# Understanding Wealth Inequality in Canada

Christopher A. Sarlo

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# Executive Summary

This paper addresses two questions. First, is wealth inequality in Canada increasing? Second, what is driving the wealth inequality that we observe? The empirical evidence presented in this study strongly suggests that, at least in recent decades, wealth inequality in Canada has not increased. As well, the evidence presented here appears to support the view that the Life-Cycle Hypothesis, which tells us that, for most people. wealth accumulation is a steady, lifelong process, is the dominant explanation for observed differences in wealth.

Specifically, we note that there has been a 17% decline in the Gini Coefficient (the most popular indicator of inequality) on Canadian net worth between 1970 and 2012. As well, both top decile share and top quintile share have declined over the same period, although by a smaller percentage. The fact that wealth inequality has not increased has led many in the social justice community to focus attention, rather, on the degree of wealth inequality. The fact that the top 20% of Canadians own about 67% of the wealth and the bottom 20% own none has been the subject of much attention and outrage.

Students of economics have long appreciated that, for most people, wealth has a predictable age pattern. The Life-Cycle Hypothesis developed in the 1950s by Modigliani and Brumberg shows that income, consumption, saving, and wealth accumulation change with age because of the natural rhythms of education, work, marriage and family formation, pension saving, and retirement. This means that, even if everyone was identical, there would be substantial wealth inequality because, at any point in time, we have people at different points in their life cycle. Of course, everyone is not identical and there are differences in wealth that are not due to age. The critical point here is that life-cycle effects, alone, are capable of explaining most of the observed wealth inequality in Canada.

Reasons for differences in wealth that are not related to the life-cycle effect would include skill differentials (and all of the personal characteristics that lie behind those differences); preferences and choices; luck (which would include inheritances); and institutional and policy considerations. The latter point refers to any institution, regulation, or policy that constrains (in an important way) the ability or incentive for upward mobility.

It is an empirical question as to how much of wealth inequality is explained by the life-cycle effect and how much by the other factors. Evidence from US studies about the relative importance of the life-cycle effect vary considerably—from the 30%-to-50% range to the 80% range. This paper uses a variant of the Paglin's approach (from 1975) and shows that the life-cycle effect in Canada likely accounts for between 80% and 87% of wealth inequality in 2012. This result is broadly consistent with many of the US studies in this area.

There is much heat and fury about wealth inequality. This publication addresses the popular perception and finds that much of the concern is misplaced. The fact that the bottom 20% have no wealth is not surprising and is unworthy of the passion devoted to it. Many of those in the bottom wealth quintile are young and have not yet had an opportunity to accumulate any wealth. Many people with no wealth in their twenties will be in the top wealth quintile (or even top decile) by the time they retire. The paper suggests that attention could be appropriately diverted towards the issues of poverty (real deprivation) and barriers (including governmental) to upward mobility.

# Introduction

The distribution of wealth in Canada is unequal. The top 20% of households own about 67% of the total wealth and the bottom 20% of households own less than 1%. What are we to make of that information? Are those numbers a signal that something is fundamentally wrong with our economic system? Should we assume that, regardless of what lies behind these numbers, this outcome is unfair? There are certainly many people who believe that this is the case.

The purpose of this study is not merely to measure the level and trend of wealth inequality in Canada but also to try to explain the economic and demographic forces that help determine wealth and therefore wealth inequality. Before we draw any conclusions about "fairness", it is prudent to more fully understand the story of personal wealth—a story that the raw numbers simply do not reveal.

## What is "wealth"?

For this study, Statistics Canada's definition of wealth is employed. Specifically, wealth is defined as household net worth. Its composition is: the sum of all of the assets of the household (including the market value of the home and other real estate; the value of any business; any financial assets like stocks, bonds, and savings instruments; pensions valued on a termination basis, and any durable goods) minus all liabilities of the household (including mortgage debt; small business debts; line of credit, and credit card debt). The terms "household wealth" and "household net worth" will be used synonymously here.

