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CANADA'S RICH AND POOR

Moving in Opposite Directions

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Introduction

THE NUMBERS HAVE BEEN WEIGHED and the evidence is in: Canada's gap between the rich and everyone else widened between 1980 and 2000.

The gap isn't just a blip in time. This study shows Canada's growing gap is becoming entrenched, during good economic times and bad.

By opening the vault on several Census databases, this study is able to trace the rise in Canada's income inequality from 1980 to 2000, which is the last year of available Census data. Though Census data stops at the year 2000, the information in this data source is powerful. Of all the available data sources, the Census provides the clearest picture of what is happening on the extreme ends of Canada's income distribution. It tells what is happening to the richest of the rich and the poorest of the poor in unparalleled detail.

This paper takes note of several important trends in the Canadian economy between 1980 and 2000:

- The Canadian belief that income inequality is widening is, indeed, reality.
- This study shows the power of two extremes heading in distinctly different directions: The rich are getting richer and the poor are getting poorer. Not all boats are rising.
- The richest of the rich (the top 0.1%) are earning far more than the rest of us — the inequality ratio on this measure hasn't been this big since the 1920s.¹
- Market income for the poorest 10% of Canadians fell by 45% between 1980 and 2000. In stark contrast, market income for the richest 10% rose by 18%.
- In 2000, the richest 10% of income earners had a disposable income of approximately \$97,000 — 16 times more than the average of \$5,900 received by the poorest 10% of income earners.
- The gap grows bigger when you look at the top 5% and bottom 5% of Canadian families. In 2000, the average disposable income of the top 5% of families was \$121,260. The average disposable income of the bottom 5% of families was \$3,104.² That means the top 5% of families earned, on average, 39 times more than the bottom 5% by 2000.

The problem of growing income inequality continues to fly beneath the radar of Canada's elected governments, and yet this study illustrates that our governments once played a more active role in tempering rising income inequality.

Inequality in the income Canadians earn in the marketplace (pre-tax and transfer income) grew at a relatively similar rate in the 1980s and 1990s. In the 1980s, federal and provincial governments used taxes and transfers to temper that growth in inequality. That allowed more Canadians to share in their nation's prosperity during boom times and ensured a social safety net for Canadians during recessionary times.

But by the 1990s, governments at every level began cutting back on vital social programs (transfer spending). Toward the end of the decade, there was also some movement toward tax cuts. Together, these had an effect on Canada's growing gap, which went increasingly unchecked in the latter half of the 1990s.

Together, the evidence from the 1980s and 1990s shows that governments can actually reverse upward trends in inequality stemming from market forces when they choose to (as in the 1980s).

The final part of this study takes a look at other countries' level of income inequality, to help put these findings in context. The conclusion: While Canada's growing gap isn't as dramatic as that of the U.S., our gap is bigger than one might think.

Canada actually witnessed a greater increase in inequality in the upper half of the distribution than we see in the U.S. But there was smaller growth in inequality in the bottom half of the distribution for Canada, reflecting, in part, the operation of the Canadian transfer system in offsetting increases in market income inequality.

While several European nations have seen their gap grow in the same time period, their inequality ratios pale in comparison to Canada's.

And then there is China, that emerging nation with extreme income disparities. How does Canada fare compared to China? Our numbers look disturbingly similar when one compares market income inequality.

What separates Canada from China is this: our nation's tax and transfer system helped bring the after-tax growing gap numbers down considerably. An important consideration that flies in the face of claims that governments are ultimately powerless to stem the tide of broad economic forces that have been leading to increases in inequality

How we measure income inequality

THIS STUDY EXAMINES the growth of income inequality in Canada between 1980 and 2000, and finds the gap grew — especially in the latter half of the 1990s.

We examine what happened to Canadians in terms of market income, total income, and disposable income.

Market income represents the total amount Canadians earned — before taxes and transfers are factored into the equation.

Total income represents market income plus transfer income.

Inequality is often examined using the concept of disposable income: the money a family can use for spending or saving in a year.³ We look at real disposable incomes, reported in 2000 dollars, with the deflation performed using the CPI.

