Income Mobility or Income Equality?

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Abstract: 87 percent of Canadians who in 1990 had incomes in the lowest quintile, in 2009 had incomes that placed them in higher quintiles. Of those in the highest quintile, 36 percent had moved to lower ones. All Canadians have been getting richer, the poor more than the rich; the middle class has not been losing ground. This information is derived by tracing the incomes of the same individuals through time, implying that income mobility in Canada is very high. It suggests the need for a serious re-examination of the conventional conclusions about the fairness of the income distribution that are based on surveys of different Canadians at different times.

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JEL Classification: D30, D31, D63, E21, E24, I24, I32, J62

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The debate over the proper distribution of income in Canada, as in all other democratic market economies, has been dominated by information drawn from period population surveys taken at a given point in time. Advocates for income redistribution policies have always used this information to impress on the public that the existing distribution is unfair and that government should do more to equalize incomes. They also have used any statistics showing a rise in inequality to persuade successfully the public that “the rich are getting richer and the poor are getting poorer” and that the poor are “trapped” in poverty. In recent years, they have publicized the idea that the incomes of the middle class are stagnant because the super-rich are adding to their incomes at unprecedented rates.

This study is designed to provide a new perspective on the debate about income redistribution policies. Instead of using surveys that are equivalent to a snap-shot and record the incomes of all Canadians over one preceding year, the information used in this study is more like a movie and tracks the incomes of the same Canadians over many years.

These data show that none of the slogans about the distribution of incomes in Canada are correct. The vast majority of today’s poor will become well off as they age and become more productive or they escape the effects of temporary influences like unemployment and illnesses. Most of the top income earners face reduced incomes that they enjoyed for limited periods of time while at the peak of their professional careers in business, sport and entertainment or as a result of capital gains, inheritances and lottery winnings.

Not only is the income mobility of Canadians very high, the data for the 19 years available show that all have become richer, the poor much more than the rich and that there has been no stagnation in the incomes of those in the middle of the income distribution.

**Income Changes over One Year**

Table 1 uses data published by Statistics Canada\(^1\), which show that 22.3 percent of those in the lowest quintile in 2003 had moved into higher quintiles in the year 2004. Large proportions of individuals in the next three quintiles also had moved up. Downward mobility is also considerable: 19.8 percent of the highest income

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\(^1\) Exact references to the Statistics Canada publications used in all tables in the study are found at the bottom of each.
earners in 2003 had moved to lower quintiles in 2004. The individuals in the other quintiles also experienced lower incomes.\footnote{Downward mobility for the lowest quintile and upward mobility for the top quintile are zero for statistical reasons. There are no lower or higher quintiles into which individuals can move from these two extreme quintiles.}

The last two columns in the table provide information analogous to that found in the first two data columns but for the recession years 2008 to 2009. There are some minor differences for the two periods but somewhat unexpectedly, during the recession the lowest four quintiles moved upward relatively more than they did during the boom years 2003 to 2004. For example, in the boom period 22.3 percent of the lowest quintile moved up while 24.8 percent did so in the recession year.

Table 1

<table>
<thead>
<tr>
<th>Proportion of Canadian Individuals whose Earnings moved them to a different quintiles in one year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up</td>
</tr>
<tr>
<td>Lowest</td>
</tr>
<tr>
<td>Second</td>
</tr>
<tr>
<td>Third</td>
</tr>
<tr>
<td>Fourth</td>
</tr>
<tr>
<td>Highest</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, Survey of Labour and Income, Dynamics. catalogue no. 75-202-X2010000

Found at http://www.statcan.gc.ca/pub/75-202-x/2010000/ analysis-analyses-eng.htm#a2

The main conclusion to be drawn from Table 1 is that Canadians enjoy a high degree of income mobility from year to year and that there is considerable movement out of both the lowest and highest quintiles.

