

Instability Implications of Increasing Inequality: Evidence from North America

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April 7th 2013

Revision of paper first presented at XXIV International Conference of the “Giordano Dell’Amore” Observatory on ECONOMIC AND SOCIAL INEQUALITIES: CAUSES, IMPLICATIONS AND REMEDIES, Centro Congressi Cariplo Milan, October 27-28, 2011. The author greatly appreciates the generosity of Mike Veall in sharing his data on top end incomes in Canada. The comments of Andrea Giusto, Talan Iscan, Andrew Jackson, Brian MacLean, Branko Milanovic, Ed Wolff and Armine Yalnizyan have been enormously helpful. Errors remaining are the author’s sole responsibility.

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Abstract

Increasing inequality cannot be a long-run steady state – i.e. a trend that can continue indefinitely. Because the bottom 99% and top 1% in the U.S. and Canada have had very different rates of growth of market income since the 1980s, consumption and savings flows have necessarily changed. If aggregate expenditure is to equal aggregate income, the added savings of the increasingly affluent must be loaned to balance total current expenditure – but increasing indebtedness implies financial fragility, periodic financial crises, greater volatility of aggregate income and, as governments respond to mass unemployment with counter-cyclical fiscal policies, a compounding instability of public finances. In Canada and the United States, *increasing economic instability* is thus an implication of *increasing inequality*. Either an acceleration of the income growth rate of the bottom 99%, or a decline in income growth of the top 1%, could equalize income growth rates, and thereby stabilize market income shares and macro-economic flows. However, there is no evidence that purely economic forces will produce either outcome anytime soon in Canada or the U.S. – any return to stability depends on political economy.

The establishment of social transfer programs, rural out-migration, expansion of school enrolment, increased female employment and declining birth rates are large “one-time” social trends with big income impacts for working families. In Canada and the U.S. such trends helped stabilize inequality from 1940 to 1975, while in Mexico they have reduced inequality (albeit from a high level) in recent years.

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When economic inequality is roughly constant, it does not make much news – during the quarter century of stability in income distribution after 1950 in Canada and the United States, studying inequality was sometimes denigrated as being “about as interesting as watching grass grow¹”. In such times, it becomes more credible for macro-economic theorists to ignore income distribution. Although previous generations of economists worried about changing income shares and the possibility that capitalism may be an unstable system, such concerns abate when income shares are constant. And when income distribution can be ignored, theorists can think in terms of representative agents, and old worries about class conflict can be replaced by new confidence in steady state equilibrium growth.

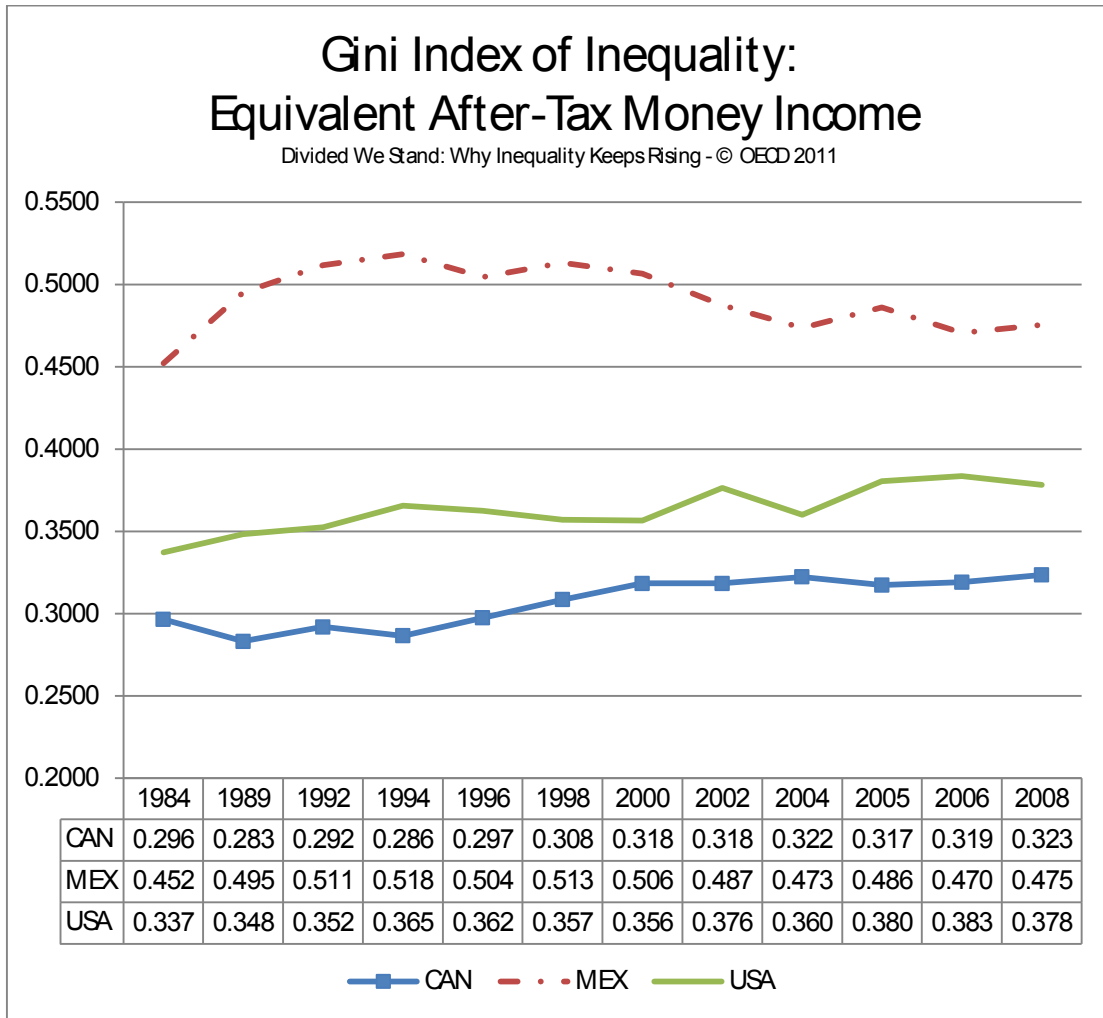
However, income inequality can only remain constant over time if the incomes of all parts of the income distribution grow at the same annual rate. This has not been the case in recent decades in many countries. So where is rising inequality taking us? Does the income distribution eventually stabilize at some higher steady state level of inequality? If so, is that because top end income growth slows to match the growth rate of middle class and low end incomes, or because bottom end income growth accelerates to match top end income growth? What processes might credibly produce such stability? Or should one think of increasing economic inequality as indicative of a fundamental instability of market economies? If so, how will it be mitigated?

This paper uses inequality trends in the U.S., Canada and Mexico over the last thirty years as case studies in contrasts. Although these nations have long histories of interdependency (which have deepened since the North American Free Trade Area (NAFTA) came into force in 1994), their recent experiences of inequality have evolved along different trajectories. As Figure 1 illustrates, income inequality (as summarized by the Gini index of inequality of equivalent income, after taxes and transfers²) was roughly constant in Canada from the mid 1980s until the mid 1990s, and then increased fairly sharply over the next decade – while in Mexico, starting from a much higher level, inequality rose until the mid-1990s, but fell thereafter. Although it has significantly less inequality than Mexico, the United States has always had more inequality than other affluent OECD nations, including Canada, and a long-run trend to greater income inequality over time.

¹ This gibe has been ascribed to Aaron (1978) by, among others, Salverda, Nolan and Smeeding (2009:4).

² Data downloaded from – <http://dx.doi.org/10.1787/888932535204> which reports the distribution among individuals of equalised (square root of household size) disposable (i.e. after transfers & taxes) cash household income.

Figure 1



Source: Figure 2, Page 25 in *Divided We Stand: Why Inequality Keeps Rising* - © OECD 2011
 data available at: <http://dx.doi.org/10.1787/888932535204>

The literature on economic inequality has, for many years, emphasized how different summary indices of inequality (e.g. the Gini or Theil indices or percentile share measures) or different measures of control over economic resources (e.g. consumption or income or wealth) can sometimes generate different perceptions of inequality trends. In recent years, many fine papers have been written documenting trends in inequality using summary indices (e.g. Heathcote et al (2009); Panoussi et al (2011) and discussing different aspects of inequality trends (e.g. Autour et al (2008)). However, changes in a summary index, like the Gini, cannot reveal which part of the distribution of income has been changing.

This paper concurs with Gordon (2009) and Burkhauser *et al.* (2009) who find that essentially all of the increase of inequality after 1993 in the U.S. occurred in the top 1 percent group, and there was nil increase of inequality in the bottom 99 percent of the population. Osberg (2008) had earlier come to a similar conclusion in Canada³. It focusses on the very top end for the simple reason that the absolute size of changes in income share there dwarfs the magnitude of shifts elsewhere in the income distribution.

This paper also emphasizes the implications of *increasing* inequality and the very different *rates of growth* of real income among the bottom 99% and top 1% in the U.S. and Canada. In doing so, it diverges from the approach of the many authors (e.g. Wilkinson and Pickett: 2009) who have compared societies with different *levels* of inequality at a point in time. Section 1 begins with a brief overview of trends in measured income inequality, emphasizing especially Canada and the U.S.⁴ Section 2 stresses the ‘general disequilibrium’ instability implications of increasing inequality while Section 3 considers the likelihood of stabilizing political economy responses. Section 4 is a kind of conclusion.

1. Recent trends in inequality

Over the last thirty years, there have been huge changes in American and Canadian labour markets. The labour force has become, on average, older and much better educated and has been reallocated across industries and regions. Cohorts of new immigrants have arrived. Compared to 1980, Canadians and Americans now work with many new technologies and considerably more capital, in a much more deregulated labour market, with much less protection by unions and tariff barriers. Implicit guarantees of continuing employment have withered away for many workers and contingent work, on-call arrangements and sub-contracting arrangements have proliferated. However, although these changes undoubtedly have shifted the relative position of many individuals in the wage hierarchy, their aggregate impacts have also often been offsetting – many influences have loomed much larger, considered separately, than the joint impact of all these trends⁵.

Of course, the total disposable annual money income of households also depends on the hours of labour supply of individual household members, the correlation of annual labour earnings among household members, income from capital and the net impact of taxes minus transfer payments. Compared to thirty years ago, Canadian and American households now supply significantly more weeks of work to the paid labour market (particularly at the lower end)

³ Yalnizyan (2007) used decile share data for Canada and emphasized the income gains of the top 10%.

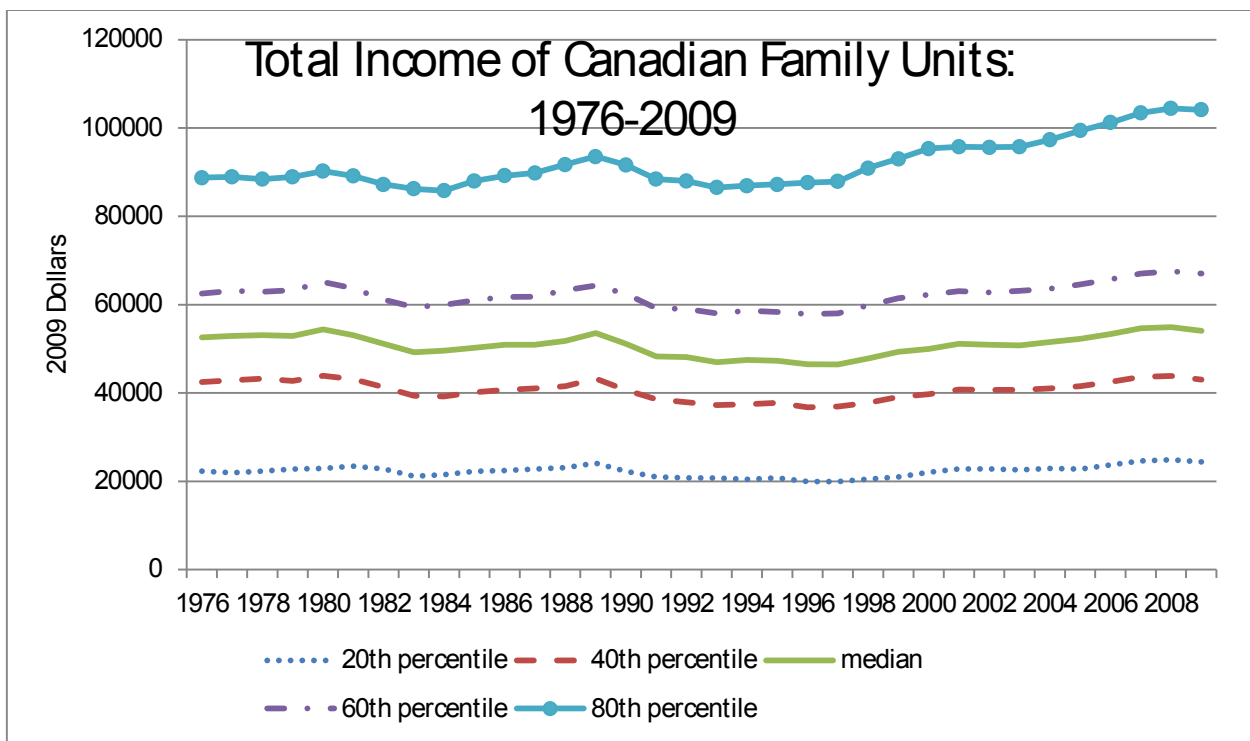
⁴ To compare peak to peak of the business cycle, the 1987 to 2007 period is useful to analyze. As well, 1988 was the year in which the Canada-US Free Trade Agreement substantially reduced barriers to Canada-US labour mobility for professionals and executives, following a long period of restrictions (see Davies and Winer, 2011).