We frequently see references in the media (and sometimes even in academic studies) to "the wealthy" when, in fact, it is income and not wealth that is being examined. Income, of course, is a flow of cash that one receives per time period (often a year), most often from wages but also from small business profits, investments, and government transfers. Income represents the *potential* living standard of a household in the sense that the use of income produces satisfaction. Both spending on goods and services and saving (additions to financial security and the ability to give gifts) generate utility for the household. Of course, a household can borrow and have a standard of living above actual income. For this reason, consumption is sometimes preferred to income as an indicator of well being.

The conversion of income into wealth needs some discussion. Income can be converted into wealth when it is spent on durable goods (such as a home, automobile, furnishings, and appliances) and on financial assets (anything from savings accounts to stocks and bonds). On the other hand, any income spent on non-durable goods (food, personal services, and other "consumables" are

examples), does not add to wealth. Wealth can grow in a number of ways: the market value of the assets can increase; we can add to wealth by devoting more income to the purchase of durables and financial assets; we can reduce our liabilities by paying down debt. So, it is imprecise to refer to high income earners as the wealthy. Simply put, wealthy people (households) have high levels of net worth.

## Is this definition of wealth too narrow?

A comprehensive examination of wealth would go beyond just personally owned financial and durable assets. For example, why do we include items like the value of private pension plans and RRSPs but not the implicit value of government entitlements like Old Age Security (OAS) and Canada Pension Plan (CPP)? The latter two are just as certain sources of income in retirement as the former two. And, if we were able to include these entitlements in personal net worth, it is very likely that wealth inequality would decrease.

In fact, a study by Shamsuddin (2001) looked at this question. He was able to obtain data from several sources including the *1984 Survey of Financial Security* (SFS) that allowed him to estimate the present value of public pension plans. When he included these amounts into the distribution of wealth, he found that wealth inequality was indeed reduced.

This is a useful exercise. It helps us understand the complexity of the concept of "wealth". When we think more deeply about wealth, we know there are many things that could be included to give us a comprehensive perspective of wealth in general. However, for practical purposes, we want a conception that is reasonably measurable and comparable over time. So, we can identify several aspects that must normally be in place before an item will qualify as "wealth". To be included in wealth (personal net worth), an item must be personally owned; it must be capable of generating income now or in the future; it must be capable of being converted into cash within a short time frame; and it must be measurable in some reasonably accurate way. This is admittedly a narrow, "economist's" way of looking at wealth. It excludes human capital and other special skills and talents that are capable of yielding both income and great happiness (including social benefits). It also excludes the value of expected inheritances, no matter how certain they may be. Inheritances are included only once they are received. This narrow definition is employed in this and most other studies of the distribution of wealth.

## Popular impressions of wealth inequality

There is a widespread view that wealth inequality is increasing and that it is a significant problem. The relentless media attention given to economic inequality in general both feeds and confirms this impression. Political leaders, such as former President Obama, inform us that economic inequality is the defining

issue of our time. *Scientific American*, normally a thoughtful journal of science, reported in 2015 that wealth inequality is "far *worse* than you think" (emphasis added) (Fitz, 2015). Articles and media stories routinely express surprise and concern that the top 20% of households own almost 70% of wealth and the bottom 20% own no wealth (Beltrame, 2014). Every year we have a flurry of headlines screaming that a small number of billionaires have as much wealth as half the world's population (*Guardian*, 2016; Mullany, 2017). And, these stories often contain reminders that a number of organizations have called for remedial measures (higher taxes for the rich; enhanced social programs for the poor) to correct the "problem". There does not appear to be any interest in explaining how wealth inequality happens. It is as if wealth inequality is an obvious "bad" not requiring any clarification.

It is hard to escape the conclusion that major media, in their choice of stories, in their commentaries, and in their lack of balance help to feed this common impression. Popular culture also tends to reinforce the view that great wealth is a serious problem and that the level of wealth inequality is simply not fair. A significant recent contributor to popular views on wealth is a short and very slick 2012 video that 20 million people have now viewed (Politizane, 2012). Undoubtedly, most readers of this paper have seen the video. It presents in a visually appealing way a distinction between what American apparently think *should be* the distribution of wealth and what is the actual distribution. They conclude that Americans would like the distribution of wealth to be more equal than it is and so the existing distribution is obviously unfair. It is sufficient to say that the producers of the video have a clear agenda and truth is not on that agenda. There are several seriously deceptive points made in the video and, as well, it misrepresents Sweden as having a more equal wealth distribution than America (it doesn't; a fuller discussion and critical examination of the video can be found in Appendix D).