**Mobility over Six Year Periods**

Table 2 provides the same information about moves of Canadians into and out of quintiles as Table 1, the difference being that it covers two much longer periods of six years: 42.3 percent of those in the lowest quintile in 1999 by 2004 had moved into higher quintiles. There has also been downward movement: 43.0 percent had moved from the highest to lower quintiles. The virtually identical percentages just
cited are striking and suggest the generalization that over a longer period a very large proportion of the poorest are getting relatively richer and of the richest are getting relatively poorer.

The data for the period 2005-2010 found in the last two columns of the table cover a period that includes the Great Recession that started in 2008 while the period covered in the first two columns was one of rapid economic growth. A comparison of the numbers for the two periods shows a virtually identical pattern and none of the differences found for the one-year mobility in Table 1.

The data in Table 2 show that both upward and downward mobility are much greater over the longer than the one-year period covered in Table 1. However, the information contained in both tables has two shortcomings. First, it fails to show in what quintiles movers ended up after six years. Second, the information covers only six years rather than longer periods over which different levels of mobility might exist. These shortcomings are dealt with through the use of another data base discussed next.

Table 2

<table>
<thead>
<tr>
<th>quintiles</th>
<th>1999-2004</th>
<th>2005-2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Up</td>
<td>Down</td>
</tr>
<tr>
<td>Lowest</td>
<td>42.3</td>
<td>0</td>
</tr>
<tr>
<td>Second</td>
<td>39.1</td>
<td>19.8</td>
</tr>
<tr>
<td>Third</td>
<td>33.4</td>
<td>31.5</td>
</tr>
<tr>
<td>Fourth</td>
<td>25.3</td>
<td>37</td>
</tr>
<tr>
<td>Highest</td>
<td>0</td>
<td>43</td>
</tr>
</tbody>
</table>

Source: Same as Table 1

Tracking Moves through Quintiles over 19 Years

The data found in Table 3 were compiled by employees of the Canadian Revenue Agency upon a special request by the Fraser Institute and after payment of a considerable fee. The data record the incomes of a representative sample of tax filers whose annual returns were linked through the use of their social security numbers. The sample includes only individuals who had filed income tax returns
over 19 years from 1990 to 2009 and who had incomes of at least $1,000 in any year. To exclude Canadians over the age of 65 in the study, their ages in 1990 were limited to between 20 and 45.

A detailed analysis of dynamic income mobility revealed by this data set is found in the Fraser Institute publication by Lammam et. al. (2012). The most important results in this study are found in Table 3: only 13 percent of Canadians in the lowest quintile in 1990 were still in that quintile 19 years later, the rest had in almost equal proportions moved into each of the four higher quintiles, including the top one. Very similar upward mobility existed for individuals who started off in the other quintiles in 1990.

Table 3
Move into different Quintiles by Individuals between 1990 and 2009 (percent) - Market Income

<table>
<thead>
<tr>
<th>Quintiles in 1990</th>
<th>Percentile in each Quintile in 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>13</td>
</tr>
<tr>
<td>Second</td>
<td>9</td>
</tr>
<tr>
<td>Third</td>
<td>7</td>
</tr>
<tr>
<td>Fourth</td>
<td>6</td>
</tr>
<tr>
<td>Highest</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Fraser Institute (2013) and Statistics Canada 2012, special request from the Income Statistics Division using data from the Longitudinal Administrative Databank (LAD).

The data also reveal the degree of downward mobility: only 64 who were in the top quintile in 1990 remained in it in 2009. 16 percent had moved to the fourth quintile and 7, 6 and 7 percent had moved to the lowest three quintiles.

Table 3 reinforces the findings of the statistics discussed above: Income mobility in Canada is very high and continues to increase with the time elapsed from the start of the survey. The table also shows that the mobility involves movements between all quintiles. Most interesting is that 21 percent of low income earners ended up in the highest quintile. Downward is not as pronounced as upward mobility, which may be considered to be a positive: only 20 percent from the top quintile ended up in the lowest three quintiles. Perhaps most striking is the fact that after 19 years only 13 percent of those in the lowest have failed to move to higher quintiles. This implies that the widely touted poverty trap affects a much smaller
proportion of the population than is suggested by the standard income distribution measures.

