

Linkages Between Economic Growth and Inequality:

Introduction and Overview

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In January 2001, the Institute for Research on Public Policy and the Centre for the Study of Living Standards organized a major public conference in Ottawa on the linkages between economic growth and inequality.¹ The objectives of the conference were twofold. First, to bring the most recent research on the issue of the linkages between economic growth and inequality in the context of developed economies, with particular reference to Canada and the United States, to the attention of policymakers. Second, to open a public debate about the choices facing Canadian society on the issues of economic growth and inequality and their linkages. The articles appearing in this special issue of *Canadian Public Policy/Analyse de Politiques* represent revised versions of selected papers presented at the conference.

This introduction is divided into two major parts. The first part sets the context for the papers while the second part provides a summary of the key findings of the papers. The first part has four sections. They provide a concise overview of trends in economic growth, discuss issues associated with income inequality, examine trends in income inequality in Canada and the United States in recent years, and briefly look at the linkages between economic growth and inequality.

THE CONTEXT FOR THE DISCUSSION OF THE GROWTH-INEQUALITY RELATIONSHIP

Trends in Economic Growth

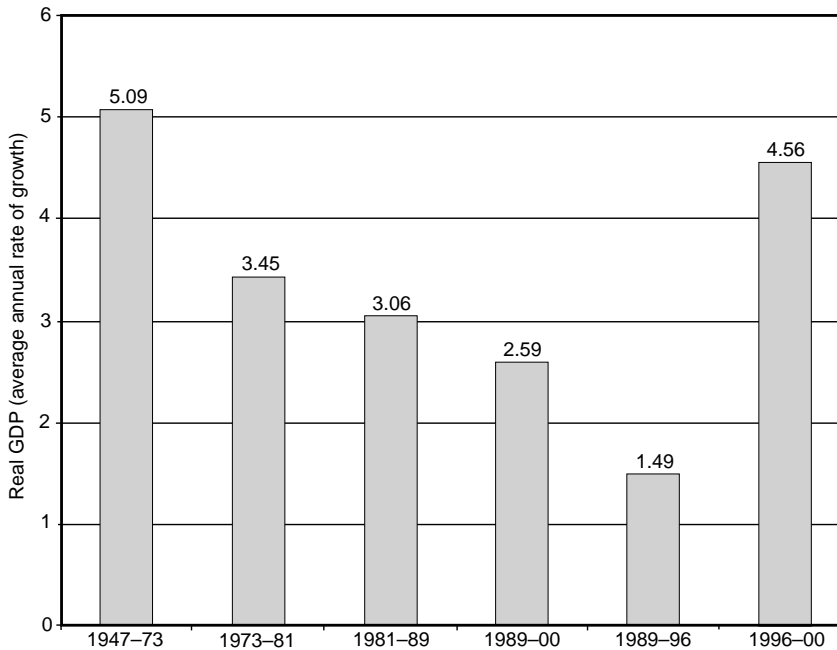
Economic growth is important for society as it increases real income and consumption, both in absolute and per capita terms, and hence makes us materially better off. But economic growth should not be confused with societal well-being or even economic well-being. Consumption is only one element of economic well-being, which is a broader concept that includes such components as stocks of wealth, environmental sustainability, economic security, and equality (Osberg and Sharpe 2002). Moreover, the weight one gives consumption in the calculus of economic well-being will depend on one's values and will vary among individuals.

Economic growth is determined jointly by both productivity growth and employment growth. The only way to increase output is either to produce more per worker, or to add more workers. In the long run, employment growth is limited by labour supply growth. Hence economic growth encompasses both productivity and employment and labour supply growth.²

Economic growth has been decelerating in Canada since the mid-1970 (Chart 1). In the 1947–

CHART 1

Economic Growth in Canada (average annual rate of growth)



Source: Statistics Canada: based on Real GDP: CANSIM II series v3860085 as of 8 January 2003 for 1973–2001. The growth rate for 1947–1973 was obtained from a real GDP index taken from Statistics Canada (1983).

73 period, real GDP advanced at a 5.1 percent average annual rate. It then fell off to 3.5 percent per year in the 1973–81 period, 3.1 percent per year in the 1981–89 period and 2.6 percent per year from the 1989 cyclical peak to the 2000 peak. The growth performance in the 1990s has been concentrated in the second half of the decade. From 1989 to 1996 growth averaged only 1.5 percent per year, while from 1996 to 2000 it averaged 4.6 percent. Economic growth fell to 1.5 percent in 2001 and is estimated to have been 3.4 percent in 2002 (Canada. Department of Finance 2002).