⁵ See Morrissette and Johnson (2005:42) or Kumhof and Rancière (2010:27)

and the variance of weekly work hours has increased. A general increase in education levels (particularly female) has been accompanied by a marginal increase in spousal correlation of earnings. However, these micro trends have been largely offsetting⁶.

Figure 1 plotted the Gini index of after tax equivalent income of individuals over time but to get an idea of which part of the income distribution is changing, Figure 2 shows the total real income of Canadian households at specific points in the income distribution – specifically the 20th, 40th, 50th, 60th and 80th percentiles. Over this 33 year period, only the 80th percentile has noticeably increased in real income, at all⁷. There has been remarkably little change at most points in the distribution of real pre-tax household money income⁸.

Figure 2



Source: CANSIM⁹, v25731821, v25731822, v25739992, v25731823, v25731824; Tables 2020405 and 2020411

⁶ Lu, Morisette and Schirle (2011) decompose the inequality of family earnings in Canada. Osberg (2006) presents a simulation model of counter-factual changes in employment levels.

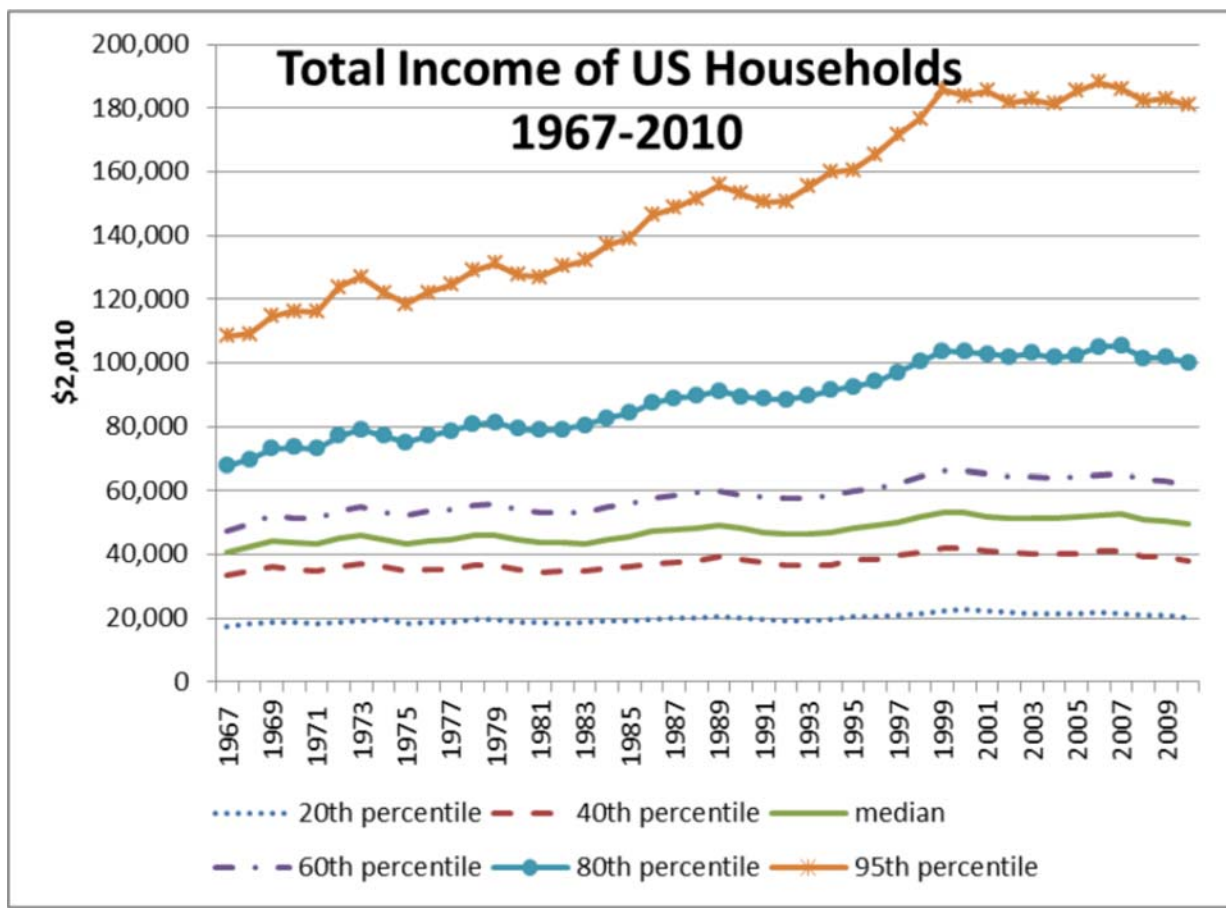
⁷ The distribution of annual incomes in a given year is a cross-sectional snapshot of individuals of different ages, many of whom will experience growth in earnings over their life cycle. Beaudry and Green (2000) discuss the downward shift in Canada of the age/earnings profiles of recently entering cohorts.

⁸ Murphy, Roberts and Wolfson (2007) make the same point with income tax data from 1982 to 2004 – very little change in real income for the bottom eight deciles. Alternative measurement choices (e.g. adjusting for household size or direct taxes) make little difference.

⁹ In Figure 2 and elsewhere CANSIM refers to Statistics Canada’s CANSIM database accessed at <http://datacentre.chass.utoronto.ca/chasscansim/>

Figure 3 paints a similar picture of long-run U.S. trends. The constancy of the real incomes of the bottom percentiles of the income distribution, over such a long period of time, is really quite remarkable. Expressed in 2010 CPI-U-RS adjusted dollars, the 20th percentile of the U.S. household income distribution received \$20,000 in 2010 compared to \$20,215 in 1990 and \$19,593 in 1979. The 40th percentile income got \$38,043 in 2010 and \$38,226 in 1990 (\$36,386 in 1979). Median household income in the U.S. has barely budged since 1990 (an increase of about 2%, from \$48,423 to \$49,445 and the 60th percentile income rose only marginally more than the median from 1990 to 2010 (\$58,542 to \$61,735).

Figure 3



Source: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements. Table H-1. Income Limits for Each Fifth and Top 5 Percent of All Households: 1967 to 2010

In the U.S., there was a bit more movement of real incomes at the 80th percentile and above. An important difference in inequality trends within Canada and the U.S. is the greater widening of the college/high school earnings differential in the U.S., contrasted with a much

smaller increase in the differential in Canada.¹⁰ The decline in union density, particularly in the private sector, has also been much greater in the US than in Canada¹¹. Many papers have also examined other issues – e.g. changing patterns of assortative mating and gender educational attainment (e.g. Hou and Myles, 2007) – but their common finding is a relatively small percentage change, for most of the distribution. It is only as one gets towards the top that one sees really sizeable increases in income over time – e.g. the 95th percentile income in the U.S., which rose as high as \$188,175 in 2006 and even with a drop to \$180,810 in 2010, was still up by 18% over the 20 year period.

Figures 2 and 3, and much of the labor economics literature on distributional trends, are based on household survey based measures of income distribution. Such sample surveys face great difficulties in tracking trends in the tails of the income distribution¹². In Canada, Frenette, Green and Milligan (2007) used Census data, while Murphy, Roberts and Wolfson (2007), Murphy, Michaud and Wolfson (2008) and Veall (2010) relied on income tax records to make the same point – that the very top end tail is where Canada’s income distribution has changed most dramatically. Gordon (2009) and Burkhauser et al (2009) are among those who have come to the same conclusion with U.S. data.

Figure 4 combines data from the World Top Incomes Database and from Veall (2010, 2012 – which update Saez and Veall, 2007). It documents how top end income shares in Canada have followed¹³, with a slight lag, the same trend as in the U.S.. As Piketty and Saez (2003) have shown, the top 1% income share in the U.S. follows a U shaped trend, with a sharp upward trajectory since about 1983. In both the U.S. and Canada, the farther up the income distribution one cares to count, the larger the percentage increase over the last thirty years – and these large percentage increases have been applied to a large absolute income base.

By 2008, if capital gains are excluded, the top 1% in the U.S. received about 18% of pre-tax income. In Canada, the income share of the top one percent fluctuated a bit around the 15% to 17% range in the 1920s and 1930s, but dropped during World War II to the 10% range, followed by a thirty year period of much more gradual decline to a minimum of 7.5% in the late 1970s. The period since 1987 in Canada has been one of rapidly rising income share, interrupted

¹⁰ The college / high school differential in Canada has been contested terrain (see Burbidge, Magee and Robb (2002), Boudarbat, Lemieux and Riddell (2010)) – but it is generally agreed that the differential has widened much less (if at all) than in the US. The standard explanation is ‘supply-side’ (there has been a considerably greater relative increase in supply of college graduates in Canada).

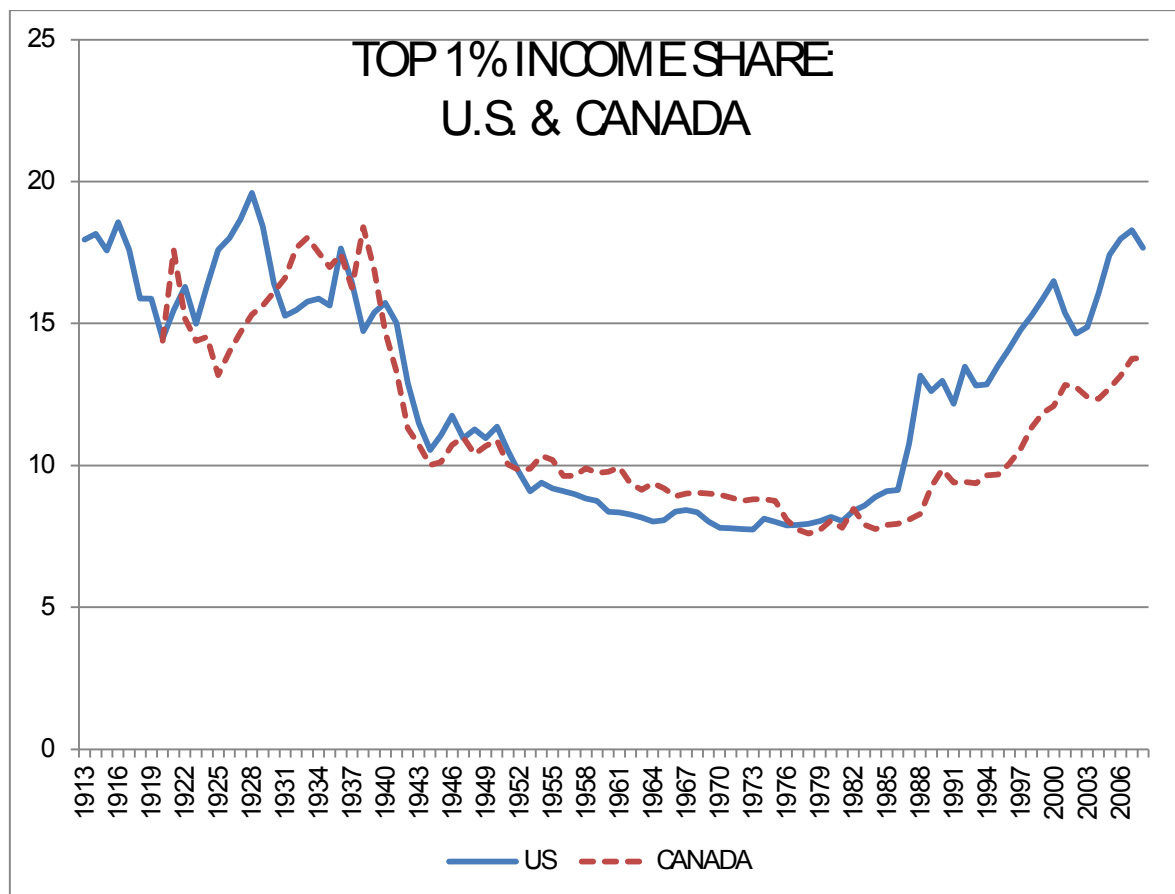
¹¹ Card, Lemieux, and Riddell (2003)

¹² Figures 3 and 4 refer to annual income, raising the possibility that greater transitory variation in incomes and/or more income mobility over the life-cycle might account for increasing top end inequality in annual income. Panousi et al (2011) and Murphy, Michaud and Wolfson (2008), among others, argue this is unlikely.