**Quintile Movements using Family Total Income after Taxes**

The preceding analysis considered the market incomes individuals. The present section analyses the total incomes after taxes of economic families, using previously unpublished Fraser Institute data. These new data are important for two reasons.

First, they cover families, whose economic conditions are the focus of much public concern and political rhetoric as they are considered to be an important source of social stability in Canada.

Second, the use of total income after taxes reflects the results of existing income tax and subsidy policies of the government\(^3\), which should be the proper focus of public debates over the need for more equalization policies.

Table 4 shows that income mobility of families after government equalization policies is much the same as that for market incomes of individuals. There is much movement to higher and lower income quintiles.

<table>
<thead>
<tr>
<th>Quintiles in 1990</th>
<th>Percentile in each Quintile in 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>Lowest 33</td>
</tr>
<tr>
<td>Second</td>
<td>Lowest 15</td>
</tr>
<tr>
<td>Third</td>
<td>Lowest 9</td>
</tr>
<tr>
<td>Fourth</td>
<td>Lowest 6</td>
</tr>
<tr>
<td>Highest</td>
<td>Lowest 5</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, special request from the Income Statistics Division using data from the Longitudinal Administrative Databank (LAD).

\(^3\) The benefits of all social security programs paid to eligible recipients are technically known as “subsidies”. They are included in total income.
However, there are some interesting differences in the mobility of individuals and families in the lowest quintile: only 13 percent of *individuals* with *market incomes* while 33 percent of the *families* with *total incomes after taxes* remained in the lowest quintiles. On the other hand, 64 percent of the individuals and only 49 percent of the families remained in the top quintiles. It appears that the welfare state provision of subsidies to the poor and the progressive income taxes on high income earners have reduced the mobility of income of Canadians with both the lowest and highest incomes.

**Dynamics of the Top 1% and 5%**

In recent years, much has been made of the fact that the incomes of Canadians at the very top of the scale have increased much more than those of the rest. This development has been observed in other countries and has given rise to *The Occupy Wall Street* and similar popular protest movements. The publication of Thomas Picketty’s (2004) best-selling book has strengthened these movements by providing international and long historic perspectives to these recent large gains.

<table>
<thead>
<tr>
<th>Canadians in Top 1% who were in</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 the same top 1% last year</td>
<td>73.4</td>
<td>72.6</td>
<td>72.1</td>
<td>71.3</td>
<td>72.1</td>
</tr>
<tr>
<td>2 the same top 1% five years ago</td>
<td>52.3</td>
<td>52.4</td>
<td>52.5</td>
<td>52.7</td>
<td>52.7</td>
</tr>
<tr>
<td>3 top 5 percentiles last year</td>
<td>94</td>
<td>94</td>
<td>94.1</td>
<td>94.1</td>
<td>94.1</td>
</tr>
<tr>
<td>4 top 5 percentiles five years ago</td>
<td>83.5</td>
<td>83.1</td>
<td>83</td>
<td>84.3</td>
<td>84.9</td>
</tr>
<tr>
<td>5 top 5 percentiles at least once during the preceding 5 years</td>
<td>96.6</td>
<td>96.5</td>
<td>96.6</td>
<td>96.8</td>
<td>96.9</td>
</tr>
<tr>
<td>6 always in top 5 percentiles during the preceding 5 years</td>
<td>78.2</td>
<td>77.9</td>
<td>78.4</td>
<td>79.6</td>
<td>80.4</td>
</tr>
</tbody>
</table>

Note: Total income of individual tax filers
Source: Cansim Table 204 0001 found at http://www5.statcan.gc.ca/cansim/pick-choisir?lang=eng&p2=33&id=2040001

The information about the incomes of Canada’s top income earners in Table 5 shows that there is considerable mobility over a five-year period. However, the value of the information is limited because it is restricted mainly to mobility between individuals in the top one and five percent and shows only that about 20 percent in the top 5% had not been members in that quintile during the preceding five years. The full assessment of the mobility of the top 1% in Canada requires the supply of more information by Statistics Canada.
Total Dollar Incomes after Taxes

Table 6 presents information about the gains in real incomes of families in different quintiles in 1990. This information is contained in the data base used to construct Table 4 and sheds light on some of the most serious criticisms that have been made of income distribution and government policies in Canada in recent decades. Because of the dramatic nature and importance of these data, Chart 1 and Chart 2 show them graphically.