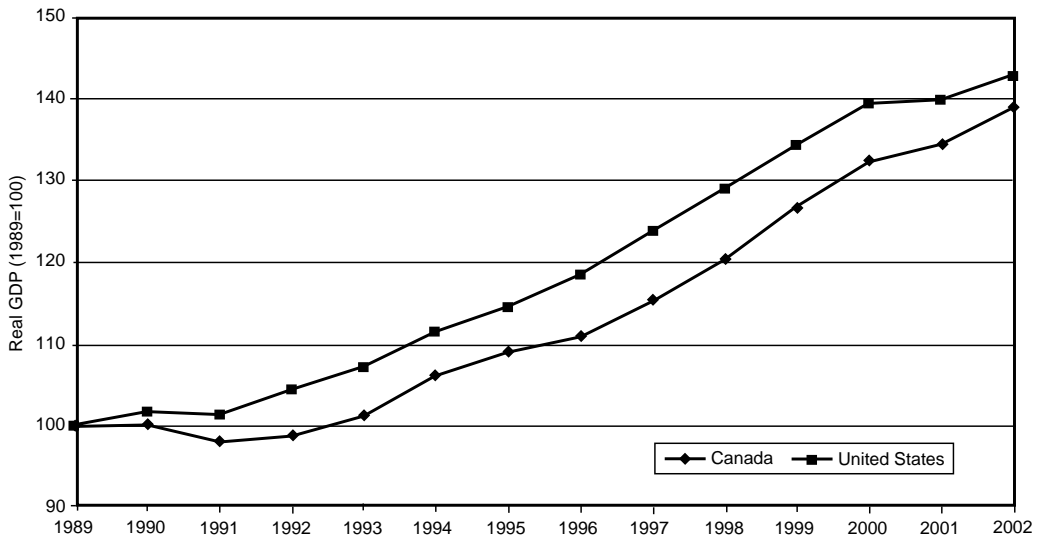
The deceleration of economic growth in the post-1973 period has reflected both a fall-off in productivity growth and a slowing of labour supply growth. The factors behind the first development are

still poorly understood by economists but are probably related to the depletion of the productivity-enhancing potential of the technologies that fuelled growth in the golden age of the postwar era. The cause of slower labour supply growth is easier to pinpoint — namely the end of the entry of the baby-boom cohorts into the labour market by the mid-1970s.

The acceleration of growth in Canada since 1996 reflects the strong bounce back in economic activity following the adoption of less restrictive macroeconomic policies relative to those pursued during the first half of the decade. It has been improved employment growth, not productivity growth, which largely accounts for this pick-up in economic activity (Sharpe 2002).

CHART 2

Economic Growth in Canada and the United States, 1989–2002



Source: Canada: Statistics Canada Real GDP: CANSIM II series v3860085 as of 8 January 2003. United States: Real GDP: BEA NIPA tables, 7 August 2002. The growth rate estimates for 2002 were taken from Canada. Department of Finance (2002).

Chart 2 compares economic growth in Canada and the United States since 1989. In 2002, real gross domestic product (GDP) was about 43 percent above its 1989 level in the United States, but only 39 percent higher in Canada. The growth gap developed in the early 1990s when Canada experienced much weaker growth than the United States. Since 1992 Canada's growth rate has, on average, slightly exceeded US growth, but not enough to compensate for the relative growth shortfall experienced in 1990, 1991, and 1992.

From an international perspective, Canada has enjoyed slightly above average economic growth in the 1990s. Chart 3 shows that Canada had the eleventh fastest growth of 25 OECD countries over the 1989–2002 period. In the first half of the 1990s, Canada's relative performance was much worse, while in the second half of the decade it was better. One notes from the chart that Ireland was the

economic growth superstar among OECD countries in the 1990s, enjoying over 7 percent annual growth.