¹³ Since the Free Trade Agreement of 1988, Canadian executives and professionals have been able to get freer entry to the U.S. than previously. As Saez and Veall (2007) note, Francophone Canadian tax-filers, who can be presumed to be self-identifying by their choice of language of tax form as less mobile to the US, show a slighter trend than Anglophones to greater top end income shares.

only briefly by recessions (at roughly ten year intervals)¹⁴. With roughly 13% of total income in 2007, the top 1% were on track to regain their income share of the early 20th century, until interrupted temporarily by the recent recession.

Figure 4

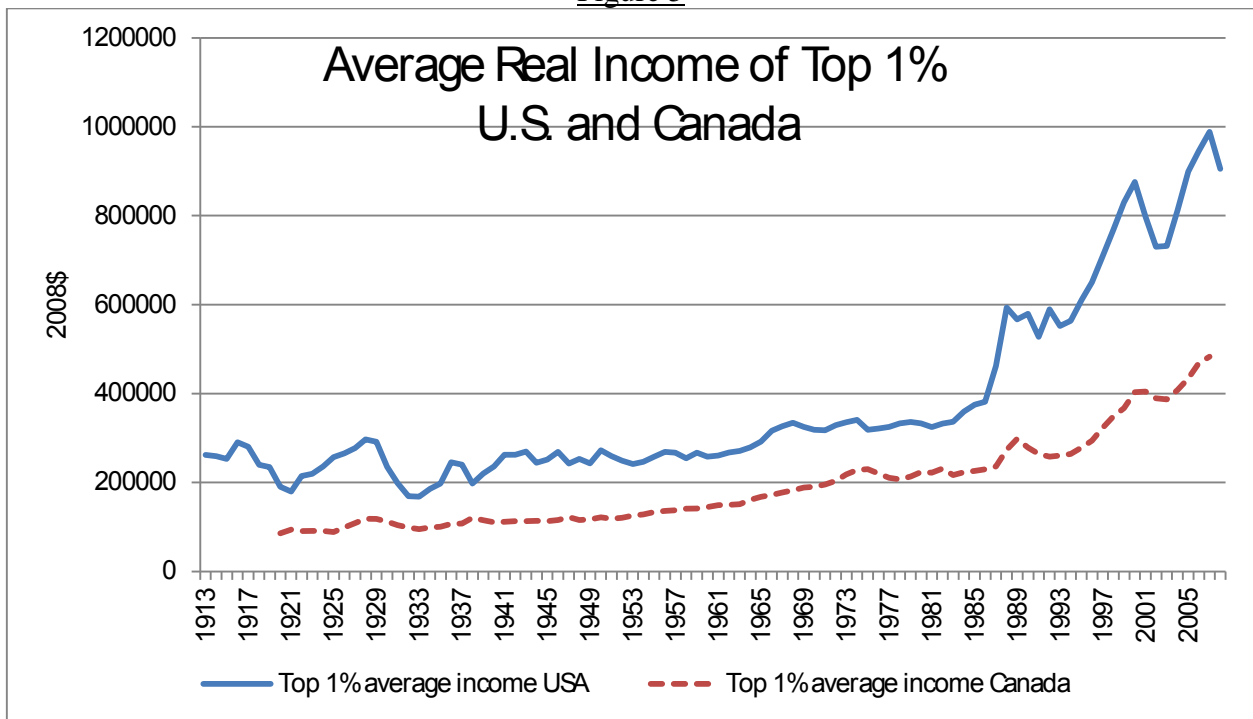


Source: Veall (2010-12-12; page 9, Figure 1) and World Top Incomes Database

¹⁴ Why focus on the top 1% and not the top 0.5% or top 5%? The further up one goes, the more rapid the income growth. Figure 6 reports rates for percentiles (excluding capital gains) – for corresponding income intervals, for the twenty year period 1987 to 2007 in Canada, the compound annual real rates of income growth in Veall’s income tax data are 0.83% (90th to 95th percentile), 1.37% (95th to 99th), 2.17% (99th to 99.5th percentile), 3.01% (99.5th to 99.9th) and 4.98% (99.9th percentile to 100). Focussing on the top 1% group (who as a group had a compound growth rate of 3.46%) is thus a somewhat arbitrary compromise – but all the top end income growth rates are far greater than for bottom percentiles of the distribution.

Figure 4 should not be interpreted as evidence of income loss by North America's elite during the 1930s and 1940s. Figure 5 presents top incomes in real dollars¹⁵ and shows that the income *level* of the top 1%, in both Canada and the U.S., remained roughly constant in the 1950s and grew marginally in the 1960s and early 1970s¹⁶. Their income *share* fell after the late 1930s only because the incomes of the rest of the distribution rose faster – the rich were not worse off in any absolute sense, but everyone else's incomes grew more rapidly than theirs. However, this all changed after 1980. Since 1984 in the U.S. and since 1987 in Canada, there has been a rapid rise in the real incomes of the top 1% – at a time when the income levels of the rest of the distribution have stagnated.

Figure 5



The World Top Incomes Database
<http://g-mond.parisschoolofeconomics.eu/topincomes/>
accessed September 9, 2011 + Veall, (2010)

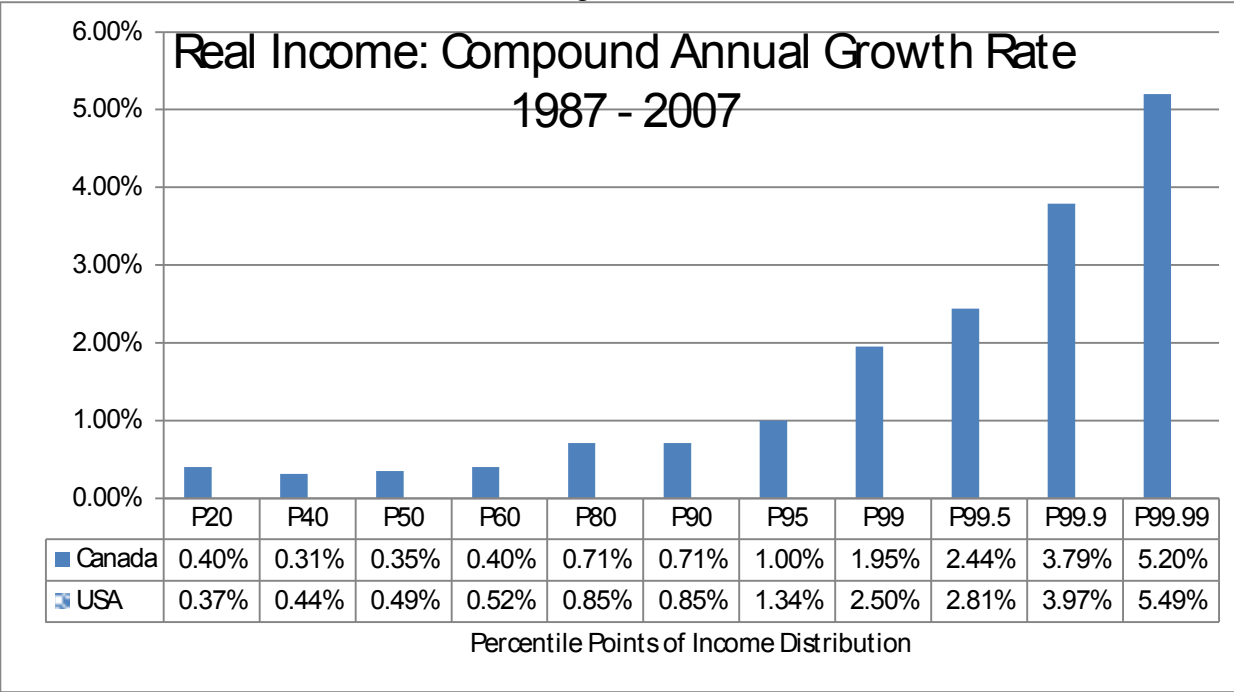
Figure 6 combines the two different types of data – on taxpayers from the tax files and on households from sample surveys – into a common comparison of growth rates over the 20 years preceding the Great Recession of 2008. It has a succinct summary – in both the U.S. and Canada, recent decades have seen very little growth of real incomes throughout most of

¹⁵ Thanks to Mike Veall for generously making available his raw data on Canada.

¹⁶ In the US, from 1946 to 1983 the incomes of the top 1% averaged \$293,000 (in 2008 US dollars) and the simple average of annual growth rates was 0.9%.

the income distribution, but dramatically compounding income gains for the top end, particularly the top percentile and above. Looking at this in terms of “shares of the pie at each point in time”, one would say that most of the income gains of macro-economic growth have been received by the top few percentiles of the income distribution. However, one can also see this as an issue of relative growth rates – i.e. per capita income growth has been a misleading average of the very rapid growth of the incomes of the top end and the relative stagnancy of the incomes of everyone else.

Figure 6



Note: P20-P80 refer to percentiles of distribution of total household income; P90-P99.99 refer to percentiles of distribution of individual taxpayer income, before tax.

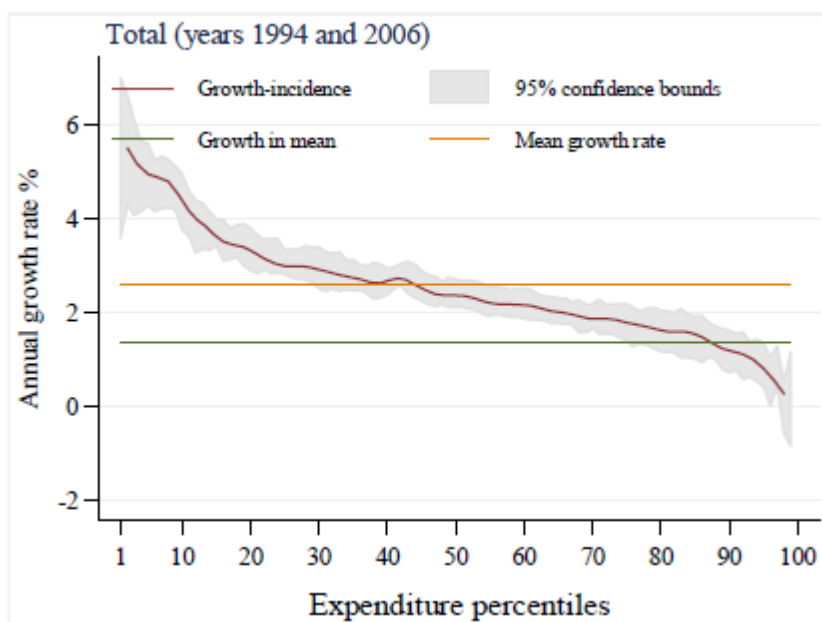
Sources: CANSIM, v25731821, v25731822, v25739992, v25731823, v25731824; The World Top Incomes Database <http://g-mond.parisschoolofeconomics.eu/topincomes/>; U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements. Tables H-1 and H-6; Veall (2010)

Although Figures 4, 5 and 6 are derived from the same data, they convey a different visual impression. Because Figure 4 portrays the decline and rise of the income *share* of the top 1%, it can perhaps leave the impression that the income share of the top 1% in the U.S. and Canada may now just be returning to its 1920s levels – which might be seen as a sort of stabilization. However, looking at it this way ignores the fact that the fall in income *share* of the top 1% in Canada and the U.S. from the late 1930s to the mid 1970s was not due to declines in their own real incomes. Rather, their decline in income *share* was driven by the more rapid growth of real incomes of the other 99% of the income distribution.

Figure 5 illustrates how the absolute incomes of the top 1% have grown over the past thirty years – an upward trend to which there is no obvious upper bound. As Figure 6 illustrates, the differences in income growth rates are larger, the further up the income distribution one cares to look. Increasing top end *shares* of total income since the early 1980s have been driven by this inequality in *relative* growth rates of income.