As can be seen, families in the lowest quintile in 1990 gained $34,800 or 280.3 percent in the following 19 years. For the other groupings, the increases in income in terms of dollars and percentages were a decreasing function of the initial quintile. For the highest quintile they were only $13,400 or 112.4 percent.

<table>
<thead>
<tr>
<th>Quintile</th>
<th>Increase 1990-2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>in 1990</td>
<td>in Years</td>
</tr>
<tr>
<td>Lowest</td>
<td>$19,300 $42,500 $54,100</td>
</tr>
<tr>
<td>Second</td>
<td>$38,800 $54,900 $68,000</td>
</tr>
<tr>
<td>Third</td>
<td>$52,900 $66,600 $79,700</td>
</tr>
<tr>
<td>Fourth</td>
<td>$68,300 $78,300 $90,300</td>
</tr>
<tr>
<td>Highest</td>
<td>$108,500 $109,000 $121,900</td>
</tr>
</tbody>
</table>

Source: Special compilation by Statistics Canada for the Fraser Institute.

These results are especially remarkable because during the 19 years under consideration the federal government in the 1990s engaged in drastic spending cuts and the recessions in 2001 and in 2008 had serious negative effects on employment and economic growth. Finally, the results suggest that there has been no hollowing out of the middle class (those in the middle three quintiles) and the highest income earners did not reap large gains at its expense.
At the most fundamental level, these data are clearly inconsistent with the idea that the rich are getting richer and the poor are getting poorer. They show concretely that in fact all Canadians have been getting richer, the poor more than the rich and that during this period the top income earners have not gained at the expense of the middle class. Chances are that the conditions that existed between 1990 and 2009 will continue in the future.
Combining Income Mobility and Distribution Data

Chart 3 is presented to enlarge the public and political discussions about income distribution policies by comparing the development of the income distribution and income mobility metrics. The top line shows the ratio of the highest over the lowest income quintiles, which is the index of income equality regularly published by Statistics Canada and which provides the basis of virtually all that the public knows about the distribution of income in the country.

As can be seen, the ratio of the average incomes of the highest over the lowest quintiles before 1995 had been rather constant at 5.0. It increased steadily during the period 1995 to 2000 during which a fiscal restraint program eliminated Canada’s large federal budget deficit. The increase ended in 2000 and the level has remained at about 5.7 thereafter.

The bottom line in Chart 3 shows the mobility metric of income equality. It traces through time the ratio of the average incomes of families who in 1990 were in the highest and lowest quintiles. This ratio fell from 5.65 in 1990 to 2.5 in 2009, indicating that by this measure the degree of inequality was more than halved.

\[\text{Income Distribution: Ratio of Highest over Lowest Quintile different}\]

\[\text{Income Mobility: Quintile Ratios for the same 1990 Families}\]

Source: Income mobility – Table 6. Income distribution – Statistics Canada Table 202-0706. Notes: Total Income of Economic Families after taxes. The bottom line is based on the linear extrapolation of years 1990, 2000 and 2009, the only years for which data are available.

4 Unfortunately, these data are available only for the individual years 2000 and 2009 so that the lines between these available data points are linear extrapolations.

5 The two ratios should be identical in 1990. The small difference shown is due to the use of different data bases by the government responsible for their publication, which has no significant impact on the basic finding about the great differences in the development of these ratios through time.
The two lines in Chart 1 provide different metrics useful in the assessment of the problems caused by differences in income among Canadian families. The public and media need to discuss the merits of each. An outline of such a discussion is found below in the concluding section of this study. However, it is clear that all such discussions must be based on the creation of continuous series of income mobility and their wide distribution among the public. Only Statistics Canada has the resources to produce them and should be encouraged to do so.