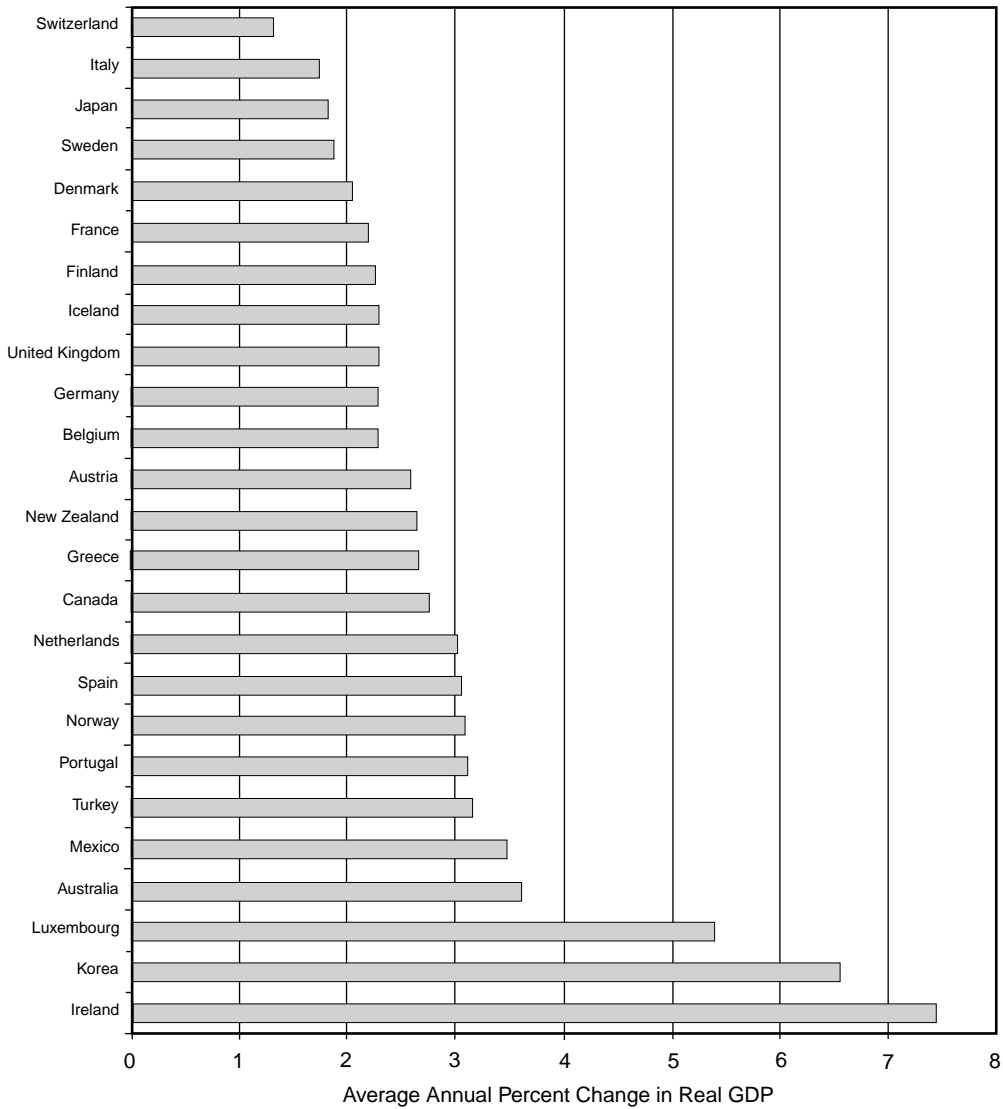
Issues Associated with Inequality

A number of observations can be made on the concept of inequality.

First, equality is a relative, not an absolute concept and refers to the relative distribution of income or wealth. A doubling of real income for all the population would reduce absolute poverty, but would not decrease inequality as the gap between poor and rich would be unchanged.

Second, equality is a value-laden concept. For some, there is not enough equality in society, for others there is too much. Some feel there is something wrong in a society that tolerates blatant inequalities. Others feel that inequalities are desirable as they reward initiative

CHART 3
Economic Growth in OECD Countries, 1989–2002 (average annual rate of change)



Source: OECD (2002).

and punish laziness. The papers in this volume do not resolve the debate on what constitutes a just society in terms of equality. Rather the purpose of the volume is to examine both the positive and negative behavioural impacts of inequality on economic growth, and the im-

pacts of growth on inequality. These impacts will be analyzed from both a theoretical and an empirical basis.

Third, it is important to make a distinction between equality of opportunity and equality of

outcome. Equality of opportunity refers to non-preferential access to educational and other opportunities for all members of society. Equality of outcome refers to the actual distribution of income and wealth in society. The latter concept does not imply that everyone should have identical amounts of income and wealth, given that people make different occupational and work/leisure choices and have different earnings profiles over the life cycle. Rather it refers to the notional level of inequality that would be considered acceptable to most members of society. The concept of equality of opportunity is supported by both the right and the left, while the concept of equality of outcome finds stronger support on the left. The two concepts are closely related as inequality of opportunity in one generation can produce greater inequality of outcome in the next.

Fourth, the concept of equality differs from that of income in that it is upward bounded. Income can in theory grow indefinitely so is not upward bounded. On the other hand, inequality, in theory, can be eliminated if everyone had the same income. Realistically, no one advocates the elimination of all income and wealth inequalities. Indeed, some might argue that we have already hit the upward bound for equality given the negative incentive effects. Others argue that society would be better off with greater equality and that there still is scope for public policy to affect income distribution before any upward bound on equality, either theoretical or operational, is attained.

Fifth, it is important to draw a distinction between inequality and poverty. Equality refers to the overall distribution of income while poverty refers to the distribution of income for those at the bottom. As noted earlier, inequality is a relative concept, while poverty can be both a relative and absolute concept depending on the definition of poverty used. It is possible to reduce measures of inequality without reducing poverty if the changes in income affect only the top two-thirds of the distribution. Nevertheless, societies with lower levels of overall income

inequality tend to have lower poverty rates and vice-versa.

Sixth, in discussion of trends in inequality, it is important to specify which measure of inequality is being referred to. The most widely used measure of inequality is the Gini coefficient (which goes from a value of zero representing complete equality to a value of unity representing complete inequality). Other indicators of inequality include the coefficient of variation, the Theil index, and the ratio of average income in the top quintile or decile to average income in the middle or bottom quintile or decile. Trends in the various measures of inequality are not always consistent so the robustness of any conclusion on inequality trends should always be tested.

Seventh, in terms of the discussion of income inequality, income can be defined several ways. Market income refers to labour market and investment income. Total income is defined as market income plus transfers. After tax income is defined as total income after direct taxes (personal income and payroll taxes) have been paid. From the point of view of purchasing power, it is after-tax income which is the most appropriate definition of income. From the point of view of tracking the inequality generated by the labour market, market income (or better yet earnings) is the relevant concept. This latter concept is sometimes referred to as the primary distribution of income, while the former concept is the secondary distribution.