In order to understand whether the rich are getting richer and the poor are getting poorer, we break Canadian families into deciles — 10 groups of 10%. This allows us to compare average incomes of the richest 10% with the poorest 10%.

Then we break it down a bit further, looking at what happened on the extreme ends of both tails of the income spectrum. We look at the richest 5% of Canadian families versus the poorest 5% of families. We also draw on the work of Saez and Veall to see what happened to the richest of the rich — the top 1% and the top .01%.

Further into the paper, we sharpen our insights on income inequality by dividing Canadians into percentiles. Averages can skew results, especially on the tail ends of the distribution. Looking at percentiles allows us to see what is really happening to the person standing right at the 90th and 95th percentile (to understand what's happening to the richest among us) and those standing at the 10th percentile, the 5th percentile (to understand what's happening to the poorest among us).

To understand percentiles of income distributions, consider lining up the whole population of Canadian families in order of income, from the poorest to the richest.

Now consider starting at the end of the line where the poorest family is standing and walking along until you reach the point where only 1% of all Canadian families stand between the start of the line and this poorest family.

The poorest family's income is defined as the 1st percentile of the income distribution.

Similarly, at the 5th percentile of the distribution, only 5% of Canadian families have an income less than this family.

At the 95th percentile, this family has more income than 95% of all Canadian families.

By using percentiles, we can describe the entire income distribution and see whether certain parts of the distribution move more or less rapidly than others.

A key advantage of percentiles over, for example, the means (average) is that they are not sensitive to outliers. Outliers are extreme data points. The income of a CEO of a major bank would be an example of a high-valued outlier.

The average income of the top 10% of individuals is very sensitive to movements in the income of such outliers. However, the 90th percentile (the income of the person who has higher income than 90 per cent of the population) does not change when someone with even higher income gets a large bonus.

In this paper we also employ a Gini coefficient, which is a standard measure of inequality, to track the growth of income inequality.

WHY LOOKING AT CENSUS DATA MATTERS

As Frenette, Green and Picot (2006) and Frenette, Green and Milligan (2006) argue in detail, Census data results indicate that the level of after-tax and transfer income inequality in Canada is much higher than was previously recognized because other data sources (the Survey of Consumer Finance and the Survey of Labour and Income Dynamics) tend to understate both the number of very low earners and the number of very high earners.

Switching to Census data forces a reconsideration of the level of income inequality in Canada — revising it upward.

It forces a reconsideration of the magnitude of its relationship with the economic cycle — revising it upward.

It forces a reconsideration of the role of taxes and transfers in mitigating movements in inequality — revising it downward.

In other words, Census data tells us the growing gap between the rich and poor in Canada widened over the 1990s; and it widened more than researchers originally thought, because the rich got richer and the poor got poorer than previous analyses suggest.

Looking at disposable income

THE RICHEST 10% VS THE POOREST 10% (AVERAGES)

Much of what has occurred in terms of inequality in Canada in the last 20 years is evident in Table 1.⁴

The first point to take from the table is the huge disparity in resources between the top and bottom income of Canadians in any year.

In 2000, the top 10% of income earners had a disposable income of approximately \$97,000. That's 16 times more than the average of \$5,900 earned by the bottom 10% of income earners.

By any standard, this difference in available resources is immense.

More importantly, the gap between the income of the top 10% versus the bottom 10% has been widening.

Between 1980 and 1990, the disposable incomes at the top and the bottom increased at roughly similar rates. The ratio of the mean incomes rose only slightly, from 14.1 to 14.4.

Between 1990 and 2000, however, the mean disposable income of the bottom 10% was virtually unchanged while the disposable income of the top 10% rose by 13% in real terms. As a result, the ratio of the top to bottom real disposable incomes rose from 14.4 to 16.4. These latter movements are large by historic standards.