The debate in Canada would also be helped if governments in other market economies produced the same statistics so that international comparisons could be done, much as is the case with the traditional income distribution measures. The Appendix contains a table showing the relevant data for the United States, which the government has published recently and which shows that conditions in that country are very similar to those in Canada.

The proper comparison of international data requires the adoption of a common template, which settles such issues as the frequency of changes in the cohort used to trace incomes through time, the age of individuals in the sample, definition of the family unit, the inclusion of different sources of income and subsidies and the consideration of taxes. These issues could readily be settled by national experts in the production of government statistics.

The Causes of Changing Incomes through Time

To enlighten the discussion of the merit of income mobility and income distribution statistics, it is useful to understand the causes of income mobility. The following analysis identifies two different causes, the life cycle of incomes and random events causing temporary increases and decreases in income.

The Life Cycle of Incomes

Chart 4 presents information about the average incomes of Canadian men in the year 2008: They are very low for the age group 16 through 19, rise for each group thereafter until a peak is reached for the age group 44 to 54. Incomes drop again for the following age groups.

The increases in income in the early years are due to the growing productivity of workers who learn to apply their mostly academic learning through actual work and who acquire the needed work discipline. The reductions in earnings after age
54 are due to age-related disabilities that reduce their productivity and to early retirement caused by other forces.

Of course, there are wide differences in the incomes of individuals around the average for their age. These differences are a function of persons’ educational attainment, gender, intelligence, emotional and physical health, occupation, geographic location and others. The role played by these other determinants will not be discussed here because they do not change the basic conclusion that earnings and age are related systematically.

One basic implication of the existence of the age-related pattern of income is that the correct measure of income equality is life-time earnings, not income in different years. Unfortunately, the use of these data for redistribution policies of Canadians in any year is limited since they are based on projected and uncertain future incomes. Existing information about life-time earnings is useful for analytical purposes but cannot be used to determine current redistribution policies.

The concept of the age-income profile has been used in sophisticated models to estimate the impact the life-cycle income patterns on conventional estimates of the distribution of income. Morton Paglin (1975) did so in a path-breaking study, which has attracted much attention. He found that the conventionally estimated Gini-coefficient and the magnitude of inequality for the United States are reduced by 30 percent after adjustment for the income variations due to life cycle. Paglin’s
study led to a large body of academics studies, which explored the impact that other personal characteristics such as gender and educational attainment have on inequality. None of these studies have invalidated the basic conclusion that the natural life cycle of incomes has a strong impact on the conventional measures of income equality.\footnote{For a recent review of these studies see the book by Rycroft (2009).}

*Random Influences on Income*

Many Canadians move into and out of income distribution quintiles for limited periods of time because their productivity and pay are influenced by random events. Typical events causing temporary reductions in income are:

- Physical and mental illnesses due to disease or accidents.
- Unemployment caused by economic downturns or personal decisions.
- The birth and raising of children.
- Voluntary time off from work for any reason, for example to:
  - Obtain further education and training.
  - Engage in creative work in the arts and literature.
  - Enjoy leisure, travel and other non-paying activities.
- Immigrants integrating into the labour force and acquiring language skills

Typical events causing temporary increases in income are:

- Realizing capital gains from the sale of securities, real estate, buildings, art, antiques etc.
- Receiving bonus payments for extra-ordinary work achievements in the private and government sectors.
- Winning prizes for outstanding scientific and literary achievements.
- Starting or ending work in occupations requiring extra-ordinary abilities:
  - Professional athletes.
  - Entertainers working in the music, film and similar industries. Artists and writers of best-selling literature.
  - Top managers of firms and other organizations.
- Inheriting income producing assets.
- Winning from gambling and the purchase of lottery tickets.
It is important to note that the effects of negative temporary influences on incomes are modified by a wide range of government policies. In a sense, all of Canada’s social insurance programs are designed for this purpose as they provide assistance to the unemployed, sick and otherwise disabled, single mothers, new immigrants, retired workers and other groups of needy individuals and families.

On the other end of the income spectrum, Canadians with high incomes face high marginal tax rates and access to some benefits is means-tested.