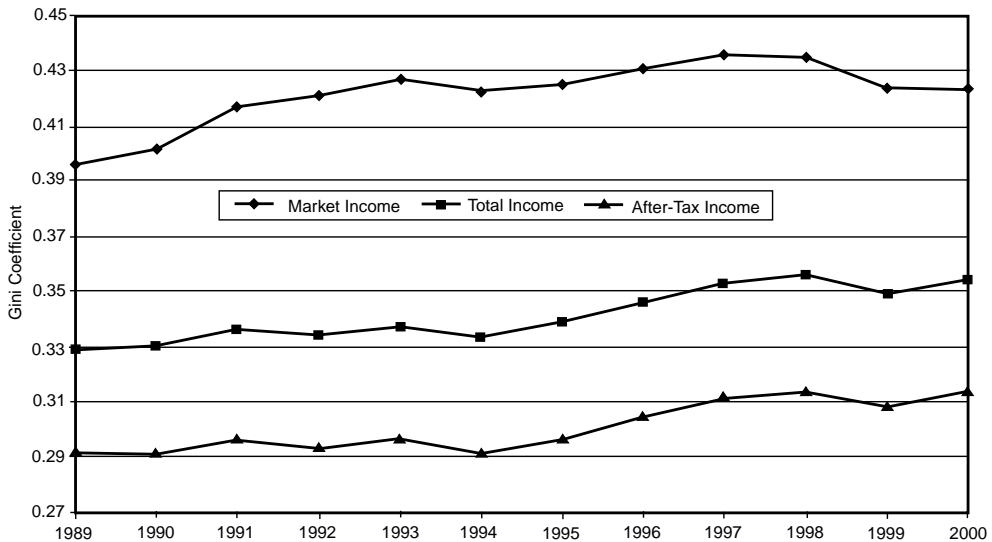
Eighth, with around two-thirds of personal income coming from employment, income inequality is largely determined by the labour market, reflecting differences across individuals or households in salaries and wages, hours worked, and employment/ non-employment status. Government transfers offset somewhat the degree of income inequality generated by the labour market, as do progressive income taxes.

Trends in Income Inequality

Chart 4 shows trends in the Gini coefficient for economic families for market income, total income, and

CHART 4

Trends in Income Distribution in Canada (Gini Coefficients)



Source: Statistics Canada (2000, 2002).

after-tax income in Canada from 1989 to 2000, as calculated by Statistics Canada (2002), while Chart 5 illustrates the percentage change in these three definitions of income over the period. In 2000, the most recent year for which data are currently available, the Gini coefficient for economic families was 0.424 for market income, 0.356 for total income, and 0.314 for after-tax income. This means that transfers reduced market income inequality by 18.3 percent, while taxes further reduced market inequality an additional 9.6 percent. In 1989, these respective figures were 16.9 percent and 9.3 percent.

Income inequality in Canada, as measured by the Gini coefficient for economic families, increased by around 7 percent under all three definitions of income between 1989 and 2000. The growth in market income inequality largely took place over the 1989–93 period, while the growth in inequality for total income and after-tax income took place after 1994.

One interpretation of the timing of these developments is the following. In the early 1990s, market income inequality increased as low-wage workers were disproportionately hit by the recession, and/or by a shock related to skill-biased technological change that reduced the demand for their services. This increased market income inequality did not translate into increased total income or after-tax income inequality because of the offsetting role played by government transfers in cushioning market income fluctuations. After 1994, governments cut program spending in their quest for deficit elimination, which included reductions to the social safety net. This meant that transfers such as welfare and employment insurance no longer offset growing market inequality, so total income and after-tax income inequality then increased.

From an international perspective, Canada ranks around the average in terms of income inequality.

CHART 5

Percentage Change in Income Distribution in Canada (Gini Coefficient), 1989–2000



Source: Statistics Canada (2000, 2002).

Gini coefficients calculated by the Centre for the Study of Living Standards from the Luxembourg Income Study micro-database show that Canada had the seventh most equal distribution of after-tax household income among 14 OECD countries in the first half of the 1990s (Chart 6). France, the Netherlands and four Nordic countries (Finland, Sweden, Denmark, and Norway) had lower Gini coefficients (less inequality) while Germany, Spain, Belgium, Australia, Italy, the United Kingdom, and the United States had greater income inequality.

Canada ranks relatively worse internationally for poverty than for inequality. Poverty rates calculated by the Centre for the Study of Living Standards from the Luxembourg Income Study micro-database show that Canada had the fifth highest poverty rate (defined in a relative sense as the percentage of households whose income is less than one half the median equivalent after-tax household income)