But Mexico is a different story. Significant rural-urban migration, rapid increases in the percentage of high school graduates and a huge demographic bulge all combined in the late 1990s and early 2000s to produce relatively rapid increases in the earnings of the lower and middle quintiles of the distribution, reducing the skilled/unskilled differential and thereby equalizing the over-all distribution. As well, as Esquivel (2008) notes, since 1997 transfer payments under the *Progresa/Oportunidades* program have been of increasing importance, reaching 15% of the population by 2006, with a strongly progressive policy design.

Figure 7
Growth Incidence in Mexico



Source: Esquivel (2008:16)

Figure 7 is taken from Esquivel (2008:16) and shows how the combined impact of these structural shifts of market and state meant that between 2000 and 2006, the growth incidence curve for Mexico was tilted strongly towards larger percentage increases for the lower deciles of the distribution. Esquivel concludes (2008:35) hopefully that: “Mexico is now beginning to experience the inequality reducing effects of having a more educated workforce and of trading with more skill abundant countries.”

2. Economic Implications ?

2.1 Micro

Rising levels of economic inequality, in both Canada and the United States, have a resemblance to increasing concentrations of CO₂ in the atmosphere¹⁷ – both processes clearly cannot continue without limit. But the crucial question is whether auto-correction tendencies exist, what they might be and when and how they might have an impact. The natural first place to look for equilibrium tendencies for economic inequality trends is within the economic system, with taxation and property rights as currently structured. But the distribution of income depends crucially on the political decisions which establish taxation and property rights regimes. Hence, if current market mechanisms contain no readily discernible auto-stabilization mechanism, the next question is whether political economy provides enough auto-correction tendencies to produce a steady-state equilibrium.

Since the 1980s, in both Canada and the U.S., the rising share of the top 1% has been driven by strong growth at the top – a compound annual real growth rate of 4.03% annually between 1980 and 2007 in the U.S. – combined with very little real growth of the rest of the distribution. Logically, incomes shares can only stabilize if growth is balanced – i.e. if incomes grow at the same rate throughout the income distribution. Considered as a problem in differential growth rates of income, one can ask what market mechanisms might produce equal growth rates. Either acceleration of real income growth at the bottom or slower growth at the top would restore balanced growth – but what mechanisms might make either outcome likely?

Since the 2008 recession, high unemployment in the U.S. has been combined with record poverty rates. Although a more rapid recovery would undoubtedly improve income growth for the middle class for a few years, cyclical rebound cannot be expected to fundamentally alter relative long term income growth rates¹⁸. In both the U.S. and Canada, the longer term structural context of greater globalization and exposure to low wage foreign competition adds to the impact of minimal institutional protections from market forces, and the lowest social wages of transfers and public services among rich OECD nations. The percentage of the labour force unionized remains higher in Canada than in the U.S., but in both countries unions are at record lows of workplace power¹⁹. In the U.S. there are greater worries than in Canada about a declining quality of education, but both already have a highly educated labour force, so neither country can reasonably anticipate very large future increases in the average human capital returns of workers. In short, what exactly is the mechanism that is plausibly large enough to push the

¹⁷ Because the per-dollar CO₂ intensity of consumption has improved significantly over time, slow income growth for most of the population means that their CO₂ emissions have actually fallen. Increased aggregate CO₂ emissions in the U.S. and Canada come from the top of the income distribution and new immigrants – see Osberg (2008).

¹⁸ In the late 1990s strong macro-economic growth pushed U.S. unemployment as low as 4%, with only a short run, limited impact on inequality trends.

¹⁹ In the private sector, the Canadian unionization rate in 2009 was 16.1% compared to 6.9 % in the US in 2010 (over-all, 29.3% compared to 11.9%). Uppal (2010), BLS (2011)

income growth rate of the bottom quintiles of the income distribution up to the 4% per year range that has been characteristic of the top percentile, over the last twenty years?

Alternatively, stability of income shares might return if some market mechanism were to reduce very substantially the rate of income growth at the top end of the income distribution – but why would that happen? A long tradition in economics argues that advantages are cumulative and that the inherent logic of the market mechanism is to accentuated inequality over time. As Knight (1951:20) remarked:

“In the distribution of economic resources, atomistic motivation tends powerfully toward cumulatively increasing inequality. For all productive capacity – whether owned capital or personal capacities – is essentially “capital”, a joint creation of pre-existing capacity or the result of “accident”). And those who already have more capacity are always in a better position to acquire still more, with the same effort and sacrifice. This applies about as much to personal capacities as to property, though the latter is a more convenient way of passing “unearned” advantage to heirs or successors. It is a gross injustice, by one of several conflicting norms of justice generally accepted in a liberal society. But it is also the main reliance for the motivation for accumulation in all forms, hence of progress.”

Veall (2010, 2012) and Atkinson and Piketty (2007) have noted the importance of labour compensation to the income trends of the top 1%²⁰. However, whether or not a high income was initially derived from labour earnings, the portion of it that is saved becomes personal wealth and will generate capital income in future periods. As a consequence, whatever the initial origins of the income gains of the top 1%, the longer their high incomes continue, the greater their acquisition of wealth. Even if their future labour earnings some day cease to increase quite as rapidly, the return on accumulated savings from past income increases will accentuate inequality²¹.

But why exactly would one expect the rate of increase of top end incomes in the U.S. and Canada to slow appreciably? Available evidence (e.g. Murphy, Michaud and Wolfson, 2008) indicates that mobility into and out of top percentiles is, if anything, declining. Micro-economic models of “winner-take-all” executive, sports and celebrity markets offer no particular reason to

²⁰ At the very top, the distinction between capital income and labour income can become problematic. When control diverges from ownership, CEOs of large corporations may have a degree of control over the executive compensation process to match their effective control over the firm’s capital stock, and their rewards then depend on the amount of capital they control, not primarily the amount that they own personally. Gabaix and Landier (2006, 2008) find differences in labour characteristics (individual effort or talent or incentives or qualifications) play a minor role in CEO compensation. They explain the six-fold increase in CEO compensation in the US between 1980 and 2003 as “an equilibrium consequence of the substantial increase in firm size”. Arguably “Capital’s Share” in National Income should be calculated to include income that derives from *control over* capital, as well as *ownership of* capital. If so, the factor origins of the incomes of the top 1% would look quite different.

²¹ Wolff (2011: 18, 24) notes that the Gini coefficient of net worth in the US changed little from 1989 to 2007 (which reflected the impact of the house price bubble on middle class wealth as well as stock market gains for the more affluent), but that wealth inequality did increase when pension wealth is counted.

expect any imminent deceleration of top pay increases. Indeed, as the globalized brands of consumer society are discovered by hundreds of millions of newly middle class households in China, India, Brazil and elsewhere, the economic rent associated with American consumer market leadership and intellectual property (e.g. Apple computers or the Nike ‘swoop’ trademark) grows with the aggregate size of the market, which seems more likely to assure continued acceleration of top pay. Similarly, if the cause of rising top end incomes is CEO control of executive compensation mechanisms, and if they have for almost thirty years been capable of appropriating so much of the surplus generated by growth, why exactly can they be expected to stop doing so?

2.2 Unbalanced Growth and Macro-Economic Instabilities

Increasing income inequality (i.e. differential income growth rates) necessarily has general equilibrium effects. Income must be either consumed or saved. Hence, the increasing incomes of the top of the income distribution in the U.S. and Canada have necessarily gone partly to consumption and partly to savings. Rapid income growth at the top of the income distribution implies an increasing flow of their savings²² – mostly into financial markets. But financial instruments are an asset to the holder, and a liability to the issuer. In order for the increasingly affluent to acquire ever more financial assets, somebody else has to acquire ever more financial liabilities²³. Indeed, macro-economic balance requires it. If aggregate expenditure is to equal aggregate income, whenever the increasingly affluent abstain from consuming some of their increase in income²⁴, somebody else has to spend more than their income. By borrowing and spending, debtors balance the real flows of the economy, simultaneously increasing their stock of debt.

Recently, Kumhof and Rancière (2010:3) have noted:

²² The argument here only requires that the marginal propensity to save of the top 1% is positive, and is even stronger if the affluent save more, at the margin, than the poor – i.e. if the marginal propensity to save increases with income. All of this is quite consistent with greater consumption, and net dissaving, by the poorer 99% implying a declining average *national* savings rate.

²³ Conceivably, those liabilities could be foreign, as when UK capital flowed to investments around the world in the 19th century. However, the US has been running current account deficits and importing capital –see Kumhof et al (2012).

²⁴ Note that rapidly *increasing* real incomes at the top poses fundamentally different problems for consumption norms than a high but constant level of inequality – the landed aristocracy of 18th century Europe had, for example, many generations of high and stable incomes in which to develop their norms of gracious living. At the top end of the USA, the absolute increase in incomes, every year, is the product of a substantial rate of increase (20 year US average of 5% for the top 1/10th of 1%) on a large base income. The World Top Incomes Data Base reports that in the US, the top 1/10th of 1% had average incomes of \$6.3 Million in 2005, \$6.8M in 2006 and \$7.5M in 2007. Finding, every year, new ways in which to consume entirely an additional \$500,000 would not be a trivial task.

“The United States experienced two major economic crises over the past century—the Great Depression starting in 1929 and the Great Recession starting in 2007. Both were preceded by a sharp increase in income and wealth inequality, and by a similarly sharp increase in debt-to-income ratios among lower- and middle-income households. When those debt-to-income ratios started to be perceived as unsustainable, it became a trigger for the crisis.”

It is certainly not a new idea that ever growing incomes at the top will produce an ever increasing flow of loanable funds – which eventually produces a crisis in financial markets and a recession in the real economy. In the 19th century, Marx²⁵ argued strongly that capitalism was prone to occasional realization crises, and that cyclical instability was inherent. “Under-consumptionists” like Hobson²⁶ ascribed the growth of British imperialism in the late 1800s to inadequate domestic absorption of the potential output of capitalism. Milanovic (2009) and others have also argued recently that the root cause of the 2008 financial meltdown is income inequality²⁷.

However, these insights have been presented verbally – the contribution of Kumhof and Rancière is to document clearly some crucial trends²⁸ and then present a dynamic stochastic general equilibrium model to illustrate formally that financial crises could be driven endogenously by income inequality. In their view (2010:22), “The key mechanism, reflected in a rapid growth in the size of the financial sector, is the recycling of part of the additional income gained by high income households back to the rest of the population by way of loans, thereby allowing the latter to sustain consumption levels, at least for a while. But without the prospect of a recovery in the incomes of poor and middle income households over a reasonable time horizon, the inevitable result is that loans keep growing, and therefore so does leverage and the probability of a major crisis that, in the real world, typically also has severe implications for the real economy.”

The model of consumer utility maximization used by Kumhof and Rancière is entirely traditional. Their argument for increasing indebtedness of the middle class would be even stronger if they recognized the possibility of ‘expenditure cascades’ for positional goods (which might be financed out of illusions of real estate wealth). Robert Frank has argued (2005:139):

²⁵ See Marx (1894) Vol. 3, Chapter XV

²⁶ See Hobson (1900, 1905). Amdekar (2012) provides a modern re-interpretation.

²⁷ Bordo and Meissner (2012) ask the general question: “Are business cycle downturns always preceded by increases in inequality?” and provide a negative answer – but this does not directly address the specific issue of whether increasing inequality caused the 1929 and 2008 recessions.

²⁸ They note (2010:6) “An important finding, already stressed by ... Krueger and Perri (2006), is that the rise in income inequality (in the U.S.) has been much more pronounced than the increase in consumption inequality.” Attanasio, Hurst and Pistaferri (2012) have contradicted this finding, emphasizing the potential importance of measurement error. However, in this debate the main index of inequality is the standard deviation of log (income/consumption). Percentile ratios (90/50, 50/10, 75/25) are also used. All these measures miss the point for present purposes, where it is the consumption and income share of the top 1% tail of the distribution that is at issue.

“positional concerns predict that sharply increased spending by top earners will exert indirect upward pressure on spending by the median earner. When top earners build larger houses, for example, they shift the frame of reference that defines what others slightly below them on the income scale consider an acceptable or desirable house. And when those people respond by building bigger houses, they in turn shift the frame of reference for those just below them, and so on, all the way down. Thus the median size of a newly constructed house, which stood at less than 1,600 square feet in 1980, had risen to over 2,100 square feet by 2001²⁹.”