**A Note on Intra- and Inter-Generational Income Mobility**

The analysis above involves the study of what technically is known the intra-generational mobility of income. Its name is due to the fact that it traces the pattern of income of individuals over their life-time, or within their generation. By contrast, inter-generational mobility refers to the degree to which individuals enter occupations and earn life-time incomes that are different from those of their parents.

In most countries descriptions of this mobility are part of the national narrative. For example, in Germany Thomas Mann’s 1901 novel *Buddenbrooks* describes the rise and decline of a bourgeois family’s economic fortune and social status over three generations. The novel is well known in Germany and accepted widely as a realistic description of inter-generational mobility that has long existed in that country. Historians and economists throughout the world often refer to the “Buddenbrooks Effect” on inter-generational mobility.

Statistical studies of inter-generational mobility require data about the occupations and incomes of fathers and mothers and their sons and daughters over their entire life times. Few such data exist, but different metrics have been used to approximate the needed information.

Corak (2013) reviews the existing literature on inter-generational mobility and concludes that “In countries like Finland, Norway, and Denmark the tie between parental economic status and the adult earnings of children is weakest: less than one-fifth of any economic advantage or disadvantage that a father may have had in his time is passed on to a son in adulthood. In Italy, the United Kingdom, and the United States roughly 50 percent of any advantage or disadvantage is passed on.” (page 4).
However, these findings are based on the use of Gini-coefficients to measure inequality and in a detailed comparison of this mobility in Canada and the United States Corak used mobility between deciles of the distribution. These data lead him to conclude:

“It turns out that the American intergenerational earnings elasticity...is twice as high as the Canadian, and this has little to do with the degree of mobility of children raised by families in broad swaths of the middle part of the distribution. Indeed, a comparison of the full decile transition matrices reveals a good deal of mobility in both countries, to the point that there is little relationship between family background and child outcomes...It is at the extremes of the distribution that the two countries differ...In the United States, sons raised by top and bottom decile fathers are more likely to occupy the same position as their fathers than they are in Canada. More than half of sons raised by top decile American fathers fall no further than the 8th decile, and about half of those raised by bottom decile fathers rise no further than the third decile. In Canada there is less stickiness at the top, and a much higher proportion of bottom decile sons also rise to the top half of the earnings distribution.” (p.5)

In an older paper Fortin and Lefebvre (1998) conclude: “Our estimates show that the rate of intergenerational income mobility is higher among more recent cohorts than among older cohorts. (p.51)” “An analysis by birth cohort (in Canada)... shows an increase in the degree of intergenerational income mobility over time.” (p. 62)

Advocates for income redistribution use any findings that inter-generational mobility is positively related to intra-generational mobility to argue for more equalization policies by government. However, as the preceding quotes show, the existing evidence on conditions in Canada does not lend strong support for this argument.

Moreover, international studies in this field rely on Gini-coefficients to reflect income equality in different countries. This metric uses income distribution statistics, the merit of which as guides to redistribution policies needs to be re-examined in the light of the income mobility statistics found in this study. Needed are studies of the relationship between inter-generational mobility and the intra-generational mobility along the lines already undertaken by Corak.
Summary and Conclusions

The public and political debate over the fairness of the existing income distribution and need for more equalization policies in Canada and most other democracies is based on statistics that are obtained through censuses and surveys, which contain information about the incomes of individuals and families during the preceding year. Income earners are arranged in descending order and the average incomes of quintiles are calculated.

If between income surveys the average incomes of the lowest quintile are unchanged, the advocates for more equalization policies use the fact to argue that “the poor are trapped in poverty”. The ratio of the average incomes of the highest over the lowest quintile is one of the most popular indices of income equality. When the rise in the average income of the highest quintile is greater than that of the lowest quintile and the ratio is increased, the advocates argue that “the rich are getting richer and poor and getting poorer.”

The problem with these arguments and generalizations is that they are false because the income earners that are found in each quintile are different every time the surveys are taken. Unchanged average incomes of the lowest quintiles over ten years do not indicate that the poor are trapped. Most of them have higher incomes and are included in the calculation of higher quintile averages. These escapees have been replaced by other low income earners. For the same reason, increases in the ratio of highest over lowest quintiles do not prove that the rich are getting richer and the poor are getting poorer. The composition of both groups changes through time.