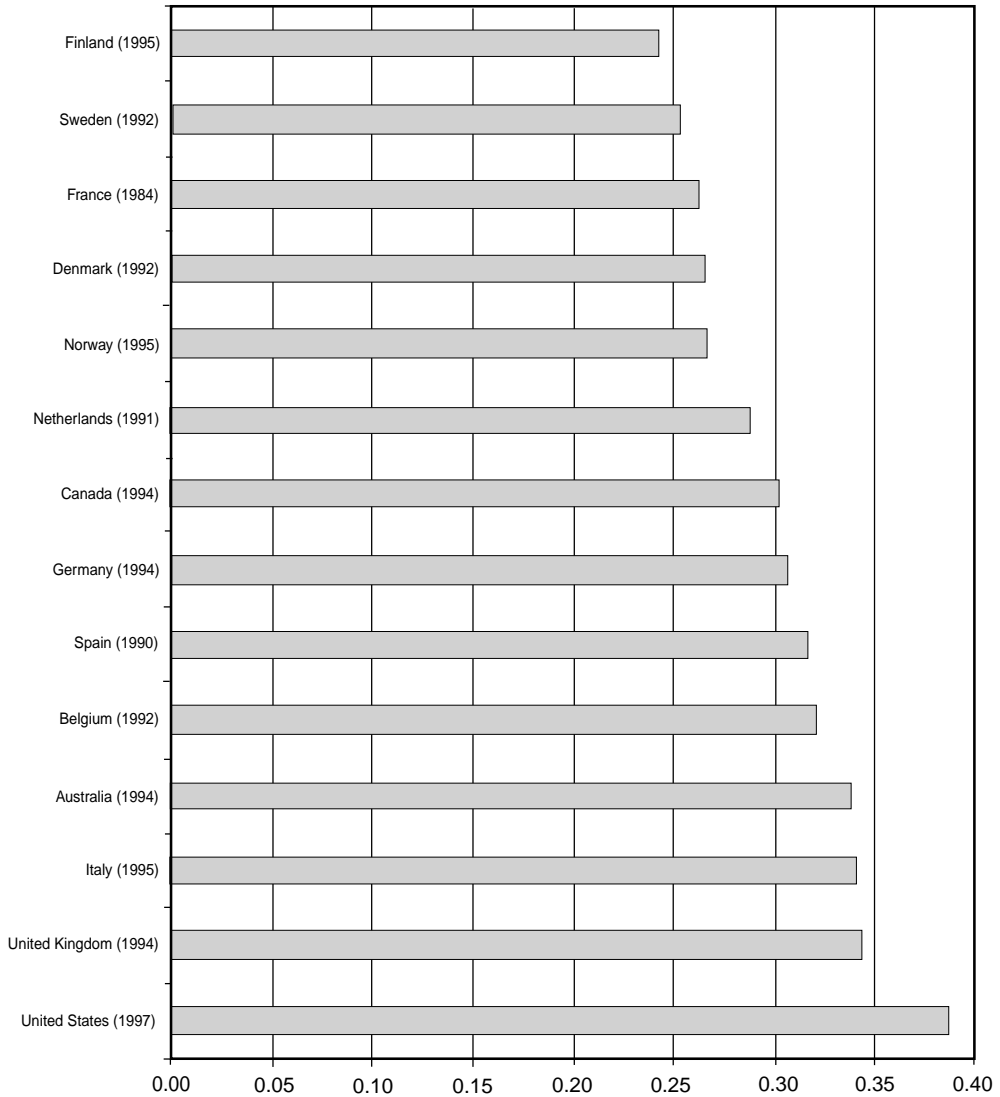
among 14 OECD countries in the first half of the 1990s (Chart 7). Only the United Kingdom, Italy, Australia, and the United States had higher poverty rate.

Linkages Between Economic Growth and Inequality

The linkages between economic growth and inequality are bi-directional, with economic growth affecting inequality, and inequality in turn influencing growth.

The mechanisms running from economic growth to inequality are relatively straightforward. The first is a direct link. Rapid growth increases labour demand and the persons who benefit disproportionately are those on the margins of the workforce. Moving from no job to a job, or from part-time to full-time employment, greatly boosts the income of persons at the bottom of the income distribution and reduces