Even before the 2008 recession, Leamer (2007:1) had argued that: “housing starts and the change in housing starts together form the best forward-looking indicator of the cycle.” Because demographic trends are fairly smooth, the fundamental demand for housing services also has a similarly smooth trend – but residential construction supply is cyclical. Periodic housing booms are fed by the cost and availability of credit and by self-reinforcing bubbles of expectations of future increases in house prices. These booms borrow real output from future periods, as overhangs of past excess construction take time to be absorbed by market demand.

Because owner-occupied housing is the main asset type held by middle income households, and because mortgage debt makes them highly leveraged, house price changes have huge impact on middle class net worth³⁰. In addition, when, as in the U.S., financial institutions make it easy to monetize existing home equity, house price bubbles can be used both to trade up in the housing market and to “keep up with the Jones” in non-housing consumption. The middle class consumption race is fed by the escalating norms of top end ostentation – but eventually the housing bubble has to burst. Since 2007, U.S. households have seen the down side of housing price volatility and financial leverage. But because houses are assets with a long life, the surge in construction and borrowing prior to 2007 has produced an overhang of housing stock and mortgage liabilities that necessarily has a long hangover.

Inherently, housing is a current service flow, needed by everyone, which is produced by a very long-lived asset. In developed countries, housing construction and purchase is financed in credit markets and home mortgages are the major liability type of the middle classes. However, the price of their housing asset depends heavily on house price expectations and interest rates – both of which are variable – and their incomes have stagnated. Expenditure cascades from the escalating consumption norms of the super-affluent amplify the tendency to booms and busts, but

²⁹ Frank emphasizes the social visibility and positional nature of the consumption of housing services, but he was writing at a time when the US housing price bubble was still inflating, and he does not discuss the role that illusions of real estate wealth play in financing excess consumption.

³⁰ Wolff (2011: 39, 125) finds that in 2007, the principal residence was 65.1% of the wealth of the middle three income quintiles. The 2001-2007 boom in housing prices swelled their paper asset values but left them highly exposed to the ensuing bust – between 2007 and 2009, median wealth (net worth) fell by 35.1%.

even without such influences growing top end incomes would imply increasingly fragile financial assets,³¹ as poorer households become increasingly indebted and their probability of default increases. In the model of Kumhof and Rancière, deleveraging can only happen if debts are written off or workers' wages increase, enabling them to pay down debt.

However, private sector instability is only part of the story. Throughout OECD nations, the Great Recession of 2008 forced governments to stimulate aggregate demand by cutting taxes and increasing spending. This counter-cyclical spending of governments, in response to the collapse in real output and employment occasioned by the financial crisis, has added to the stock of government debt outstanding. Debt accumulates or decreases over time according to the accounting identity (1).

$$(1) \quad D_t = (1 + r_t) * D_{t-1} - PB_t$$

D_t = Debt in period t
 r_t = average rate of interest in period t
 PB_t = Primary Balance in period t = (Taxes_t – Program Expenditures)

The burden of debt depends on its size relative to income³² – for public finances, the Debt/GDP ratio is the crucial economic statistic. When GDP grows faster than debt, the Debt/GDP ratio declines. If Debt and GDP grow at the same rate, their ratio is constant. In either event, public debt is on a sustainable path. However, if the debt/GDP ratio is increasing over time, an ever larger amount of public expenditure must go to servicing the debt rather than program spending, a process which is eventually unsustainable³³. Equation (2) is derived from (1) and summarizes the problem:

$$(2) \quad \Delta (D/Y)_t = (r_t - g_t) * (D_{t-1} / Y_t) - (PB_t / Y_t)$$

Y_t = GDP
 g_t = growth rate of GDP
 $\Delta (D/Y)_t$ = change in Debt/GDP ratio

³¹ In the lead-up to the 2008 Recession, the US ran a substantial current account deficit as consumption growth, fuelled partly by perceived capital gains in housing wealth, absorbed both domestic and foreign savings. Kumhof et al (2012) explain this as partly due to the inadequacies of financial markets in emerging economies (such as China and India), which do not enable the increasingly affluent of these countries to lend easily to domestic consumers.

³² Equations (1) and (2) are discussed here in terms of the public debt and deficit, but the logic of debt stability is identical for private sector debt. In Canada in 2013, the household debt / household income ratio was at a record high (over 1.65) – something only sustainable at exceedingly low nominal interest rates.

³³ When interest rates on issued debt are zero or near-zero or when the central bank creates the money necessary to purchase debt issue (which amounts to the same thing), the public sector deficit can be insulated from a rising Debt / GDP ratio – but neither condition is long-term sustainable.

In journalistic discussions, most attention is focussed on the Fiscal Balance ($= \text{Tax}_t - \text{Program Expenditures}_t - \text{Interest}$ (i.e. $r_t * D_{t-1}$)) and little distinction is made between the cost of interest payments on past debt and the cost of current program expenditures. But the virtue of equation (2) is that the first term makes clear how much debt stability can depend on the interaction of between the overhang of debt from the past (D_{t-1}/Y_t) and the interest rate / growth rate differential ($r_t - g_t$). Whenever the interest rate exceeds the growth rate (i.e. when $r_t - g_t > 0$), past debt is compounding faster than GDP is growing – and when the stock of past debt starts to feed on itself, governments have to run continual, and increasing, Primary Balance surpluses, just to stabilize the Debt/GDP ratio.

Furthermore, the dilemma worsens, the greater is the initial Debt/GDP ratio. When a gap emerges between the growth rate and the interest rate and the Debt/GDP ratio exceeds 100% (as in Greece and Italy currently), huge increases in Tax revenues and/or cuts to public services are necessary, if the Primary Balance is to offset the compounding of past debt. However, this additional fiscal drag reduces GDP growth and thereby worsens the predicament of the government – and since international bond traders are highly aware of the mathematics of debt stability, their changing anxieties can produce sudden surges in the interest cost of refinancing the maturing debt from past periods.

Currently, the Primary Balance of the U.S. government is strongly negative and the Debt/GDP ratio has increased dramatically (from 34.6 % in 2001 to 86.5% in 2012³⁴). Although there are political pressures for rapid deficit reduction, the fiscal drag from this could derail recovery of growth (which is already anaemic). Periodic political crises around the raising of the US debt ceiling may be eroding investor confidence, but as long as interest rates on short term debt are kept near zero, the cost of refinancing public debt is manageable. However, equation (2) implies that any return to historically normal interest rates will have huge implications for budget balance. Unlike the European Union, the public debt of Canada and the US can be monetized if new bond issues are simply purchased by the Federal Reserve or the Bank of Canada – as has already occurred, to some extent, under the rubric of “Quantitative Easing”. However, the question is: how long can monetization of the public debt (in plain language –printing money) go on without inflationary instability³⁵?

The ripples of instability caused by financial fragility thus lead to unpalatable choices. Fiscal austerity may stabilize the public budget balance, at the cost of depressed growth, rising unemployment and social unrest. Deficit financing can be monetized, but with risks of inflation. If and when inflationary pressures are combatted, monetary authorities will use the policy lever of an increase in interest rates (r_t) to reduce the rate of growth of aggregate demand (g_t) – thus

³⁴ See Annex Table 33 General government net financial liabilities OECD Economic Outlook, Volume 2012 Issue 2 - No. 92 - OECD 2012

³⁵ Influential economists (e.g. Mankiw, Rogoff, Krugman) now advocate higher inflation in the U.S., arguing that it assists deleveraging – see Miller (2009).

widening the differential ($r_t - g_t$) at both ends. Equation (2) tells us that when the Debt/GDP ratio is large (as it now is), a differential between the interest rate and the growth rate ($r_t - g_t$) implies expenditure cuts and/or tax increases will also have to be large, in order to create continuing primary balance surpluses³⁶ big enough to prevent the debt/GDP ratio from compounding unsustainably.

Large expenditure cuts to ‘entitlement’ programs are currently on the table in U.S. budget discussions. If such cuts to the ‘social wage’ are made, this will accentuate the long term relative impoverishment of middle and lower quintiles of the U.S. income distribution, reducing further the slow growth of their real incomes. Even slower real income growth at the bottom will then accentuate rising income inequality and reinforce the imbalances of saving and consumption which initially helped create financial instability.

To summarize: in a market economy, steady state equilibrium is the special case of balanced growth. When income growth rates are unbalanced, one instability leads to another. Because financial and real flows are interdependent, and because flows accumulate to become stocks, an imbalance in income growth rates produces changing flows of consumption and savings, which compound into rising stocks of wealth at the top and greater indebtedness elsewhere. Financial fragility then produces financial crises, with big impacts on real economic activity. When governments respond with deficit spending, this accumulates as public debt, which itself becomes increasingly fragile, whenever interest rates exceed the growth rate.

Increasing inequality, with all its implications for instability, is ultimately driven by unbalanced rates of income growth – i.e. in the U.S. and Canada, the real incomes of the top few percentiles have been growing much faster than those of everyone else. For income shares to be stable, all income groups must grow at the same rate – which raises the question: why was the income distribution once stable in the US and Canada? What processes have historically helped produce strong income growth for the middle and lower segments of the income distribution?

Relatively rapid growth of low incomes has meant that Mexico’s income distribution has, since 1995, become more equal – but the starting point was crucial. Mexico in the mid1990s was similar to Canada and the U.S. circa 1935-1940 in the sense that:

- a relatively high percentage of workers employed in agriculture meant that rural out-migration could have a significant impact on average wages and productivity;
- a relatively low percentage of women in the paid labour force implied that rising female employment could have a big impact on household money income;

³⁶ If, for example, real interest rates on debt return to the 4% level and real growth is 2%, a debt/GDP ratio of 80% implies that stabilizing the debt/GDP ratio means taxes must exceed program spending by at least 1.6% of GDP (about \$240 Billion in the US). Hence, the crucial issue in the stability of public finances in the US is whether, and by how much, interest rates return to a level greater than the growth rate (i.e. $r_t > g_t$).

- substantial room for improvement in primary, secondary and post-secondary enrolment meant that high marginal returns to human capital investment were available for many people;
- capital deepening in sectors catching up to the technological frontier could produce substantial increases in marginal productivity in those sectors³⁷;
- and, in the political economy of social policy, a credible local ‘hard left’ political option had a “threat effect” on political elites – who therefore agreed to progressive taxation and expanded transfer programs that recycled top end incomes.

The structural changes of development – urbanization, female labour force participation, widespread secondary and post-secondary education – may be “one time” structural shifts, but they have major impacts on household incomes, albeit spread over a number of years. Part of the reason why the bottom quintiles of the income distribution in Canada and the U.S. have seen smaller income increases in the last thirty years, compared to the 1940s and 1950s, is that these structural changes were basically complete well before 1980. With only about 2% of the Canadian and American labour forces now in agriculture, further out-migration³⁸ can only have a minor impact on the earnings distribution. Female labour force participation is already very high. With populations that are already well educated, both Canada and the U.S. can really only improve human capital at the post-secondary level, with lower marginal returns, for a much smaller fraction of the population.

As well, birth rates in Canada and the U.S. were already low by 1960, leaving relatively little room for further declines. Because the change in birth rates has been relatively small, comparably small differences in cohort sizes and future demographic impacts on inequality are implied. But the birth rate in Mexico has been halved since 1980 (from 4.7 to 2.3) – which implies smaller households (raising per capita income within households) and a substantial (and better educated) demographic bulge, now working its way into its peak earning years. Furthermore, as Mexican development moves into more of the industries (e.g. automobiles) which Rodrik (2011) characterizes as being ‘unconditionally convergent’ to best global productivity practices, it is easier in Mexico than in Canada or the U.S. to expect capital deepening and rapid catch-up growth of productivity and wages, which can push up the earned income of middle and lower quintiles.

³⁷ By 1946, in Canada and the US, the Depression and years of wartime diversion of production had left a substantially depleted capital stock, embodying aged technologies, implying large gains to new investment. In Mexico, the story is one of underdevelopment and convergence.

³⁸ As Harris and Todaro (1970) noted long ago, the expected value of income gains in formal sector employment is much of the motivation for rural-urban migration in developing countries – even if migrants may have to take their chances on the probability of informal sector urban employment. Out-migration from rural poverty and structural shifts in employment thus have two margins of impact on the earnings distribution of a country like Mexico – the rural/urban differential and, as the formal sector grows, the informal/formal sector differential within urban areas.

Mexico is not unique. Rather, it is an example of those countries with structural reasons to expect that over the next few decades income growth in the middle and lower part of the distribution of income can be rapid. But such structural shifts are long past in countries like the U.S. or Canada – implying that one cannot hope for a recurrence of the happy accident of the balanced growth of the 1950-1980 period.

3. Implications: Political Economy

If market income inequality is increasing over time, and generating greater economic instability, can one depend on political economy to restore stability? Or should one expect the political pressures generated by increasing economic inequality and instability to be further destabilizing?