TABLE 1 Average Disposable Incomes

Year	1) Mean Income	2) Mean Income of the Lowest 10%	3) Mean Income of the Top 10%	Ratio of 3 to 2
1980	27,198	\$ 5,489	\$ 77,232	14.1
1985	26,803	5,122	77,988	15.2
1990	29,384	5,992	86,121	14.4
1995	28,185	4,924	83,953	17.0
2000	31,116	5,931	97,208	16.4

TABLE 2 Percentiles of the Market and Disposable Income Distributions

Market Income							
Year	P5	P10	P50	P90	P95	90/10	95/5
1980	0	3678.94	26603.78	55117.8	67316.36	15.0	-
1985	0	2140.18	25682.12	55183.7	67726.21	25.8	-
1990	0	2773.28	27802.03	60213.97	73975.44	21.7	-
1995	0	814.76	25330.66	58229.22	71890.6	71.5	-
2000	0	2012.46	28722.02	65029.85	81317.28	32.3	-
Disposable Income							
Year	P5	P10	P50	P90	P95	90/10	95/5
1980	7067.76	10340.83	24753.53	46202.57	55037.27	4.5	7.8
1985	6516.28	9778.38	24287.53	45995.26	54876.55	4.7	8.4
1990	7381.15	10807.79	25703.04	47996.92	57066.85	4.4	7.7
1995	5994.6	9518	24369.15	46354.66	55330.91	4.9	9.2
2000	6999.11	10831.38	26737.31	51416.17	61803.32	4.7	8.8

Table 1 also provides some evidence on the cyclicity of income inequality. Since both 1985 and 1995 correspond to points just after the trough of a business cycle, they help provide some evidence of what happened to inequality as Canada went through the bust and boom cycles in both the 1980s and 1990s.

In both decades, the extent of inequality⁵ rose in the first (recessionary) half of the decade and then declined in the second (boom) part of the decade. That's to be expected. These fluctuations, however, are stronger in the 1990s than in the 1980s — a trend worth unpacking.

THE RICHEST 10% VS THE POOREST 10%

Table 2 provides measures of various percentiles of both the market and disposable income distributions over time.

The percentiles for market income show a clear picture of increasing inequality.

In 1980, the family standing at the 10th percentile had an income of \$3,679 while the family standing at the 90th percentile had an income that was 15 times higher (\$55,118).

By 2000 the income of the 10th percentile family had fallen to \$2,012 per adult. But the income of the 90th percentile family had risen to \$65,030. That means the 90th percentile family earned a stunning 32 times more than the 10th percentile family.

Between 1980 and 2000, the 10th percentile family saw his/her market income fall by 45%. In stark contrast, the family at the 90th percentile saw his/her market income rise by 18%.

In terms of market incomes, the ratio of the 90th to 10th percentiles reaches levels as high as 71.⁶

The market incomes also show Canadian families were subject to strong economic cycles, particularly low-income earners.

There are strong declines in the incomes of the 10th percentile family between both 1980 and 1985 and between 1990 and 1995. There are also strong increases in the booms in the second half of each of these decades.

However, the increases in the booms do not fully offset the declines in the recessionary first half of the respective decades, resulting in the decline in the real annual market income of the 10th percentile family listed earlier.

In contrast, families standing at the 90th and 95th percentiles experienced either no or relatively small declines in their market income during the recessionary periods but strong growth in the expansionary periods. While the income of the 10th percentile family fell by 45% between 1980 and 2000 in real terms, the income of the 90th percentile family grew by 18% over the same period and the 95th percentile family income grew by 21%.

This latter result reflects a tendency for real growth to be greater for higher-income families.

Finally, it is interesting to note what happened to the 90-10 ratio — the difference between the family at the 90th percentile at the family at the 10th percentile. That ratio for market income rose at very similar rates across the 1980s and 1990s. It grew by 45% in the 1980s and by 49% in the 1990s. That indicates Canada has been facing an extended period of nearly constant growth in inequality in market terms. But what happened to disposable income?

Once we add in government transfers such as unemployment insurance and social assistance and subtract out taxes, family income inequality was much lower in the 1980s. In 1980, the disposable income ratio of families at the 90th percentile to families at the 10th percentile was 4.5; it was 7.98 for families at the 95th percentile to the 5th percentile.^{7,8}

This difference is a direct reflection of the functioning of Canada's evolving tax and transfer system. Whatever shortcomings it may exhibit, this system does work to dramatically reduce the extent of inequality. However, in the 1980s the tax and transfer system did more: it completely offset the *increase* in market inequality. Inequality in disposable income declined slightly between 1980 and 1990.