CHART 6
Gini Coefficients for After-Tax Household Income



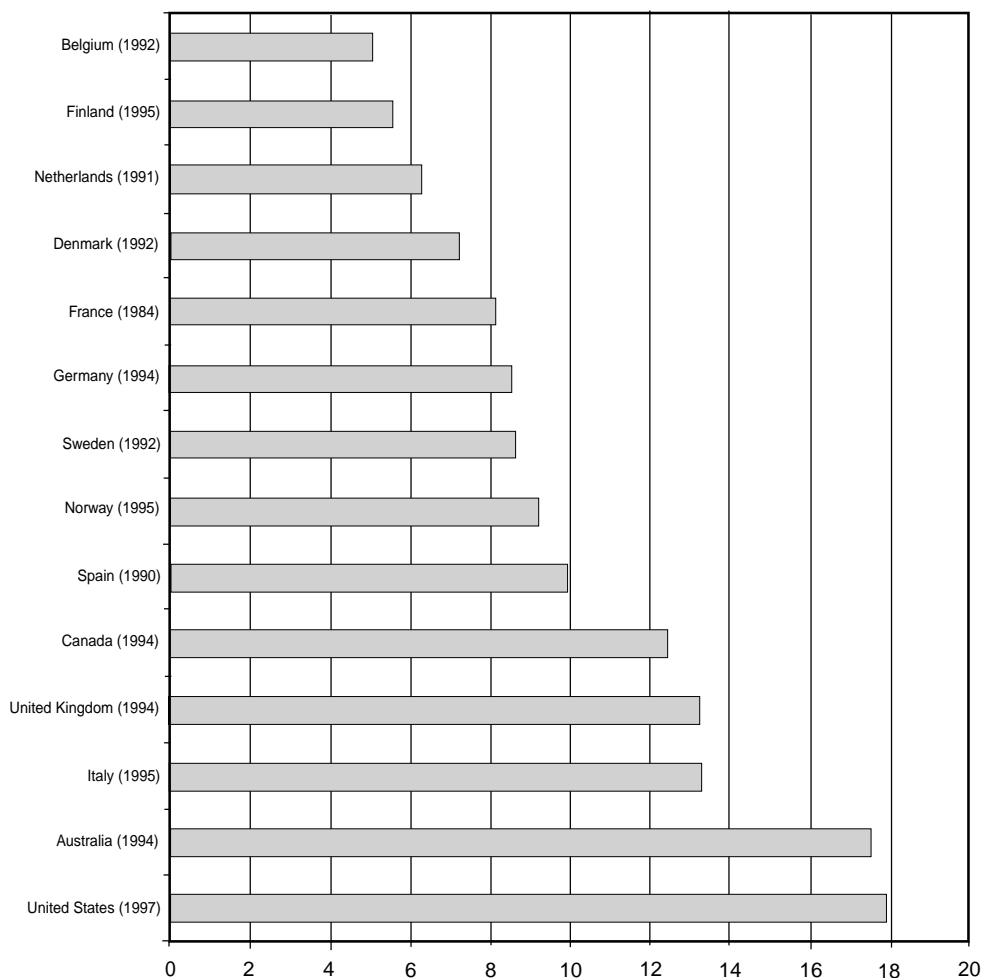
Source: Calculated by CSLS from the Luxembourg Income Study micro-database.

overall inequality. The second is an indirect link. A society with rapid economic growth becomes richer and these additional resources can in theory be taxed and redistributed to the poor to reduce inequality. This, of course, is a political choice and does not

automatically take place with growth. For these reasons, rapid economic growth, particularly when it significantly reduces unemployment, tends to be equality-enhancing as the impact of growth on equality is positive.

CHART 7

Poverty Rate (Less than one-half median equivalent after-tax household income)



Source: Calculated by GCLS from the Luxembourg Income Study micro-database.

The linkages running from inequality to growth are more complex than those running from growth to inequality, both in terms of the mechanisms at play and in terms of the direction of the impacts. It is these linkages that are largely the focus of the papers in this volume.

Economists have focused on the linkages between economic growth and equality for a long time. Two

approaches can be identified: the economic history perspective and the economic theory perspective. The economic history perspective was originally associated with the work of the Nobel Prize-winning economist Simon Kuznets, who developed what has come to be known as the Kuznets curve. Based on international cross-sectional evidence of income distribution and GDP per capita, Kuznets found an

inverted-U shaped relationship between the level of economic development and inequality. Countries with low levels of GDP per capita had a relatively more equal income distribution, as did countries with high GDP per capita. In contrast, countries in the mid-GDP per capita range had a more unequal distribution of income.

Kuznets hypothesized that the early stages of development are characterized by an increase in inequality, as people leave traditional low-income agricultural activities for better paid jobs in the modern sector. As development proceeds and the low-income traditional sector declines in importance and the modern sector becomes dominant, a trend toward greater income equality sets in.

The economic theory approach is associated with the economist Arthur Okun's well-known book *Equality and Efficiency: The Big Tradeoff* (1975) which argues that inequality serves as an incentive, both reward and penalty, to promote efficiency in the use of resources and to generate a greater and growing national output.

The two traditional approaches to the relationship between growth and inequality outlined above are now being challenged. First, the Kuznets curve is not supported by current developments given the trend toward more, not less, inequality in the advanced countries. While the Kuznets relationship may be relevant for countries in the initial and mid-stages of economic development, its relevance for OECD countries appears very limited.

Second, a number of economic theories have been developed to show that greater equality can have a positive effect on economic growth, in contrast to the negative effect stressed by Okun, and some empirical support has been found for these theories. The positive effects of equality on economic growth can be grouped into three types: the opportunity-enhancing effects of redistribution, the positive incentive effects of redistribution, and political economy effects.

Inequality can be bad for growth when the poor do not have an opportunity to develop their abilities to their full potential. If the poor cannot afford to send their children to postsecondary education, growth can be impeded as human capital accumulation will be reduced. Policies that redistribute income to the poor to allow access to postsecondary education can be growth-enhancing. Equally, studies have shown that children who are economically and socially deprived in their first three years of life suffer permanent negative consequences in terms of their personal development. Greater inequality may mean more children are affected. Redistribution policies that address this deprivation, either cash transfers to families with children or early childhood interventions such as high-quality daycare for poor families, may therefore have a positive effect on long-run growth.

Traditionally, it has been thought that inequality acted as an incentive to work. Now researchers take a more nuanced approach to this issue and point out there may be situations where inequality has negative effects on effort while a more equal distribution has positive effects. In team settings, individuals may act negatively to large income differences. A cooperative work environment where everybody has a stake in the success of the enterprise and acts accordingly may require less inequality than the more hierarchical workplaces of the past.