On one side of the argument is the U.S. example of Roosevelt's New Deal in the 1930s. Faced with the mass unemployment that followed the financial crisis of 1929, the U.S. initiated a remarkable series of economic initiatives and structural reforms. The macro-economic stimulation of public works expenditures may have had mostly short-run impacts. However, regulatory reform of the financial sector, recognition of trade union rights through the Wagner Act and the National Labor Relations Bureau, the establishment of Social Security and increased progressivity of the tax system were all mechanisms which worked to decrease inequality and decrease the probability and severity of macro-economic crises³⁹. In the context of the times, the U.S. arguably became a social policy leader in reducing inequality – and the influence of these reforms lasted for decades, although gradually eroded after about 1980.

However, increasing inequality also produces some societal responses that further accentuate inequality. In the political economy of public finances, the elite can find private alternatives for public services and withdraw into gated communities. Rising income inequality also tends to reduce equality of opportunity, because greater inequality of outcome increases the potential cost to affluent families of downward intergenerational social mobility. The longer is the fall from the top, from one generation to the next, the more incentive affluent parents have to ensure some advantages for their children. For example, parents who can afford private schooling for their own children know that higher school quality and better social networks will give a lifelong advantage to their own offspring. Why would the affluent then also support the higher taxes which might fund better schools for all children, thereby enabling the brats of the poor to compete more effectively with their own darlings? When greater inequality of outcome combines with lessened prospects for upward mobility, political discontent among the disadvantaged may result⁴⁰.

³⁹ Attinasi (2011) examines how greater income tax progressivity reduces aggregate output volatility.

⁴⁰ Educational outcomes are typically known rather early in life. Political rhetoric which stresses the importance of education for life chances has the down side that those who have not done well in school are told repeatedly, while they are still quite young, that disadvantage is their lot in life forever.

Although academics often discuss abstract models of political economy, which may generate predictions for abstract societies, the real world of politics is heavily influenced by institutional structures, the context of events and the limitations of options which history imposes – and by chance events⁴¹. What then are the chances of stabilizing decisions, in the actual present context of the U.S., Canada and Mexico?

Of the three countries of North America during the past thirty years, Mexico stands out for its initiation of a major program of government redistribution – the *Progresas/Oportunidades* program, which started in 1997. As already noted, this has played an important role⁴² in reducing economic inequality, particularly for the poorest, and particularly in rural areas. As Esquivel (2008:6) notes, the 1982-1994 period in Mexico saw increasing inequality, from a very high initial level. In 1994 the North American Free Trade Agreement (NAFTA) came into force and Mexico experienced a severe macro-economic crisis, with a large devaluation and a sharp decline in output in 1995 (a drop of 8% in per capita GDP). The subsequent recovery was relatively robust (4% per year growth 1995-2000), aided by exports to the now-open U.S. market, which was then growing strongly. Importantly, 1994 was also the year of the Zapatista insurrection in Chiapas province – which forcefully reminded the elite of Mexico of the country's deep and recent history of violent revolution and civil conflict⁴³.

In the mid 1990s, as the Institutional Revolutionary Party (PRI) was losing its dependable control of political events, elite decision makers in Mexico had to worry about the possibility that the dislocations produced by free trade, and the deprivations produced by recession, might together push the populace towards social unrest, with unpredictable consequences. The policy response, to institute the *Progresas* social transfer program (with the twin aims of reducing inequality and encouraging human capital acquisition), can be seen as a classic example of how cohesive elite political actors can anticipate emerging social stresses and act to reduce systemic instability, by enabling progressive taxation and public spending to recycle top end incomes.

At approximately the same time, Canadian social transfers were being cut back substantially, following the fiscal crisis of Canada's governments of the mid 1990s. Canadians learned the practical power of public debt stability over social policy [see equation (2)] when, in moving to

⁴¹ Ronald Reagan's administration played a pivotal role in the acceleration of US inequality but his election hung by a narrow string. Jimmy Carter was presiding over a prosperous economy when his re-election strategy was blindsided by the Iran hostage crisis. When two US special forces helicopters collided in a desert sand storm in April 1980, the American attempt to rescue their hostages failed ignominiously and a muscular Ronald Reagan rode the ensuing feeling of US humiliation into the White House. But had the helicopters not collided, and had the rescue mission succeeded, US TV networks would have been broadcasting images of Jimmy Carter at the airport, welcoming home the rescued hostages, in the middle of a Presidential election race.

⁴² Similarly, the introduction of Bolsa Familia since 2003 in Brazil has reduced that country's inequality.

⁴³ The Revolution and ensuing Civil Wars of 1910-1920 were followed by the Cristero War of 1926-1929. Under a variety of leaders, the Institutional Revolutionary Party, or PRI, held power from 1929 until the election of 2000 - Villarreal (2002) describes its mixture of patronage and violence.

inflation targeting in 1988-90, the Bank of Canada massively increased real interest rates. The interest burden of past debt added to the cost of the automatic stabilizers of the recession of the early 1990s and produced a major public debt crisis⁴⁴. Expenditure cuts succeeded in erasing Canada's federal deficit, and by the late 1990s there was enough economic growth, driven by a very undervalued exchange rate and strong U.S. growth, for fiscal surpluses to emerge. However, the policy response in 2000 was to cut tax rates instead of restoring transfer payments – thereby reducing the stabilizing impact of the public sector.

In Canada, the 1990s therefore saw a major decline in the size and redistributive role of government. Although prior to 1995 rising inequality of market incomes had been largely offset by the tax-transfer system, after 1996 there was less of this. Figure 8 updates the work of Heisz (2007), who calculated the Gini index of inequality in market income in Canada and the change in the inequality of equivalent individual income associated with taxes, with transfer payments and with taxes and transfers considered jointly. From 1975 to 1995 Canada's system of transfer payments played an increasing role in reducing inequality – and a steadily decreasing mitigating role since then, thereby reinforcing the trend to greater market income inequality.

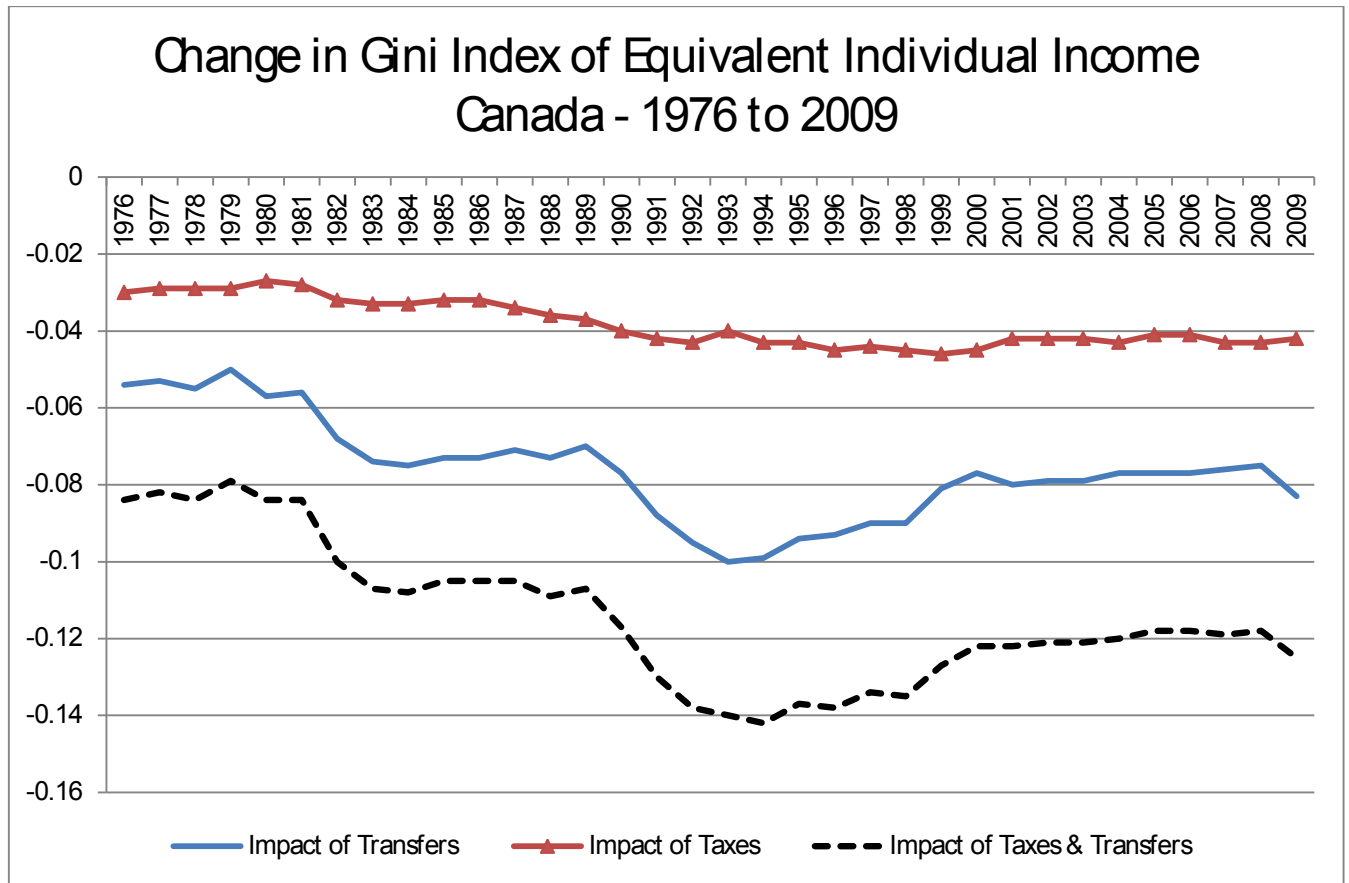
Figure 8 can also be read as an illustration of potential for Canada's political system to change directions fairly sharply. With at least three, and often more, political parties to split the vote and a "first past the post" constituency system, it is common (now and in the 1990s) for just under 40% of the popular vote to produce a parliamentary majority. Once elected with a majority, strict party discipline enables a Prime Minister to operate almost as a 'constitutional dictatorship', only somewhat constrained by provincial constitutional rights to control of social and educational policy.

Unlike the U.S., Canadian politics have long included a social democratic alternative (the CCF/NDP), and this party has held power provincially – notably in Saskatchewan, which instituted Medicare in 1962. Indeed, Canada's brief surge of social policy activism in the late 1960's and early 1970's, and the national Medicare system, was the price the Liberal minority governments of the day paid for NDP support. Nevertheless, the 2011 election produced a majority Conservative government whose priorities are deficit reduction, military spending, lower taxes and tougher penalties for crime. No hint from official Ottawa indicates that Canada's rising economic inequality is viewed as a problem and there is no tradition of extra-parliamentary opposition and no historical record of revolutionary violence⁴⁵ to put inequality on the policy agenda.

⁴⁴ Strong GDP growth and low interest rates had enabled Canada's debt/GDP ratio to decline from the late 1940s to the mid 1970s. However, the 1980-82 recession, combined with earlier tax policy changes, increased the debt/GDP ratio and left public finances highly vulnerable to an increase in debt carrying costs. See Osberg and Fortin (1996).

⁴⁵ Canadian history books record only four instances of civil strife – the 1837-38 Rebellions in Upper and Lower Canada, the Riel Rebellion of 1885, The Winnipeg General Strike of 1919 and the Front de Liberation Quebecois separatist movement of 1963-1970. Wikipedia assesses the death toll in these events as 212, 128, 2 and 7

Figure 8



SOURCE: Author's calculations using CANSIM v46442259, v46442295, v46442331

In summary, in Canada the four year rule of a majority federal government could in principle rapidly enact the sort of comprehensive systemic reforms that would stop inequality increasing and restore stability – but this is extremely unlikely. Canada may have the political institutions which could enable systemic change, but the actual policy reforms of the past 15 years have accentuated inequality.

This leaves the U.S.. But although Roosevelt's New Deal may have saved American Capitalism from itself in the 1930s, could such a program be enacted today? The American political process begins from deep divergences in public awareness of inequality and fundamental disagreements about its fairness. Figure 10 is taken from Osberg and Smeeding (2006), who noted that Americans, even more than other nationalities, tend to underestimate vastly the incomes of top executives. Osberg and Smeeding also plotted the fraction of

respectively, which leaves Canada's two century death total (347) well below estimates of one Mexican event – the 1968 massacre of students in Tlatelolco Plaza.