It is easy to dismiss biased stories and movies as the result of propaganda emanating from the progressive left. But, in fact, suspicion of the wealthy and a general disdain for economic inequality seems to be widely shared. Interestingly, it even appears to be shared by some who are themselves very wealthy. What is it, exactly, about great wealth and substantial differences in wealth that has so many people upset? This is an important question. Clearly, popular views and perspectives have an influence on public policy. The concern here, of course, is whether public attitudes and biases are correct and consistent with empirical evidence. There is further discussion of this important issue in the commentary section of the paper (page 29). First, however, it is essential to understand how wealth is acquired; how important inheritance is in the wealth equation; what role "age" (the so-called life-cycle effect) plays in the distribution of wealth; and what is the empirical evidence relating to trends in wealth inequality over time in Canada.

## Measures of wealth inequality

There are several ways to measure inequality of wealth. The most obvious way is to rank all of the households in Canada by their wealth and either divide that distribution into five (or ten) equal groupings to examine the quintile (or decile) shares or to summarize the level of inequality into one number, such as the Gini coefficient. [1] For example, the quintile shares distribution of household wealth in Canada in 2012 (the latest year for which we have data) is as shown in table 1.

Table 1: Distribution of net worth in Canada by quintile, 2012

| Quintile | Share of wealth (%) |
|---|---|
| Top 20% | 67.42 |
| Second | 21.47 |
| Third | 9.03 |
| Fourth | 2.23 |
| Bottom 20% | −0.14 |
| Total | 100.00 |

Source: Uppal and Larochelle-Côté, 2015b; calculations by author.

Another way to look at wealth inequality is to examine the amount of wealth going to each of the *income* quintiles. This is an approach favoured by Statistics Canada in recent years. Their chart (figure 1) shows the wealth shares by income quintile for 1999 and 2012 and their commentary emphasizes that the share of wealth held by the top income quintile has increased from 45% to 47% over the period, while the share going to the bottom income quintile has decreased (Uppal and Larochelle-Côté, 2015b).

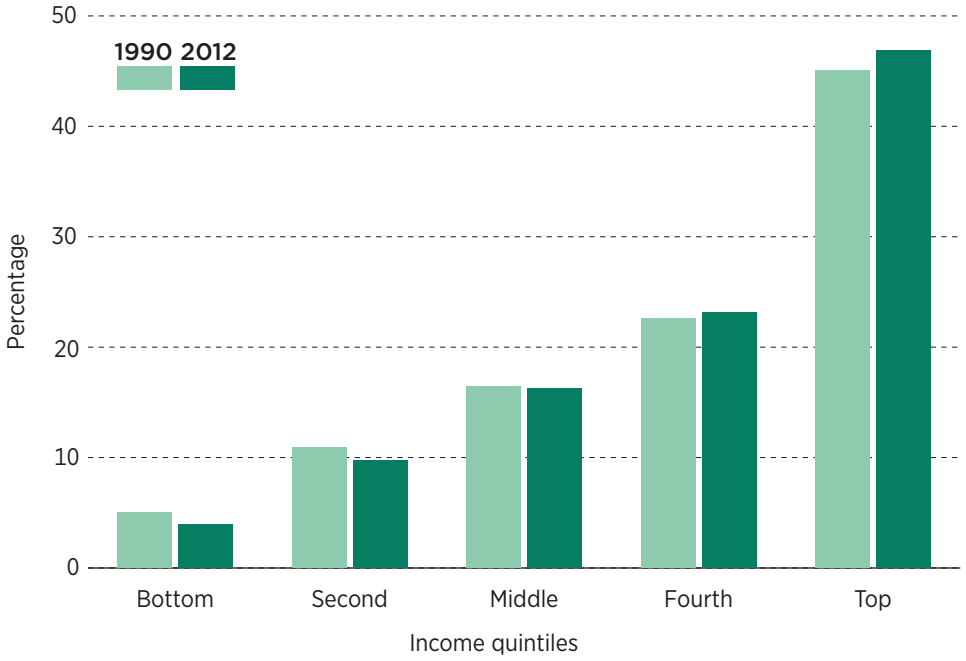
There are additional ways to measure wealth inequality. These range from tracking the share owned by the top 10%, 5%, or 1%; comparing the share of wealth owned by the bottom 50% with the share going to the top 5% and tracking that over time; as well as the share of wealth owned by the top few households or individuals. [2]