In contrast, in the 1990s the tax and transfer system ceased to offset the rising trend in market income inequality as effectively. Between 1990 and 2000, the 10th percentile of families saw its disposable income rise slightly from \$10,808 to \$10,831 while the 90th percentile family's disposable income rose much more substantially, from \$47,997 to \$51,416.

While taxes and transfers continued to reduce the level of inequality present in market incomes in any given year, they no longer offset the trend.

That the most dramatic changes in the role of Canada's tax and transfer system seemed to occur in the second half of the 1990s constitutes a smoking gun pointing to a weakening of Canada's redistributive system.

Apart from the trends discussed earlier, the disposable income distribution is also noticeably less cyclical.

The ratio of the 90th to the 10th percentiles does rise at the mid-decade points, but not nearly as dramatically as is evident in the market income data. The key difference is found in the impact of the tax and transfer system on the low end of the income distribution.

While the 10th percentile of the market income distribution fell by 42% between 1980 and 1985, the 10th percentile of the disposable income distribution fell by only 5% between the same years.

Nonetheless, the same overall pattern of increases inequality in recessionary periods and decreases in booms is evident and, as in the other data we have looked at, a particularly strong increase in the first half of the 1990s was not fully offset in the second half of that decade, resulting in an overall increase in disposable income inequality.

It is also worth noticing that the ratio of the 95th to the 5th percentile of the disposable income distribution increased more substantially over this period. This fits with the general pattern that much of the "action" in inequality movement has been in the extreme high and low incomes.

THE RICHEST 5% VS THE POOREST 5%

These trends are more extreme the higher and lower one looks in the distribution.

The family at the 5th percentile saw its disposable income rise between 1980 and 1990 but between 1990 and 2000 its disposable income fell from \$7,381 to \$6,999 — a 5% real decline.

In contrast, the family at the 95th percentile — showing the experiences of the richest 5% — saw its disposable income rise from \$57,067 in 1990 to \$61,803 in 2000 — an increase of 8%.

Over the longer term, from 1980 to 2000, the disposable income of the family at the 95th percentile actually rose by 12% while the disposable income of the family at the 5th percentile fell slightly.

In 2000, the average disposable income of the top 5% of families was \$121,260. The average disposable income of the bottom 5% of families was \$3,104.⁹ That means the top 5% of families earned, on average, 39 times more than the bottom 5% by 2000.

THE RICHEST OF THE RICH

The higher we look in the income distribution, the greater the increase.

This increase was moderated by the tax system, but disposable income for the top 1% (i.e., the 99th percentile of the disposable income distribution) rose by 15%, from \$80,500 in 1980 to \$92,000 in 2000.

The increase in market income was even greater: the family at the 99th percentile saw its market income rise 32.5% from \$106,447 in 1980 to \$141,000 in 2000.

This finding that incomes for the very high-income earners have grown particularly rapidly in the last few decades echoes results from Saez and Veall.

They examine the ratio of market income recorded for high-income earners in Canadian income tax data to total personal income for the economy as a whole from administrative tax data between 1920 and 2000.

They examine movements in the share of income going to the top 5%, top 1% and top 0.1% of earners and various other sub-groups of top earners over an extended period.

Broadly speaking, they find that the income share of high-income earners was high in the 1920s (in the era before the development of Canada's redistributive system) but fell sharply during WWII.

These shares followed a general, if gradual, downward trend until sometime in the 1970s, after which they turned sharply upward.

The upward trend in the last few decades is driven almost entirely by the very top earners.

Saez and Veall document that the share of total income in the economy going to the top 0.1% of earners in Canada — the richest of the rich — rose from 2% in 1980 to over 5% in 2000. This takes Canada back to levels not seen since the 1920s.

THE ROLE OF CANADA'S TAX AND TRANSFER SYSTEM

In order to look more closely at the role of taxes and transfers in the changes we are observing, we present the ratios of the 90th to 10th, the 50th to the 10th and the 90th to the 50th percentiles for market income, total income, and disposable income.

The 90/10 ratio is a measure of overall inequality in a distribution.

The 50/10 ratio shows the extent to which lower earners have fallen behind or caught up with those in the middle.