Finally, the unequal distribution of income can affect growth through political economy effects. For example, according to the median voter theory, in a country with a high degree of inequality, those at the bottom of the income distribution will vote for policies that redistribute income. This can in turn lead to high taxes, with negative effects for growth.

The relative importance of the three effects outlined above will probably depend on the extent of inequality. When inequalities are great, the potential for economic growth gains from redistribution may be significant because a large proportion of the population is constrained in its investment in human capital. Equally, in countries with a more equal

distribution of income, the opportunity-enhancing effects of redistribution, as well as political economy effects of inequality, may be less important.

It is interesting to note that the two-way linkages between economic growth and inequality may set up situations where virtuous (or vicious circles) can be created. For example, strong economic growth generates additional tax revenues that can be redistributed to the poor, reducing inequality, enhancing their opportunities to get ahead, and stimulating further economic growth. This growth in turn produces more tax revenue. Equally, the adoption of policies that redistribute income can reduce inequality and create better opportunities for the poor. This in turn strengthens growth and generates tax revenues. Good economic policy-making is the hunt for virtuous circles. Growth-equality linkages represent a fertile environment for such a hunt.

KEY FINDINGS OF THE PAPERS IN THE VOLUME

Overview of Volume

The ten papers in this volume explore a large number of issues related to the linkages between economic growth and inequality. The papers are organized into four main sections. The two papers in the first section analyze trends in poverty and earning variability in Canada. The two papers in the second section explore theoretical perspectives on the relationship between economic growth and inequality. The three papers in the third section provide international perspectives on the linkages between economic growth and inequality. The two papers in the fourth section analyze the relationship between inequality and economic growth in the United States. The one paper in the fifth and final section looks at the implication of one particular public policy, namely monetary policy, for economic growth and inequality.

Poverty and Earnings Variability Trends in Canada

Garnet Picot and René Morissette from Statistics Canada and John Myles from the University of

Toronto address the issue of whether the link between economic growth and low-income or poverty intensity has strengthened or weakened in the 1990s relative to the 1980s. They find that during the 1993–97 period economic growth did not generate any gains in employment earnings among families most likely to live in low income. The authors recognize that it is premature to conclude that a weaker link between economic growth and low-income intensity is now a permanent feature of the Canadian labour market. However, they stress that to succeed in lowering low-income intensity economic growth must generate earnings gains for low-skilled workers. This did not happen during much of the recovery of the 1990s.

Charles Beach from Queen's University, Ross Finnie from Queen's University and Statistics Canada, and David Gray from the University of Ottawa compare trends in earnings variability and stability of women and men in Canada between the 1990s and 1980s using the Statistics Canada Longitudinal Data Base. They find that there has been an increase in overall earnings variability among Canadian workers between 1982–89 and 1990–97, but that the rise was much more marked for men than for women (although the absolute level of variability was higher for women). This increased variability for men was driven by a widening dispersion of earning differentials across workers, presumably reflecting the widening skill differentials or associated returns of different skill sets.

Theoretical Perspectives on Economic Growth and Inequality

In the early 1990s, the traditional "equity-efficiency" trade-off was challenged by empirical evidence suggesting a negative impact of inequality on growth. Alternative theories based on incomplete markets (decreasing returns and credit constraints, short-run human capital externalities, socio-political mechanisms) were developed to explain the different mechanisms whereby inequality could impede growth. These recent theories have in turn been challenged on several fronts. Huw Lloyd-Ellis of

Queen's University surveys the literature on this debate and attempts to reconcile the two views by making a distinction between the long-run, causal effects of persistent inequality on growth and the short-run induced relationship between them. Indeed, Lloyd-Ellis concludes that the potential implied trade-off between the short-run negative effects and the long-run positive effects of progressive policies on growth is completely consistent with much of the recent theoretical literature.

It is widely recognized that the impact of equality on growth is not predetermined, and is affected by institutional variables and firm organization. Morris Altman from the University of Saskatchewan develops a behavioural model where increasing income equality is not a zero-sum game. Greater equality can lead to higher productivity through the elimination of slack or x-inefficiencies in firms. Through such an effect, high-wage firms can be cost competitive with low-wage firms. From this perspective, increasing the material well-being of the relatively less well-off in society need not be at the expense of those who are better off and there need not be a trade-off between income equality and growth. Altman makes the case that since an efficiency or technological change effect flows from the improvements in material well-being of workers, policies should be designed to encourage such improvements. Examples of such policies include higher minimum wages, greater unionization, strong social insurance programs, and macroeconomic policies that promote low unemployment.

International Perspectives on Economic Growth and Inequality

Roman Arjona, Maxime Ladaique and Mark Pearson from the Organisation for Economic Co-operation and Development (OECD) provide a detailed examination of possible relationships and trade-offs between equity and growth in OECD countries. They find that there is not enough evidence to state definitively that inequality is either good or bad for growth, although they admit that the results cannot be taken so conclusively as to completely rule out

any effect. They also find that in general increased social protection expenditure is bad for growth. However, when a distinction is made between active social spending programs that encourage increased employment activity and passive income support programs, the former are good for growth while the latter are bad. They conclude that given the desirability of both equity and growth, the appropriate policy conclusion is not to cut social expenditure to boost growth, but to shift the focus from passive to active social protection programs.