## How is wealth acquired?

There are essentially three ways that wealth can be obtained. Wealth can be stolen; it can be inherited; or it can be earned.

[1] The Gini Coefficient is one of the leading measures of inequality. There is a detailed explanation of the Gini and its calculation in Appendix A (p. 36). It is sufficient to say here that it is a number between 0 and 1 with higher values representing a higher level of inequality.
[2] The latter measure always generates considerable media attention. In 2015, Oxfam reported that the top 80 billionaires had more wealth than the bottom half of the world's population (Oxfam, 2015) and, predictably, a flurry of news stories followed.

Figure 1: Share of wealth (or net worth) held by each income quintile, 1999 and 2012




Sources: Uppal and Larochelle-Côté, 2015b; Statistics Canada, *Survey of Financial Security* (SFS), 1999 and 2012.

## Stolen wealth

Stolen wealth is any wealth that is obtained from others by force or fraud. This does not include any wealth that is acquired through exchange of value, even if the commodity itself is illegal to exchange. What would be included here would be any outright theft of property using force or threat of force; any use of deceit, trickery, fraud, or misrepresentation to acquire the property of others; any bid-rigging, bribery, influence peddling, or other examples of cronyism that take the property of others. In nations with effective and accountable legal systems as well as transparent and accountable government agencies, the proportion of wealth gained by theft should be relatively small. [3]

[3] In a recent essay (2016), Clemens, Jackson, and O'Neill argue that the way in which income is earned or wealth amassed matters in any discussion or debate about economic inequality. The authors make a clear distinction between wealth accumulated from protected markets and special treatment by the state and wealth that is legitimately earned. Wealth derived as a result of special deals with the state (whether legal or not) is not legitimate. The corruption and cronyism involved is harmful to the economy and to society. This, the authors argue, is in contrast to wealth generated honestly through hard work, entrepreneurship, and innovation, which is beneficial to the society.

## Inherited wealth

Inherited wealth has the potential to be much more significant. Anyone familiar with the Forbes list of wealthiest Americans will know that many very wealthy people have simply inherited all of their wealth. The heirs to the Walmart fortune, who between them have a net worth in excess of $100 billion, would be an example. However, Forbes (2014) has recently been assessing the sources of wealth of America's billionaires on a 10-point scale (from 1 = inherited all of their wealth, to 10 = earned all of their wealth) and have found that only about 30% of the people on their list inherited some or all of their wealth while 70% are entirely self made (Fontevecchia, 2014). They also found that the proportion of self-made super rich in 2014 is up substantially (from 50%) 17 years earlier. [4]

Inherited wealth, which includes both *inter vivos* (while the giver is alive) tranfers and bequests, does not appear to be as important for the high end of the wealth distribution in America (and Canada) as it is in many other nations. A study by Wai and Lincoln (2015) found that countries like Austria (50%) and Sweden (44%) lead in terms of the share of wealth that is inherited with the United States, the United Kingdom, and Canada well down the list in the range of 12.5%. Indeed, it is notable that all of the "egalitarian" nations of northwest Europe (Norway, Denmark, Netherlands, Belgium, Switzerland, Germany, and Sweden) have inheritance rates of 20% or higher.

In his review of economic inequality in America, Michael Tanner uses a survey by US Trust that revealed that 70% of wealthy Americans grew up in middle-class or lower-income households: "Even among those with assets in excess of $5 million, only a third grew up wealthy" (Tanner, 2016: 9). As well, according to Tanner, the role of inheritance appears to have diminished over the last generation. He points to studies by Kaplan and Rauh (2013) and Arnott, Bernstein, and Wu (2015) to support this claim.