The 90/50 ratio shows the extent to which the top earners are moving away from those in the middle.

The top panel contains these measures for market income and indicates that much of the movement in inequality we see in the 90/10 ratio is actually being driven by the lower half of the distribution.

The 50/10 ratio increases strongly in more recessionary periods. This is to be expected: individuals with low market incomes depend mainly on labour market earnings (as opposed to returns on investments) and are typically less skilled. In recessions, they will be the ones who face the brunt of lay-offs and, as a result, their earnings fall relative to those of middle earners.

This was particularly true in the recession in the first half of the 1990s. In boom times, these people are likely to move to more stable employment and their earnings rise. In each decade, the increases in the booms did not make up for the declines in the recessions and, as a result, the 50/10 ratio in 2000 is double its value in 1980.

In sharp contrast, the 90/50 ratio is both much smaller in value and much more stable, showing little in the way of discernable cyclical swings. Thus, as is well known,

TABLE 3 **Percentile Ratios for Market, Total and Disposable Income**

Market Income			
	90/10	50/10	90/50
	14.98	7.23	2.07
	25.78	12.00	2.15
	21.71	10.02	2.17
	71.47	31.09	2.30
	32.31	14.27	2.26
Total Income			
	90/10	50/10	90/50
	5.26	2.67	1.96
	5.59	2.78	2.01
	5.42	2.70	2.01
	6.10	2.97	2.06
	5.81	2.78	2.08
Disposable Income			
	90/10	50/10	90/50
	4.47	2.39	1.87
	4.70	2.48	1.89
	4.44	2.38	1.87
	4.87	2.56	1.90
	4.75	2.47	1.92

not only do high earners make more money, they enjoy a more stable earnings path.

In the second panel of Table 3, we present the same ratios after government transfers have been added to market income.

The reduction in both the level and the cyclical nature of the 50/10 ratio relative to what was observed for market income is dramatic. From values such as 7.2, 14.3 and 31.1 for market income, the 50/10 ratio falls to numbers near 3 for total income.

At the same time, both the increases in the 50/10 ratio between boom and recession years and the decrease as we move from more recessionary to boom years are much smaller both in absolute and proportionate terms. This fits with a basic story in which the lowest market income earners rely on transfers to supplement their income losses during a recession, thus reducing the downward fluctuations in their total income.

On the flipside, as the economy moves from recession to boom, they gain employment income but use fewer transfers. The result is a smaller rise in total incomes at the bottom in both absolute and proportionate terms than is observed in market income.

At the other end of the distribution, introducing transfer income has only a small impact on the 90/50 ratio, as one might expect.

In the last panel of the table, we return to the disposable income distribution by subtracting taxes from total income.

The result is a further decline in the 90/10 ratio.

This occurs through reductions in both the 50/10 and 90/50 ratios, as middle-income earners pay proportionately more in taxes than low earners and high earners pay proportionately more in taxes than middle income earners.

However, transfers are the real work horse of the redistributive system in reducing overall inequality.

To understand the relative role of market income, taxes and transfers in the various parts of the distribution, Table 4 shows income components for families near the 5th, 50th, and 95th percentiles of the disposable income distribution for 1980, 1990 and 2000.¹⁰

As we see in examining the 1980 patterns, the makeup of disposable income varies across the distribution in a predictable way.

The 5th percentile families have a small tax bill and receive over 50% of their income in transfers with “Other Transfer Income” (a category dominated by social assistance benefits), accounting for the largest portion of their total transfer income.

In comparison, transfer income constitutes less than 10% of total income for the median households and less than 3% for the families near the 95th percentile.

The top earners also differ from those at the middle and low end in that a much lower proportion of their market income comes from wages and salaries, and that they pay, proportionately, much more in taxes.

Between 1980 and 2000, market income near the 5th percentile declined but this was offset by an increase in transfer income.

Examining the components of transfer income for those near the 5th percentile, the table shows a long term reduction in employment insurance income that is offset in particular, by an increase in Child Transfer Income, which reflects the changes to the Child Tax Benefit system.