Americans who believe that what top income people ‘should earn’ is less than what they ‘do earn’. In the U.S., unlike other industrialized countries, there is a clear bi-modal split in the data, with one mode centred on the belief that “should earn” equals “do earn” (i.e. the ratio between them is about one) and another large group of equalizers who believe that “should earn” is much less than “do earn”.

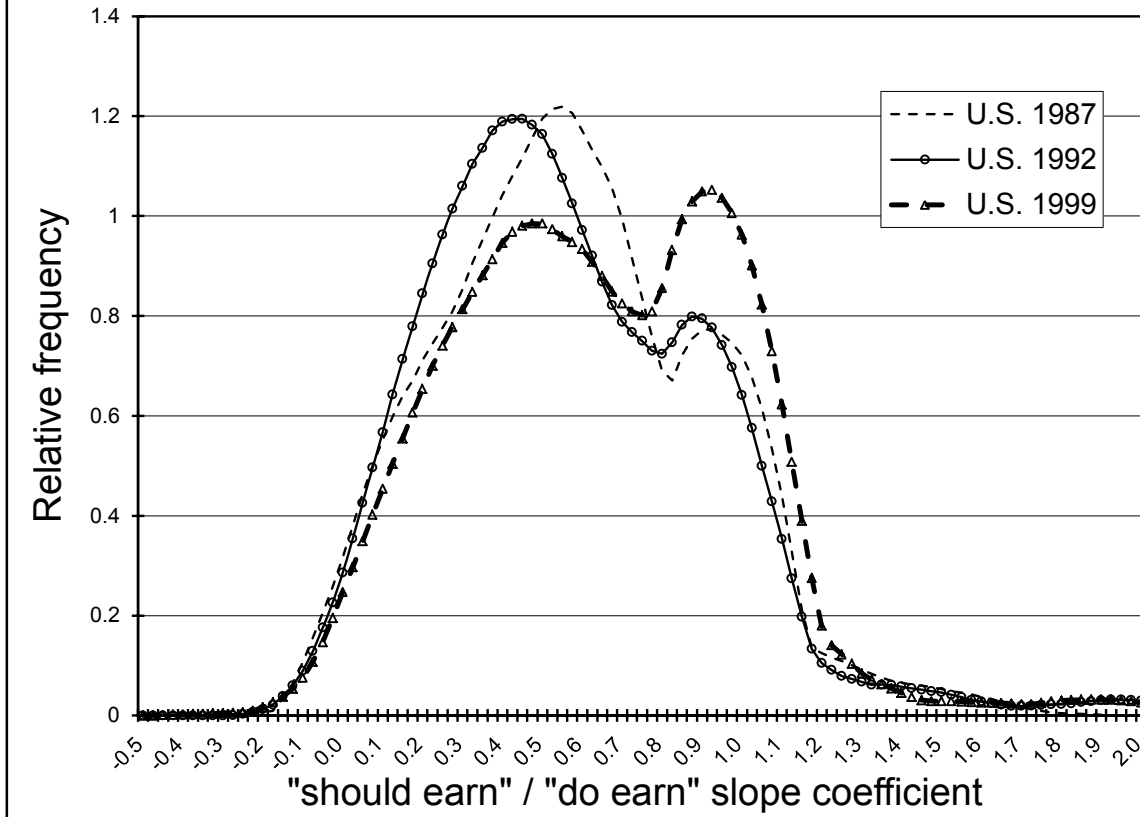
Osberg and Smeeding concluded (2006:471) that:

“a polarization of attitudes and a widening discrepancy between public perceptions of actual and “fair” top-end inequality, .. does not sound like a likely recipe for social or political stability. Under majority rule in a two-party system, one mode of the distribution may control the levers of redistributive policy for a time, but the underlying polarization of attitudes implies that there is a substantial gulf in desired public policies, and that a relatively small migration of voters may suffice to tip the balance between two very different conceptions of “fair””.

However, the checks and balances of American political institutions mean that even if a small migration of voters tip the balance, a two year electoral cycle means that it is not long until the balance can tip back again. With relatively weak party discipline, and two legislative bodies to pass, a congressional majority often has to be assembled anew on every vote, leaving lobbyists great potential to delay or obstruct. Court decisions also play a larger role in policy formation than is common elsewhere, implying that judicial appointments have a long period of indirect influence. And unlike many other countries (including Canada), there is no limit on campaign donations or political advertising, so there is no legal barrier in the U.S. to the super-affluent buying as much political influence as they care to purchase – hence increasing inequality deepens the ability of the very rich to buy the legislative deference that their wealth depends on.

The bottom line appears to be political paralysis, at least with respect to policies that might arrest increasing inequality. Street protests (e.g. the Occupy Wall Street movement of 2011) may hint at many people’s inchoate anger about economic outcomes, but they are singularly lacking in specific policies. Some influential capitalists (e.g. Buffett, 2011) may perceive (correctly) that systemic economic and political stability requires raising taxes on top end incomes, both to help reduce U.S. government deficits and to rebalance taxation in a more progressive direction. However, with part of the legislature controlled by a party which refuses to countenance any talk of any tax increase – even for millionaires – it is hard to anticipate structural reforms that would put a brake on rising inequality.

Figure 10
 The Distribution of Preferences for Leveling
 in the United States 1987-1999



Source: Osberg and Smeeding (2006:467)

4. Conclusion

This paper began with the observation that increasing inequality and unbalanced growth are inherently linked, and asked what that implies for systemic stability. Because inequality trends have diverged within North America in recent decades, it examined evidence from the experiences of Canada, the U.S. and Mexico.

One conclusion is that inequality trends differ, and have different implications, at different stages of development. The structural shifts of economic development – rural out-migration, expansion of primary and secondary enrolment, increased female employment, declining birth rates and the establishment of a social welfare system – can have major impacts on the incomes of lower and middle segments of the income distribution. These structural shifts have helped Mexico reduce inequality (albeit from a high level) in recent years. Most of the world's population now lives in countries which are poorer than Mexico, with less urbanization, lower levels of education and female labour force participation and even greater room for improvement in social transfers. Hence, the Mexican example (like that of Brazil in recent years) illustrates the importance of one-time structural changes for the growth of bottom and middle income groups.

However, over the last thirty years, Canada and the United States have seen increasing inequality of market incomes, which has not been offset by changes in taxes and transfers. This paper has argued that the main event in increasing inequality in the U.S. and Canada has been the rapid growth, since the 1980s, in the real income of the top percentiles, combined with stagnant real incomes in most of the distribution. Unbalanced growth has produced rapid increases in the income share of the very top end, which drives much of the change in summary indices of inequality, like the Gini index.

If stability in income shares is to happen, the real incomes of the bottom 99% of households have to grow at the same rate as the real incomes of the top 1%. For the last thirty years, this has not been the case in Canada or the U.S., but is income inequality likely to stabilize, on its own? This paper has not been able to locate empirical evidence or theoretical arguments to expect that market income growth rates will equalize any time soon – either due to an acceleration of the income growth rate of the bottom 99%, or a decline in the income growth rate of the top 1%.

However, the continuation of a divergence in income growth trends necessarily creates changing flows of consumption and savings. Although aggregate demand can be maintained in the short run if the savings of the increasingly affluent are lent to those with stagnant incomes, their increasing indebtedness leads inevitably to financial fragility. The trend in the U.S. and Canada to rising income inequality thus leads to periodic financial crises, greater volatility of aggregate income and, as governments respond to mass unemployment with counter-cyclical fiscal policies, a compounding instability of public finances.

The conundrum in all this inequality-induced macro-economic instability is that economists have long known that a steeply progressive income tax system can recycle the incomes of the affluent through the provision of public services, thereby reducing the imbalances of financial flows, lessening the volatility of GDP and helping pay off government deficits. Yet, in both the U.S. and Canada, the progressivity of the income tax system has been substantially eroded, over the same period in which the pre-tax incomes of the top 1% have grown most strongly. Even if an occasional deviant multi-billionaire (Buffett, 2011) protests that his income tax rate is absurdly low, indeed less than the tax rate of his employees, he is outgunned by the other billionaires who contribute to anti-tax crusades. There appears to be little likelihood of a return to the progressivity of tax regimes during the era (1946 to late 1970s) when income shares were roughly stable in North America, and massive financial crises were avoided.

The recent historical experience of Canada and the U.S. is clearly inconsistent with the simplistic political economy theories that predict that the ‘median voter’ in a more unequal society will vote in more redistribution and more progressive taxation. Indeed, recent history offers much more evidence consistent with the ‘deeper pockets’ model of political influence – that one can expect great wealth to be used in the political process to accentuate further wealth inequality⁴⁶. In some countries, effective legal limits on political funding are established by legislation, but in the U.S. this has been foreclosed by Supreme Court decision.

When the dominant political economy feedback loop is that more income for the top 1% enables more contributions and more political influence by the top 1%, there is little reason to believe in some automatic tendency of political economy that will restore stability of income shares and financial flows. Indeed, the myopic among the top 1% can be attracted to more extreme movements (e.g. the Tea Party) which aim at eroding even further the remnants of regulation and taxation that still keep some bounds on systemic instability. To the extent that such movements can attract elite funding, the feedback mechanisms of political economy may aggravate increasing inequality and systemic instability.

The logical implication of all this for Canada and the U.S. is the likelihood that the continuation of increasing inequality produces greater financial volatility and periodic financial crises which leave behind deeper and longer downturns in the real economy. Although ever increasing inequality is a trend that cannot be sustained, it is not yet clear what will succeed it. Popular protests against increasing inequality (i.e. the Occupy Wall Street movement) have occurred – but these inchoate protests have not coalesced into meaningful political action. It would be nice to think that newly available internet technologies could facilitate new movements of popular democracy, and not just improve the efficiency of the surveillance state, but that is uncertain. Although there are some important parallels between the causes and consequences of

⁴⁶ As predicted by Power Resource Theory in sociology.

the 1929 and 2007 financial crises, the intervening decades have seen such fundamental change in social context that political and economic events will clearly evolve differently this time.

Nevertheless, two overarching morals can probably be drawn from historical experience. First is the lesson that increasing economic inequality, i.e. unbalanced income growth, creates multiple interacting ripples of financial, economic and political instability. There is no convincing evidence that these instabilities are automatically self-correcting. Second is the lesson that politics matters. Although the economic instabilities of the 1920s and 1930s undoubtedly contributed to how the political economy of Europe evolved during those two decades, the European historical record contains examples of both catastrophically dysfunctional responses (e.g. Nazism in Germany, Fascism in Italy and Spain) and enduring success stories (e.g. the Scandinavian social democracies). Political forces and decisions made the difference then and they will make the difference this time around as well. In North America, during the 1930s, the U.S. political system was, under Roosevelt, able to produce the institutional innovations necessary to stabilize the growth process for the next fifty years – one can hope for a repeat of that success.

References

Aaron, H.J. (1978), *Politics and the Professors*. Washington, D.C., Brookings Institution.

Amdekar, Shachi D. (2012) *INEQUALITY, SURPLUS CAPITAL & UNDERCONSUMPTION: A CONTEMPORARY ANALYSIS OF J.A. HOBSON'S ECONOMIC THEORY OF NEW IMPERIALISM* University College, University of Durham September 2012

Atkinson, A.B. and T. Piketty (2007) *Top Incomes Over the 20th Century: A Contrast Between Continental European and English-Speaking Countries* by Oxford University Press, 2007, xvii +585 pp. – particularly Chapter 1 by Piketty “A Summary of Main Findings” and Pages 539-544 “A Summary of Results” by Atkinson and Piketty

Brandolini, Andrea and Tim Smeeding (2009) “Income Inequality in Richer and OECD Countries” Chapter 4, Pages 71-99 in *The Oxford Handbook of Economic Inequality*, edited by Wiemer Salverda, Brian Nolan, and Tim Smeeding, Oxford University Press, Oxford, 2009

Attinasi, Maria Grazia, Checherita, Cristina D. and Rieth, Malte, Personal Income Tax Progressivity and Output Volatility: Evidence from OECD Countries (September 1, 2011). ECB Working Paper No. 1380. Available at SSRN: <http://ssrn.com/abstract=1920821>

Attanasio, Orazio, Erik Hurst, Luigi Pistaferri (2012) *The Evolution of Income, Consumption, and Leisure Inequality in The US, 1980-2010* NBER Working Paper No. 17982 April 2012

Bakija, Jon, Adam Cole and Bradley T. Heim (2010) *Jobs and Income Growth of Top Earners and the Causes of Changing Income Inequality: Evidence from U.S. Tax Return Data* University of Indiana, http://indiana.edu/~spea/faculty/pdf/heim_JobsIncomeGrowthTopEarners.pdf November 2010

Beaudry, Paul and David A. Green. (2000). “Cohort Patterns in Canadian Earnings: Assessing The Role of Skill Premia in Inequality Trends.” *Canadian Journal of Economics*. 33(4):907-936.