Are we sure that inheritances, in fact, contribute to wealth inequality? A recent study by Edward Wolff, arguably the dean of US inequality economists, shows that wealth transfers actually tend to be equalizing. The explanation for this result is that poorer households tend to transfer more "as a proportion of their current wealth holdings" than wealthy households (Wolff and Gittleman, 2011: 23).

In Canada, there are far fewer studies of wealth acquisition and wealth inequality, largely because of limited data. However, Morissette and Zhang (2006) revisited wealth inequality and also looked at the role that inheritances might play in contributing to wealth inequality. They draw on the 2005 *Survey of Financial Security* (SFS), which asks questions about the value of

[4] Freund and Oliver (2016), in a recent study of US billionaires, found that fewer than 30% of them acquired their wealth through inheritance.

inheritances. [5] In their econometric analysis of the wealth data, they controlled for the value of inheritances using various assumptions and specifications and found that inheritance consistently accounts for less than 5% of the wealth gap between the bottom and top fifths of the distribution. This means that, in Canada, at least 95% of the wealth gap is not explained by inheritance.

Various financial institutions do their own surveys of personal wealth, largely to gather useful information for their wealth management business. CIBC (2016) surveyed Canadians about the bequests they had already received and then forecast expected future inheritances by adjusting for (predictable) demographic changes. Based on their analysis, they estimate that, in the coming decade, there will be an inheritance boom (about 50% more than the previous decade) received by Canadians. The report then suggests that a large proportion of this is expected to go to high-income Canadians and that is likely to "exacerbate" wealth inequality. While this conclusion does not appear to be unreasonable, the bank provides no evidence for either conjecture. [6]

## Earned wealth

The third and most compelling way that we acquire wealth is by earning it. Earned wealth is most often accomplished through a slow and steady process of saving, wise investment, and patience. Investment may involve the purchase of financial assets (like mutual funds, stocks, bonds); the purchase of non-financial assets (like a home or other durable assets, including collectibles); or by purchasing or starting up a business. In most cases, wealth is accumulated over a long period of time—over a lifetime of work, saving, and investment. So, it is not at all surprising that wealth has a strong age pattern. Indeed, one of the dominant theories in economics involves the life pattern of income, saving, and wealth accumulation. It is referred to as the Life-cycle Hypothesis and any analysis of wealth and wealth inequality wisely starts there.

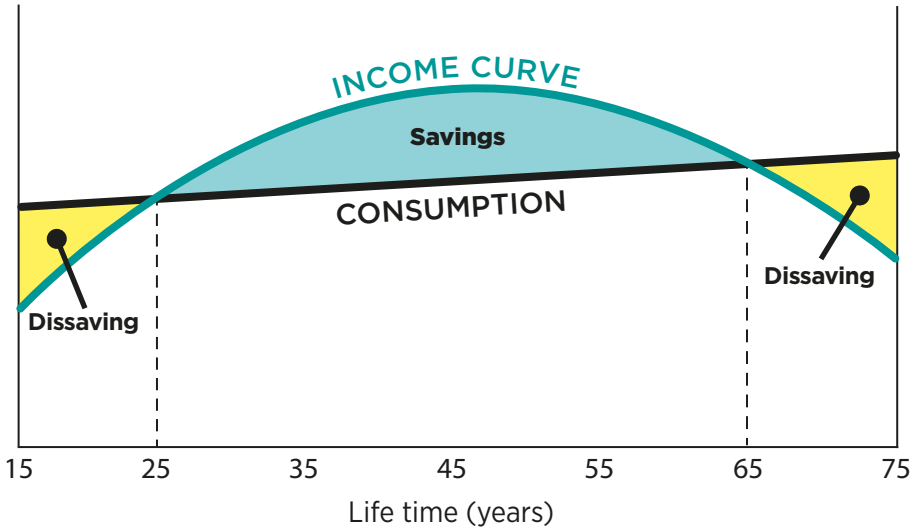
[5] It is important to note that the 2005 SFS *public use* microdata file and the accompanying documentation do not contain any reference to inheritances. So, while Statscan researchers obviously had access to the full data, this author had no access to inheritance information.