Transfer income for the middle- and upper-income families increased substantially over this period, but this was accounted for almost entirely by increased retirement pensions, reflecting both an aging population and direct efforts to improve the well-being of the elderly.

In contrast, Employment Insurance income changed only to a small extent and Child Transfer Income actually fell for the middle- and upper-income families. These families had much higher income from Employment Insurance in 1990 than in either of the other two years.

Meanwhile, the ratio of taxes paid to market income for middle-income earners increased from 15% to 19% between 1980 and 2000.

For the top earners, market income grew dramatically, mainly due to increased wage and salary earnings.

TABLE 4 Mean after income tax income and components
(2000 constant adult-equivalent dollars)*

1980			
After income tax income	7,020	24,754	55,147
Market income	3,264	26,370	66,971
Wage income	2,473	23,324	54,419
Net self-employment income	405	1,321	5,562
Investment income	212	1,111	5,608
Retirement and other income	173	613	1,383
Transfer income	3,873	2,468	1,653
Employment insurance income	503	570	297
Child transfer income	796	740	351
Old age transfer income	673	787	684
Other transfer income	1,901	371	321
Income taxes paid	116	4,084	13,477
1990			
After income tax income	7,343	25,702	57,178
Market income	3,298	27,424	73,119
Wage income	2,595	23,884	58,470
Net self-employment income	201	1,186	6,016
Investment income	227	1,195	5,650
Retirement and other income	276	1,159	2,983
Transfer income	4,235	3,525	2,731
Employment insurance income	661	1,055	631
Child transfer income	855	455	140
Old age transfer income	567	1,431	1,426
Other transfer income	2,151	584	533
Income taxes paid	190	5,246	18,672
2000			
After income tax income	6,934	26,738	61,959
Market income	2,507	28,379	80,540
Wage income	1,850	23,871	65,545
Net self-employment income	180	1,434	6,042
Investment income	173	875	4,090
Retirement and other income	304	2,198	4,863
Transfer income	4,538	3,884	2,496
Employment insurance income	330	653	345
Child transfer income	1,395	391	14
Old age transfer income	668	2,074	1,584
Other transfer income	2,144	766	552
Income taxes paid	112	5,525	21,077

* The unit of analysis is the individual, but income is measured at the economic family level and divided by the square root of the family size.

TABLE 5 **Income Inequality Indices**

Year	Market Income			Disposable Income	
	Log(90/10)	Gini	Log(90/10)	Log(95/5)	Gini
1980	2.71	0.3923	1.50	2.05	0.3083
1985	3.25	0.4157	1.55	2.13	0.3140
1990	3.08	0.4142	1.49	2.05	0.3070
1995	4.27	0.4458	1.58	2.22	0.3194
2000	3.48	0.4387	1.56	2.18	0.3219
Growth					
1980–2000	28.4	11.8	4.0	6.1	4.4
1980–1990	13.7	5.6	-0.4	-0.3	-0.4
1990–2000	12.9	5.9	4.5	6.5	4.9
1980–1985	20.1	6.0	3.4	3.8	1.9
1985–1990	-5.3	-0.4	-3.7	-4.0	-2.2
1990–1995	38.7	7.6	6.2	8.7	4.0
1995–2000	-18.6	-1.6	-1.6	-2.0	0.8

Transfers also grew, both in real terms and as a percentage of disposable income but still only made up 4% of disposable income in 2000.

Taxes for this group grew from 20% in 1980 to 26% in 1990, but remained essentially unchanged between 1990 and 2000.

Increases in market income at the top end were offset to some extent by increasing taxes in the 1980s but this was not the case in the 1990s.

In Table 5 we present levels and growth rates in standard inequality measures.

The ratios of percentiles and decile means we have worked with up to this point provide an easy-to-read picture of what is happening in the income distribution but these measures have some drawbacks.

In particular, their growth rates over time are difficult to compare for different income measures.

Thus, in Table 5 we turn to two standard measures: the natural log of the 90/10 ratio; and the Gini coefficient. The Gini coefficient is perhaps one of the most common inequality indices and varies between values of 0 (no inequality — everyone gets the same share of total income in the economy) and 1 (all the income goes to just one person).