The second paper in this section by Rafael Gomez of the London School of Economics and David Foot of the University of Toronto explores the relationship between age structure, income distribution and economic growth. The authors argue that demographic factors can account for cross-country differentials in economic growth and income distribution. They review the mechanisms or channels that have been advanced to explain how inequality can affect economic growth, including the political economy channel, fiscal policy channel, social conflict channels, and agency-cost models. They then show how demographic factors can affect the relationship between inequality and growth through, for example, the impact of age structure on credit constraints, the stock of human capital and agency costs. They conclude that consideration of demographic factors should complement accounts of the inequality-growth relationship.

The third paper in this section by Lars Osberg of Dalhousie University looks at the role of labour supply in understanding growth and inequality trends in the United States and Germany. Osberg points out that between 1980 and 2000 average working hours per adult rose 234 in the United States while falling 170 in Germany. Some argue that the greater inequality in the United States motivates the greater work effort by Americans. But Osberg shows that differentials in hours arise mainly from differences in workforce participation, particularly for women and older men. He shows that except for the extreme lower tail, the distribution of usual working hours of prime age males is essentially identical in the two

countries. Osberg concludes that the greater inequality in earnings in the United States has no noticeable effect on labour supply of workers.

Trends in Economic Growth and Inequality in the United States

In the second half of the 1990s, the United States enjoyed the fastest economic growth among G7 countries, and experienced the highest level and largest increases in inequality. These developments raise the question of whether rising inequality has in fact contributed to rapid US economic growth. Gary Burtless of the Brookings Institution reviews modern theories linking inequality and economic growth and finds that Arthur Okun's theory of a trade-off between equity and efficiency can indeed account for recent trends in US growth and inequality. The United States now imposes fewer economic restrictions on economic agents and provides less help to people in distress. Burtless argues that these policies can readily explain faster employment growth and higher average hours of work than observed in other wealthy countries.

A key explanation offered to explain the widening wage inequality in the United States is that technological change exhibits a skill-bias, with demand for high-skilled workers outpacing that for low-skilled. Larry Mishel and Jared Bernstein from the Economic Policy Institute find that this explanation of widening wage inequality is incorrect and that the IT-led growth in the second half of the 1990s has not led to increased wage inequality. The authors argue that other forces, such as deregulation, deunionization and industry shifts, have been much more important in contributing to growth in wage inequality. The authors conclude that technology is in fact not working against the interests of the less-educated or low-skilled workforce and that there have been significant improvements in the skills at the bottom of the workforce.

Public Policy and Economic Growth and Inequality

The one paper in the fifth and final section looks at the implication of one particularly important public

policy for economic growth and inequality. Pierre Fortin from the Université du Québec à Montréal asks whether monetary policy can make a difference for economic growth and inequality. He provides a detailed critique of the Bank of Canada's view that the benefits of very low inflation are "large and permanent" and the related unemployment costs are "small and temporary." Fortin finds that the optimal unemployment-minimizing rate of inflation would be neither less than 2 percent nor greater than 4 percent, but lie somewhere in between. He concludes that Canada needs a monetary policy that is opportunistic on the expansionary side and brings inflation into this range. Since poverty and unemployment are highly correlated, this approach could also reduce poverty.

CONCLUDING OBSERVATIONS

The papers in the volume provide a variety of perspectives and findings on the links between economic growth and inequality. Indeed, in some cases the papers reach diametrically opposite conclusions as evidenced by the different findings of the Osberg and Burtless papers on the impact of growing inequality on average hours worked in the United States. The study of the impact of inequality on economic growth is a rapidly growing area of research. The divergent results reflect the inchoate nature of our understanding of the relationship.

Nevertheless, three observations can still be made from the research to date. First, it is probably imprudent to make the case for a more equitable society on the basis of the efficiency effects of increased equality. The empirical evidence of the positive impact of greater equality on efficiency is still inconclusive. In any case, for many a more equitable society is a goal in itself and any positive efficiency effect is an added bonus. Equally, there is little conclusive evidence of major negative effects on efficiency from equality.

Second, if the goal of society is greater equality, it is unrealistic to expect that market forces will

automatically generate this result. Government intervention through social programs to protect and support the economically weak will generally be needed, although a fully employed economy with strong demand for unskilled labour will certainly contribute to greater equality.

Third, the papers in this conference make it compelling that economic growth and inequality are simultaneous responses to deeper demographic and market forces and to the policy environment. A fruitful approach in the future will be to study those underlying factors case by case to shed light on their joint effects on growth and inequality.

We are a long way from a complete understanding of the complex linkages between economic growth and inequality in Canada and in other developed countries. The editors hope, and indeed believe, that the papers in this volume will increase our understanding of these linkages and stimulate and promote public debate on this important issue.

NOTES

I would like to thank France St-Hilaire and Pierre Fortin for useful comments on a first draft of this article.

¹A pre-conference was also held in November 2000 in Montreal. The editors would like to thank the project's Research Advisory Committee for assistance in the elaboration of the conference program.

²See the papers in the recent volume edited by Sharpe, St-Hilaire and Banting (2002) for discussion of the impact of productivity on various aspects of economic and social well-being as well as the social determinants of productivity growth.

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