[6] The full CIBC report provides no information about their survey methods, coverage, definition, specific questions, or the nature of the sample. The report appears to treat bequests and inheritances as if they were the same.

# The Life-Cycle Hypothesis

Modigliani and Brumberg (1954) outlined a new approach to understanding consumption, saving, and wealth accumulation that was grounded in the long-standing marginal utility theory. [7] Setting aside the technical details, they suggested that people in their peak earning years will save some of their income and accumulate it for later use during retirement when they are not working. This implied that people, in general, are rational and forward thinking and will not simply consume all of their income as it is earned. Further refinements of the basic theory by Modigliani and his collaborators as well as substantial testing has given us the dominant approach to the understanding of wealth accumulation that we have today. The Life-Cycle hypothesis can be illustrated by the simple graphic in figure 2.

Figure 2: The Life-Cycle Theory of income, savings, consumption, and wealth accumulation




In the first phase of the life cycle, when people are young and just starting their work years (or still in school), there is little opportunity to save. For those employed full-time, income is typically much lower than it will be during the peak earning years. Consumption typically exceeds income as young individuals and couples acquire the range of durables (housing, automobiles, appliances, etc) that are part of modern life, most often by borrowing against expected future income. Some will be having children, which, again, often

[7] Milton Friedman's work on permanent income (1957) contributed significantly to this literature as well.

involves some significant initial costs. For those still attending a post-secondary institution, income will be very low and, often, student debt will be rising. Even once they graduate, those debts may be high enough to outweigh the value of any (non-human capital) assets they have acquired. So, for many in this first phase of the life cycle, it would not be surprising to see zero (or even negative) net worth. While the graphic in figure 2 has the first phase of the life cycle ending around age 25, for many individuals and young couples, it will extend until they are in their late twenties or early thirties. The important characteristics of the first phase is that people will typically consume more than they earn; they will often be borrowing from the future (borrowing from parents or having student loans, for example); they are unlikely to be in a position to save any of their income; and there will be little or no wealth accumulation. Net worth for the typical person in this phase is likely to be zero or even negative.

During the second phase, income begins to exceed consumption because two things happen at about the same time. First, income has increased sufficiently that consumption can be financed without adding to debt. Second, later in this phase, expenses will likely decline (in relative terms) as many of the key durable goods (home, automobile, appliances, furnishings) have already been acquired. Slowly, steadily, saving and wealth accumulation begin to happen. If the wealth fund is invested wisely, then wealth will begin to increase slowly at first and then more rapidly as the power of compounding and regular additions (savings) take hold. It is later in this phase that children in the family typically become adults and (it is hoped) become independent, thus freeing up more disposable income for possible wealth accumulation. People typically reach their peak earning years during this phase.

The first versions of the life cycle had the third (retirement) phase as a period of dissaving as wealth is drawn down systematically to cover the consumption needs of people who no longer earn money from employment. However, empirical evidence demonstrated that there is not a lot of dissaving by typical retirees and, in fact, wealth may still grow for a period of time. Modigliani argued that such behaviour could easily be consistent with the overall theory. Uncertain length of retirement and the desire to leave bequests can account for the possibility of stable or even growing wealth during retirement (Modigliani, 1986; Deaton, 2005).

The briefest expression of the Life-Cycle Hypothesis can be stated as "the very young have little wealth, middle aged people have more, and peak wealth is reached just before people retire" (Deaton, 2005: 1). Of course, this pattern describes most people in most situations. There will certainly be cases that depart, sometimes substantially from the pattern in the Life-Cycle Hypothesis. There will be people who are delayed in being able to accumulate wealth because of accident, illness, disability, or other personal predicament. There will some who, for whatever reason, are never able to acquire wealth.

These exceptions do not refute the theory. The Life-Cycle Hypothesis provides a reliable and testable approach to understanding the patterns of income, consumption, saving and wealth accumulation that are typical in society.