Inequality measures are attempts to summarize in one number what are sometimes complex shifts in the shape of the income distribution. Each measure tends to place more emphasis on changes in particular parts of the distribution. The Gini coefficient, for example, places particular emphasis on inequality movements near

the middle of the distribution while the log of the 90/10 ratio puts more emphasis on movements in the tails.

The growth rates in the inequality indexes in Table 5 provide a summary of the trends we have already examined with the benefit of consistent measures.

For example, both the log (90/10) and the Gini measures show that the growth in market income inequality was approximately equal over the 1980s and 1990s. The fact that the log (90/10) reports greater growth suggests that much of the action in increasing market income inequality occurred at the extremes.

According to both measures, in the 1980s, the tax and transfer completely offset the growing inequality in market incomes. In fact, the growth in disposable income inequality was slightly negative over this period.

The log (95/5) measure, which emphasizes inequality movements even farther out in the ends of the distribution, shows the same result.

In the 1990s, however, the inequality measures show considerable inequality growth in disposable income. This is particularly true of the log (95/5) measure.

The sub-decade growth rate breakdowns at the bottom of Table 5 are very interesting in understanding what is behind this change.

In the 1980s, the pattern follows the type of story we described earlier: market income inequality increases during recessions and decreases in expansions because of the changes in economic fortunes of those at the bottom. The tax and transfer system mediates the upward movement in the recession and helps emphasize the reduction in inequality in boom times through the proportionally higher taxes on those who are benefiting from the boom in the upper part of the distribution.

This pattern is also evident in the first half of the 1990s, when large increases in market income inequality are again mediated by the tax and transfer system. In the second half of the decade, however, the reductions in market income inequality that arose as expected were translated into either much smaller reductions or actual increases in disposable income inequality, depending on the inequality measure being used.

In essence, changes in the tax and transfer system after 1995 led to increased inequality growth relative to what was happening in market income.

To be clear, this did not mean that the changes in the tax and transfer system created a higher level of inequality than what was observed in market income — a glance at the top of the table shows that there is much less inequality in disposable income than market income in 2000. But changes in that system did essentially undo decreases that arose in market income inequality in the last half of the 1990s.

We have seen increased inequality in disposable income not because there has been an increased tendency toward inequality in the underlying economic forces relative to the 1980s but because we have ceased to use the tax and transfer system to fully offset those forces.

Canada versus other countries

THE TRENDS IN INEQUALITY we have presented to this point are somewhat difficult to process without some type of benchmark.

Perhaps the most common comparison for Canadian trends is to similar trends in the U.S. Gottschalk and Smeeding (1997) and Smeeding (2005) present U.S. inequality results using a disposable income concept very similar to ours with data from the Current Population Survey, a large representative survey.

They report a log 90-10 measure of 1.55 for 1980, which is very similar to the 1.50 value we find using Canadian Census data.

Over the next two decades, the U.S. log 90-10 differential grew by 10% while the Canadian differential grew by 4%.

Interestingly, that differential growth is entirely due to differences in movements in inequality in the bottom half of the distribution. From 1980 to 2000, the log of the 90-50 ratio for disposable income grew by 4.8% in Canada and by 3.6% in the U.S., implying that Canada actually witnessed a greater increase in inequality in the upper half of the distribution.

But, at the same time, the log 90-10 ratio grew by 3.5% in Canada but by a much larger 20% in the U.S.¹¹

The smaller growth in inequality in the bottom half of the distribution almost certainly reflects the operation of the Canadian transfer system in offsetting increases in market income inequality, at least in the 1980s.

We can also make comparisons to other countries using data from the Luxembourg Income Study, a large international project aimed at bringing together comparable data from multiple countries.

The log of the 90-10 ratio for disposable income for the U.K. grew at a tremendous 21%, from 1.26 in 1979 to 1.52 in 1999 (Luxembourg Income Project 2006).

This is much larger growth than what has been observed for Canada. But given its lower starting place, U.K. inequality still has not reached the levels witnessed in Canadian Census data.

Germany also experienced substantial inequality growth of 12% between 1981 and 2000 but was still at a much lower inequality level than Canada in 2000 with a log 90-10 differential of 1.19.

