canadian taxfilers to make the income of top earners in Canada more comparable to that of their US counterparts, which increases significantly the income share of top earners in Canada and the rate of increase in this share in recent years.
7. It is worth noting that this conclusion follows even if workers are paid the value of their marginal product: even in a standard neoclassical economic model, conclusions about the effect of an increase in education on inequality are far from clear.
8. One can think of this as roughly analogous to price setting by a monopolist in the market for a good. We know that monopolists will restrict output, inducing higher product prices and higher profits. Monopsonists restrict employment because they recognize that, to hire additional workers, they need to pay higher wages, including to their existing workforce. In response to an increase in the minimum wage, the monopsonist will increase employment (up to a point) because the marginal cost of additional employment will be lower, since the existing workforce is already paid the minimum wage.
9. The after-tax LICO for Vancouver is $20,563, while the pre-tax LICO is $23,861. Raising British Columbia's minimum wage from $10.45 to $12.45 would still leave a minimum-wage worker who works full-time, full-year about $2,000 below the poverty line.
10. The Caledon report indicates that after recent increases, the minimum wage in 2015 ranged by province from 102 to 126 percent of the LICO (114.6 percent on average). But it is important to note that this is based on comparing pre-tax minimum wages to after-tax LICOs. When pre-tax LICOs are used, full-time, full-year minimum-wage work continues to leave workers below the LICO.
11. It did so as well in 2009-10 in the aftermath of the most recent recession.
12. This shift was influenced in part by the work of the OECD (1994, 1995 and 1996) and other organizations promoting a pro-growth policy agenda, some of which has led to wage-dispersion tendencies in Canada and other OECD countries.
13. For example, a recent assessment of Canada's EI program concludes: "Countries, like individuals, have successes and failures. In the domain of social policy, most observers agree that the

Canadian pension system has been a comparative success…In comparison, Employment Insurance is a policy failure. Commentators are almost universally critical in their views" (Banting 2012, 1). See also Lankin and Sheikh's review of social assistance in Ontario (2012).

14. Although Canadian youth do relatively well on international math and science tests, surveys indicate that adults have below-average numeracy skills, which likely hamper their ability to complete trades training (Expert Panel on STEM Skills for the Future 2015).
15. Adams (forthcoming) discusses other options in the Canadian setting, and Freeman (2011) does so in the US setting.
16. The volume edited by Rogers and Streeck (1995) provides an overview of European-style works councils and their relevance in the North American setting.
17. Stock options are much more risky than cash, so risk-averse employees will need to be paid options of a greater value than cash in order to receive an equivalent amount of compensation.
18. For example, if only one-third of directors come up for reappointment each year, shareholders can replace only a maximum of one-third of the board at the annual meeting, limiting their ability to exert control over management.
19. President Franklin D. Roosevelt imposed double taxation on intercorporate dividend payments, as well as other measures, as part of the New Deal in a successful attempt to reduce the power of corporate "robber barons," after which the practice disappeared.
20. Bipartisan support for the EITC continues even in the current highly polarized US political environment. Both President Obama and Republican Congressman Paul Ryan have recently proposed further expansion and increased generosity of the EITC program. As Nichols and Rothstein note, "It is reasonable to suspect that Ryan and Obama do not agree on much else where means-tested transfers are concerned" (2015, 3).
21. Alberta, British Columbia and Quebec have their own modest earnings supplement programs.
22. This is based on the OECD (2105a) estimate, but because of differences in defining nonstandard work and the overlap among the different categories of nonstandard work, aggregate estimates can vary significantly.
23. According to an OECD estimate, taxes and transfers in Canada reduce income inequality by 22 percent, compared with an average of 27 percent in the OECD (see OECD 2015b).
24. This scenario is based on a demogrant system, which implies a per capita benefit that is not income tested.
25. There is some debate on the size of labour supply effects. Clavet, Duclos and Lacroix (2013) obtain their estimates using a structural model of labour supply. Hum and Simpson (1991) examine Manitoba's guaranteed income experiment in the 1970s and find very small effects. According to Hum and Simpson's estimates, the simple accounting measures of the costs of a GAI are close to correct.
26. The Liberal Party estimates that the new program will add $4 billon to the child benefit system, providing a maximum benefit of $6,400 per year for each child under age five. According to Battle (2015a), the cost of raising a child in a low-income family in 2015 was $5,700.
27. According to Osberg (2015), in 2013 the average top marginal income tax rate (all levels of government combined) in Canada was 45.7 percent, compared with 47.9 percent in the United States.
28. Using a much lower elasticity estimate (0.2) than that used by Milligan and Smart (0.36), Osberg (2015) estimates that a 65 percent marginal tax rate (up from an average of 45.7 percent in 2013) on individual income in excess of $205,000 would generate $15.8 billion in new revenue, which represents about 9 percent of the average total income tax revenue raised by Canadian governments between 2008 and 2012. Osberg describes this outcome as "serious money, but not a fundamental change in Canadian public finance" (36).
29. There are several problems with the tax treatment of employee stock options in Canada, which suggest that the whole question is in need of review.

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