Bordo, Michael D. and Christopher M. Meissner (2012) DOES INEQUALITY LEAD TO A FINANCIAL CRISIS? Working Paper 17896 NATIONAL BUREAU OF ECONOMIC RESEARCH March 2012 <http://www.nber.org/papers/w17896>

Brandolini Andrea. (1998) A bird's-eye view of long-run changes in income inequality. Mimeo, Research Department, Bank of Italy, August

Burbidge, John.B., L. Magee and A.L. Robb. 2002. “The Education Premium in Canada and the United States.” *Canadian Public Policy*. 28(2):203-217

Boudarbat, Brahim, Thomas Lemieux and W. Craig Riddell (2010) The Evolution of the Returns to Human Capital in Canada, 1980–2005 [Canadian Public Policy Volume 36, Number 1 / Pages63-89 March 2010](#)

Buffett, Warren E. (2011) “ Stop Coddling the Super-Rich” *New York Times*, Opinion August 14, 2011

Bureau of Labor Statistics (2011) *Union Members* Press Release USDL-11-0063 January 21, 2011; <http://www.bls.gov/news.release/pdf/union2.pdf>

Card, David, Thomas Lemieux, and W. Craig Riddell (2003) *UNIONIZATION AND WAGE INEQUALITY: A COMPARATIVE STUDY OF THE U.S., THE U.K., AND CANADA* (2003) Working Paper 9473 National Bureau of Economic Research <http://www.nber.org/papers/w9473> January 2003

Davies, James B. and Stanley L. Winer (2011) [Closing the 49th Parallel: An Unexplored Episode in Canadian Economic and Political History](#), *Canadian Public Policy* September 2011, pp. 307-341.

Esquivel, Gerardo (2008) *The Dynamics of Income Inequality in Mexico since NAFTA* mimeo El Colegio de México, December, 2008

Feldstein, Martin S. (2007) *Housing, Credit Markets and The Business Cycle* Working Paper 13471 <http://www.nber.org/papers/w13471> NATIONAL BUREAU OF ECONOMIC RESEARCH, October 2007

Ferris J. Stephen and Stanley L. Winer (2007) “Just How Much Bigger Is Government in Canada? A Comparative Analysis of the Size and Structure of the Public Sectors in Canada and the United States, 1929- 2004” *Canadian Public Policy* **33**(2), June 2007, pages 173-206.

Frank, Robert H. (2005) “Positional Externalities Cause Large and Preventable Welfare Losses” *The American Economic Review* Vol. 95, No. 2, Papers and Proceedings of the One Hundred Seventeenth Annual Meeting of the American Economic Association, Philadelphia, PA, January 7-9, 2005 (May, 2005), pp. 137-141

Frenette, Marc, David A. Green, Kevin Milligan (2007) “The tale of the tails: Canadian Income Inequality in the 1980s and 1990s” *Canadian Journal of Economics* , Vol. 40, No. 3 August 2007. 734–764

Frydman, Carola and Dirk Jenter (2010) “CEO Compensation” Working Paper 16585 <http://www.nber.org/papers/w16585> NATIONAL BUREAU OF ECONOMIC RESEARCH December 2010

Gabaix, Xavier and Landier A (2006, 2008) Why Has CEO Pay Increased So Much? NBER Working Paper No. 12365 July 2006 *Quarterly Journal of Economics*, (2008)

Galbraith, James (2012) *Inequality and Instability: A Study of the World Economy just before the Great Crisis* Oxford University Press

Harris, John R and Michael P. Todaro (1970) "Migration, Unemployment and Development: A Two-Sector Analysis" *American Economic Review* Vol 60 (1970) Pp. 126-142

Heathcote, J., Perri, F. and Violante, G.L. (2010), "Unequal We Stand: An Empirical Analysis of Economic Inequality in the United States: 1967-2006", *Review of Economic Dynamics*, 13(1), 15-51.

Heisz, Andrew (2007) *Income Inequality and Redistribution in Canada: 1976 to 2004* Ottawa, Statistics Canada, Business and Labour Market Analysis Division
ISSN: 1205-9153, ISBN: 978-0-662-46027-5

Hobson, J.A. (1900) *The Economics of Distribution*. New York: Macmillan.

Hobson, J.A. (1902, 1905) *Imperialism: A Study*. London: George Allen & Unwin Ltd.

Hou, Feng and John Myles (2007) *The Changing Role of Education in the Marriage Market: Assortative Marriage in Canada and the United States Since the 1970s* Statistics Canada, Analytical Studies Branch Research Paper Series 11F0019MIE – No. 299
<http://www.statcan.gc.ca/pub/11f0019m/11f0019m2007299-eng.pdf>

Jenkins, Stephen and Phillippe van Kerm (2009) "The Measurement of Economic Inequality." Chapter 3, Pages 40-70 in *The Oxford Handbook of Economic Inequality*, edited by Wiemer Salverda, Brian Nolan, and Tim Smeeding, Oxford University Press, Oxford, 2009

Knight, Frank H. (1951) "The Role of Principles in Economics and Politics" *American Economic Review* March 1951, Pp. 1-29

Krueger, D. and Perri, F. (2006), "Does Income Inequality Lead to Consumption Inequality? Evidence and Theory", *Review of Economic Studies*, 73(1), 163-193.

Kumhof, Michael and Romain Rancière (2010) *Inequality, Leverage and Crises* IMF Working Paper Research Department, International Monetary Fund, November 2010

Michael Kumhof, Claire Lebarz, Romain Rancière, Alexander W. Richter and Nathaniel A. Throckmorton (2012) *Income Inequality and Current Account Imbalances* Research Department International Monetary Fund IMF Working Paper WP/12/08 January 2012

Leamer, Edward E. (2007) *Housing IS The Business Cycle* Working Paper 13428
<http://www.nber.org/papers/w13428> NATIONAL BUREAU OF ECONOMIC RESEARCH
September 2007

Lu, Yuqian, René Morissette and Tammy Schirle (2011) *The Growth of Family Earnings Inequality in Canada, 1980–2005* Review of Income and Wealth Vol 57- 1
Pp- 23- 39; March 2011

Marx, Karl (1894) *Capital – Volume 3* International Publishers 1967 edition, New York, USA

Milanovic, Branko, Peter H. Lindert and Jeffrey G. Williamson (2009), *Pre-Industrial Inequality* 15 April 2009 <http://www.santafe.edu/media/workingpapers/09-07-022.pdf>

Milanovic, Branko (2009) *Income inequality and speculative investment by the rich and poor in America led to the financial meltdown* YaleGlobal, 4 May 2009
<http://yaleglobal.yale.edu/content/two-views-global-crisis>

Miller, Rich (2009) *U.S. Needs More Inflation to Speed Recovery, Say Mankiw, Rogoff*
Bloomberg News May 19, 2009 00:01 EDT
<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=auyuQIA11RV8>

Morissette, René and Xuelin Zhang (2006) “Revisiting wealth inequality”, *Perspectives on Labour and Income* December 2006, Pages 5 to 16 Statistics Canada — Catalogue no. 75-001-XIE

Murphy, Brian, Paul Roberts and Michael Wolfson (2007) “High-income Canadians”
Perspectives on Labour and Income – September 2007 Pages 5 to 17, Statistics Canada Cat No. 75-001-XIE

Murphy, Brian, Sylvie Michaud and Michael Wolfson (2008) *Income Trajectories of High Income Canadians 1982-2005*, Statistics Canada IARIW 30th General Conference Portoroz, Slovenia, August 24-30, 2008 <http://www.iariw.org/papers/2008/murphy2.pdf>

Organisation for Economic Co-operation and Development (2011) *Divided We Stand: Why Inequality Keeps Rising* Paris : OECD, 2011.
http://www.oecd.org/document/51/0,3746,en_2649_33933_49147827_1_1_1_1,00.html

Osberg, Lars (1981) *Economic Inequality in Canada*, Butterworth Publishing Co., Toronto (1981), 236 pages.

Osberg, Lars (1984) *Economic Inequality in the United States*, M.E. Sharpe Ltd., Armonk, New York (1984), 288 pages.

Osberg, Lars and Pierre Fortin (1996) *Unnecessary Debts*, (ed.), James Lorimer Publishers, Toronto, 1996, 200 pages.

Osberg, Lars (2006) “How Much does Employment Matter for Inequality in Canada and Elsewhere?” Pages 155 to 188 in D. Green and J. Kesselman (ed) *Dimensions of Inequality in Canada*, UBC Press, Vancouver 2006

Osberg, Lars and Tim Smeeding, (2006) “Fair” Inequality? Attitudes to Pay Differentials: The United States in Comparative Perspective” *American Sociological Review*, Vol. 71 (450–473) June 2006

Osberg, Lars (2008) *A Quarter Century of Economic Inequality in Canada 1981 – 2006*, Canadian Centre for Policy Alternatives, April 2008
http://www.policyalternatives.ca/documents/National_Office_Pubs/2008/Quarter_Century_of_Inequality.pdf

Osberg, Lars (2008) “Have most North Americans already met their Kyoto Obligations? - Trends in the CO₂ content of Expenditure and the role of Income Inequality” Canadian Economics Association, Vancouver, June 6, 2008

Osberg, Lars (2011) *Why Did Unemployment Disappear from Official Macro-Economic Policy Discourse in Canada?* Pp 127-165 in New Directions for Intelligent Government in Canada: Papers in Honour of Ian Stewart edited by Fred Gorbet and Andrew Sharpe, Centre for the Study of Living Standards, Ottawa 2011

Panousi, Vasia, Vidangos, Ivan, Heim, Bradley T. and DeBacker, Jason Matthew (2011) *Rising Inequality: Transitory or Permanent? New Evidence from a Panel of U.S. Tax Returns 1987-2006*. Indiana University-Bloomington: School of Public & Environmental Affairs Research Paper Series No. 2011-01-01. Available at SSRN: <http://ssrn.com/abstract=1747849>

Piketty, T. and Saez, E. (2003), “Income Inequality in the United States, 1913-1998”, *Quarterly Journal of Economics*, 118, February 2003, Pp.1-39.

Rodrik, Dani (2011) *The Future of Economic Convergence* Harvard University
August 2011 paper prepared for the 2011 Jackson Hole Symposium of the Federal Reserve Bank of Kansas City, August 25-27, 2011.

Russell, Ellen and Matthieu Dufour (2007) *Rising Profit Shares, Falling Wage Shares* Canadian Centre for Policy Alternatives, Ottawa, June 2007

Saez, Emmanuel and Michael Veall(2003) “*The Evolution of High Incomes in Canada, 1920-2000*”, NBER Working Paper No. 9607. April 2003. www.nber.org/papers/w9607

Saez, E. and M. R. Veall, (2007) “The Evolution of High Incomes in Canada, 1920-2000”, in A. B. Atkinson and T. Piketty (eds.) *Top Incomes Over the Twentieth Century: A Contrast Between Continental European and English-Speaking Countries*, Oxford University Press, 2007.

Salverda, Wiemer, Brian Nolan, Timothy M. Smeeding (2009) *The Oxford Handbook of Economic Inequality* Oxford University Press, Oxford 2009

Uppal, Sharanjit (2010) “Unionization 2010” *Perspectives* October 2010 pages18-27 Statistics Canada — Catalogue no. 75-001-X
<http://www.statcan.gc.ca/pub/75-001-x/2010110/pdf/11358-eng.pdf>

Veall, Mike (2010) “*Top Income Shares in Canada: Updates and Extensions*” Working Paper (Version: 2010-12-12) Department of Economics McMaster University

_____ (2012) “Top Income Shares in Canada: recent trends and policy implications” Canadian Journal of Economics, November 2012 pp. 1247-1272.

Villarreal, Andrés (2002) “Political Competition and Violence in Mexico: Hierarchical Social Control in Local Patronage Structures” *American Sociological Review* Vol. 67, No. 4 (Aug., 2002), pp. 477-498

Wilkinson, Richard and Kate Pickett (2009) *The Spirit Level: Why More Equal Societies Almost Always Do Better* Penguin, London 2009

Wolff, Edward N. (2011) *The Transformation of the American Pension System* W.E. Upjohn Institute for Employment Research, Kalamazoo, Michigan

Yalnizyan, Armine (2007) *The Rich and the Rest of Us* Canadian Centre for Policy Alternatives, Ottawa, March 2007

Yalnizyan, Armine (2010) *The Rise of Canada’s Richest 1%* Canadian Centre for Policy Alternatives, Ottawa, December 2010