The seriousness of the misrepresentation of income distribution problems associated with the traditional metrics is documented by statistics that show the incomes of the same individuals and families through time, that intra-generational income mobility in Canada is very high. These statistics are presented in this study and indicate that average real incomes of individuals and families in different quintiles initially tend to rise consistently and strongly, even during periods when the traditional measures signal the persistence of poverty traps and widening income gaps. In fact, the incomes of the poor over a recent 19-year period rose dramatically more than those of the other income groups both in dollar and percentage terms. Those with the highest income at the beginning of the period increased the least.
These increases in incomes through time are due to the operation of the life-cycle of incomes. This well-known phenomenon arises from the fact that new entrants into the labor market are inexperienced and relatively unproductive. As they age and become more productive, their incomes rise until age related conditions reduce them again and they ultimately retire. Temporary events also cause incomes to deviate from their normal time profile. Unemployment and illnesses lower income for limited periods of time. Capital gains, bonuses, lottery winnings and extra-ordinary achievements in sports, professions and the arts raise incomes temporarily.

The existence of the high degree of income mobility enjoyed by most Canadians does not imply the absence of all income distribution problems. The data show that a small percentage of those in the lowest quintile in 1990 were still poor 19 years later for a wide range of reasons. The analysis of the causes of income mobility also points to the existence of temporary poverty caused by transitory factors like unemployment and illness.

Canada’s welfare state already provides much assistance to the temporarily and permanently needy. The mobility data are important in pointing to the fact that they are relatively few and that they can be served more generously out of limited spending budgets if transfers to the temporarily poor are kept low or eliminated completely.

It is also true that many low income Canadians who enjoy income increases over time through their life-times move only from the lowest to the next highest quintiles and experience relatively low life-time earnings. The extent to which these working poor deserve to have their incomes raised by government transfers involves many difficult issues of incentives and subjective judgments about fairness, which should be discussed widely among the public and politicians.

A final implication of the mobility data presented in this study is the fact that stronger income redistribution policies for the most part would involve increased transfers from relatively rich older to relatively poor young Canadians. It is easy to envisage conditions under which theoretically such policies would not change the life-time earnings of all Canadians. However, they would be accompanied by two important problems.

First, the higher taxes on high incomes would primarily affect individuals whose high incomes coincide with the financial needs associated with raising a family and
saving for retirement. The fairness of such tax policies is questionable, especially since the young recipients of the transfers have no such financial obligations.

Second, the transfers to the young with low incomes reduce incentives to raise their incomes through education, training and efforts to integrate into the labour market, especially since they know that the higher returns they will bring later in life will be lowered by the taxes they face. The strength of this negative impact on productivity is not known, but unless it is zero, it lowers the average incomes of all Canadians over their life-times.

In sum, the statistics on income mobility will not end debates over the need for government income redistribution policies. However, they should influence the nature of the debates and cause proper attention to be given to the relative importance of income mobility and income equality in the creation of a society that the majority of Canadians wish to live in.

Appendix

Dynamic Statistics from the United States

The preceding analysis presented dynamic income data for Canada. This appendix contains analogous data for the United States and is presented to show that conditions are very similar in both countries.

The data shown in Table A1 have been produced by the US Treasury Department and cover the years 1996-2005. The first five lines and five columns concern mobility between quintiles. Of those in the lowest quintile in 1996, 57 percent had moved to higher quintiles in 2005, 5.3 percent to the highest quintile. The table also shows that 30 percent in the top quintile had moved to lower quintiles during these nine years, 2.6 percent to the lowest.