In contrast, inequality in Norway was virtually unchanged between 1979 and 2000, with the log 90-10 inequality measure taking a value of only 1.03 in 2000 (Luxembourg Income Project 2006).

One interesting comparison is with the inequality numbers reported in Benjamin et al (2005) for rural China.

They report a Gini coefficient for rural China in 2000 of about .44. A glance at Table 5 indicates that this is identical to the Gini coefficient for the market income distribution for Canada in that year.

Canada's market income inequality is the same as that in a developing economy, where income inequality is widely perceived to be very high.

What is different between the two countries is that this reported level of inequality for income in China is also the level for disposable income since there is little in the way of a tax and transfer system.

In contrast, the Gini coefficient for disposable income in Canada in 2000 is a much lower 0.32.

Whatever its shortcomings, the Canadian tax and transfer system still appears to reduce inequality substantially—especially relative to levels witnessed in countries with much weaker redistributive systems.

Notes

1 Saez, Emmanuel and Veall, Michael R. (2005). *The Evolution of High Incomes in North America: Lessons from Canadian Evidence*, American Economic Review, Vol. 95, No. 3, pp. 831–849.

2 As we describe in the paper, these income measures are adjusted to account for differences in family size and should be read as income per adult in the top and bottom ranked families.

3 This includes income from all market sources (earnings, returns on investment, rental income, etc.) plus government transfers (such as, employment insurance and social assistance) minus taxes. Other market income includes income from investments, (actual, not taxable) dividends, net rental income, pension income, and alimony received; capital gains are not included.

While disposable income provides a relatively comprehensive measure of resources available to a family, it is important to recognize what it does not include. Its primary shortcoming is likely that it does not include the value of goods supplied by the public sector. Since publicly provided goods such as health care are likely to be of relatively greater importance for the least well-off families, their omission implies that using disposable income as a measure of “available resources” will likely overstate the level of inequality. However, to the extent there have been cutbacks in government services accompanying recent reductions in taxes, trends in inequality in disposable income may understate trends in inequality of resources.

The taxes we refer to in our definition of disposable income are income taxes since, as we will see, the source of our information on taxes paid is ultimately income tax data.

The data underlying all the numbers reported in this paper come from the 1981, 1986, 1991, 1996 and 2001 Canadian Censuses. Since income questions on the Census refer to the calendar year preceding the Census date, our data actually refers to incomes in 1980, 1985, 1990, 1995 and 2000.

4 In Table 1, we present the overall average disposable income across everyone in the economy, the average disposable income of the lowest income individuals, the average disposable income of the highest income individuals, and the ratio of the latter two in each Census year. These are real incomes, reported in 2000 dollars, with the deflation performed using the CPI.

5 As measured by the ratio of the top to the bottom average incomes

6 Notice that the 5th percentile of the market income distribution is zero. That is because between 5 and 10% of individuals are in families with no non-transfer income during the given year.

7 It is worth noting that the person at the 10th percentile of the market income distribution in a year may not be the same person at the 10th percentile of the disposable income distribution: people's ordering could be switched depending on their relative receipt of transfers and their tax burden. Roughly speaking, though, one would expect to see the same people at the bottom end of both distributions.

8 The reader may be wondering how these ratios compare to the ratios presented in Table 1. Table 2 says that \$51,416.17 is the income in 2000 such that 90% of people have that disposable income or less. The value \$97,208 in Table 1, is the average income of everyone in the top 10% of income recipients. That is, it is the average income for everyone whose income is greater than \$51,416.17 (the 90th percentile).

9 As we describe in the paper, these income measures are adjusted to account for differences in family size and should be read as income per adult in the top and bottom ranked families.

10 Rather than work with the specific families at these percentiles, we generated average characteristics for families near them. To do this, we ranked families by income then divided them into 100 even sized groups. In the table, we present average characteristics for the 5th and 6th groups in the discussion about the 5th percentile, the 50th and 51st groups for the median, and the 95th and 96th groups for the 95th percentile.

11 The source for the U.S. trends is the "Income Inequality Measures" table from the Luxembourg Income Study Website (Luxembourg Income Project (2006)). The beginning number for the U.S. actually corresponds to 1979.