<table>
<thead>
<tr>
<th>Quintile</th>
<th>1996</th>
<th>2005 Income Quintile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>42.4</td>
<td>28.6</td>
</tr>
<tr>
<td>Second</td>
<td>17</td>
<td>33.3</td>
</tr>
</tbody>
</table>

Table A1
US Income Mobility 1996-2005
<table>
<thead>
<tr>
<th></th>
<th>7.1</th>
<th>17.5</th>
<th>15.1</th>
<th>29.6</th>
<th>12.5</th>
<th>100</th>
<th>4.2</th>
<th>1.4</th>
<th>0.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>4.1</td>
<td>7.3</td>
<td>40.2</td>
<td>40.2</td>
<td>30.2</td>
<td>100</td>
<td>8.6</td>
<td>2.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Highest</td>
<td>2.6</td>
<td>3.2</td>
<td>17.8</td>
<td>17.8</td>
<td>69.4</td>
<td>100</td>
<td>43.4</td>
<td>22.5</td>
<td>4.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Top</th>
<th>2.6</th>
<th>2.2</th>
<th>4.9</th>
<th>11.8</th>
<th>78.6</th>
<th>100</th>
<th>61.1</th>
<th>37.6</th>
<th>8.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top 5%</td>
<td>2.6</td>
<td>1.8</td>
<td>3.9</td>
<td>8.6</td>
<td>83.1</td>
<td>100</td>
<td>71.6</td>
<td>54.4</td>
<td>15.2</td>
</tr>
<tr>
<td>Top 1%</td>
<td>3.2</td>
<td>1.3</td>
<td>2.2</td>
<td>4.9</td>
<td>88.4</td>
<td>100</td>
<td>82.7</td>
<td>75</td>
<td>42.6</td>
</tr>
</tbody>
</table>

Note: The table uses the tax returns of primary and secondary non-dependent taxpayers who were age 25 or over in 1996 and 2005.

Income breaks for the quintiles and top percentiles are based on the full cross-section of tax returns for each year, where the taxpayer is age 25 and over.

Income is cash income in 2005 dollars.


Unfortunately, the available data from Canada and the United States do not allow a strict comparison of mobility in the two countries for several reasons.

First, the US data cover 9 years whereas the Canadian data cover five or 19 years. Nevertheless, the results are very similar: the 57 percent left in the lowest quintile after nine years in the US is close enough to the 42.3 percent left after 5 years in Canada to support the assertion that income mobility in the two countries is very much the same.

Second, the US data are for individuals over the ages of 24 and the Canadian are for individuals over 20. The exclusion of the 20-24 year cohort in the US study is justified on the grounds that many of the individuals in it are students and recent graduates whose inclusion therefore would create an upward bias in the estimates of income mobility for the rest of the population. The main problem with this methodology is that makes it impossible to compare static and dynamic distribution statistics since static measures include all taxpayers over 20. The Canadian data therefore are more suitable for the comparison on static and dynamic distributions of income.

Data on the Top Percentiles

Table A1 contains information about the mobility of individuals in the very top percentiles that is not available for Canada, but which has been used widely in recent public discussions about growing income inequalities in the United States and Canada. They reveal that of those who in 1996 were in the bottom quintile by
the year 2005, 2.3 percent had moved into the top 10%, 2.3 percent into the top 5% and 0.2 percent into the top 1% (see the last three columns of the top 5 rows).

Of course, more of those in the higher quintiles in 1996 reached these top percentiles, but the data show that Americans can rise from the bottom to the very top, not just a few rungs up the ladder.

The bottom three rows of the table show in the last three columns the mobility of persons who were in the top 10%, 5% and 1% in 1969. As can be seen, 61.1 percent had remained in the top 10%, 37.6 percent had moved to the top 5% and 8.3 percent had moved to the top 1%.

The information found in the last three columns and rows leads to the general conclusion that mobility into and out of the top income groups is greater than that for the highest quintile. However, most of the mobility of the top groups is within the top 10%: of those in the top quintile in 1969, only 69.4 percent were still in it in the year 2005 where as of the top 10%, 82.7 percent still in that percentile in 2005. These data much parallel the results for Canada’s very top percentile presented above.

References


Rycroft, Robert S. (2009), *The Economics of Inequality, Discrimination, Poverty and Mobility*, Armonk, New York: H.E.Sharpe