An important implication of the theory is that consumption will be less volatile (smoother) than income. People strive to maintain a fairly consistent (or target) level of consumption and use saving and borrowing to smooth out the vagaries of unpredictable changes in income. It is also an implication of the theory that people will adjust their "prudent" saving rate during the second phase of life in the light of state programs that promise to provide income during retirement. Most of the adjustment is likely to occur with people who are most affected by the benefits of these forced retirement programs, that is, poorer and middle-income households. To the extent that households where wealth is below average reduce saving and wealth-accumulation efforts because of these programs means that the government may, by itself, tend to increase wealth inequality.

The "life-cycle effect" then is simply a recognition that age is a critical determinant of income, saving, and the level of wealth. The twenty-five year old at the bottom of the wealth distribution with zero (or even negative) wealth is likely to be, in 25 or 30 years, a top quintile or even top decile wealth holder. So, the inequality of wealth *within one's own lifetime* is going to be, in most cases, very large.

In his landmark paper "The Distribution of Wealth and the Individual Life-Cycle", Anthony Atkinson notes that the distribution of wealth is unequal "simply because people are at different stages of the life-cycle; the top 10 per cent may own more than their share because they are older and have saved more for old age" (Atkinson, 1971: 239). As a life-long socialist, Atkinson spent his career drawing attention to inequality and has advocated for significant redistribution of income, a tax on inheritances, and other "social justice" causes. He states, however, that "this lifetime view of equity is clearly more appropriate if our concern is with unequal 'life chances', and has the merit of treating an individual's lifetime as a whole rather than considering each year in isolation" (Atkinson, 1971: 239).

In order to show the importance of the life-cycle effect on wealth inequality, Atkinson constructs a simple model of a society where only the life cycle matters. Every other factor that could influence wealth inequality is excluded. So, his model is that of an egalitarian society where everyone has an identical life path of income and everyone makes identical choices relating to saving, investing, and retirement. Everyone is the same and has an identical lifetime income and wealth yet we have, at any point in time, substantial inequality of wealth. Whenever we choose to take a snapshot of this society, a high percentage of wealth is held by older people (who make up much of the top quintile and decile) and very little wealth is held by the young.

Apparently independently, Paglin (1975) argued that our measures of inequality, like the Lorenz curve and Gini Coefficient, [8] misrepresent the true level (and trend) of inequality because they ignore the life-cycle effect. With the Gini coefficient, our reference point is the line of perfect equality which, in terms of wealth, means that every household, regardless of age, would have exactly the same net worth. Paglin argues that not only is this unrealistic but, in many ways, it is patently unfair. It would mean that no one could (or be allowed to) save and accumulate funds for use in retirement. It is sufficient, he argued, to define equality as equal lifetime wealth and use that as a basis of comparison for a revised Gini. Using an expected average age-wealth profile (as a proxy for the life-cycle effect), he constructs an adjusted Gini and shows that wealth inequality in the United States (in 1962) was about 50% less than the unadjusted Gini. [9]

## A simulation—examining the influence of the life cycle on wealth

Following Paglin, Sarlo (1992) attempted to show the impact of the life cycle on income inequality by constructing a simple simulation model of an egalitarian society with perfectly equal lifetime incomes, savings rates, and implied wealth that is fully used up in retirement so that no inheritance remains. In such a society, where everyone is equal over a lifetime and so only the life-cycle effect prevails, there is still substantial inequality of income. Extending that simulation exercise to explicitly include wealth is equally informative. While the details of the exercise are outlined in Appendix B, it is sufficient to state that the results (quintile shares) are robust for a variety of different assumptions about annual income growth rate, savings rate, rate of return on wealth, and the interest rate that applies to annuities (see table 8 and related commentary). The result of the life-cycle simulation in Appendix B is displayed in table 2 and the simulated age-wealth profile is in figure 3.

It important to remember that this is the distribution of wealth in an egalitarian society with no inheritance. Everyone has exactly the same lifetime income; everyone has exactly the same time preferences and the same work-leisure preferences; everyone is subject to the same rates of growth and rates of return. There are no differences between people and yet we nevertheless have substantial inequality of wealth at any point in time. This is the point that

[8] An detailed explanation of the Lorenz curve and the Gini Coefficient is provided in Appendix A (p. 36).

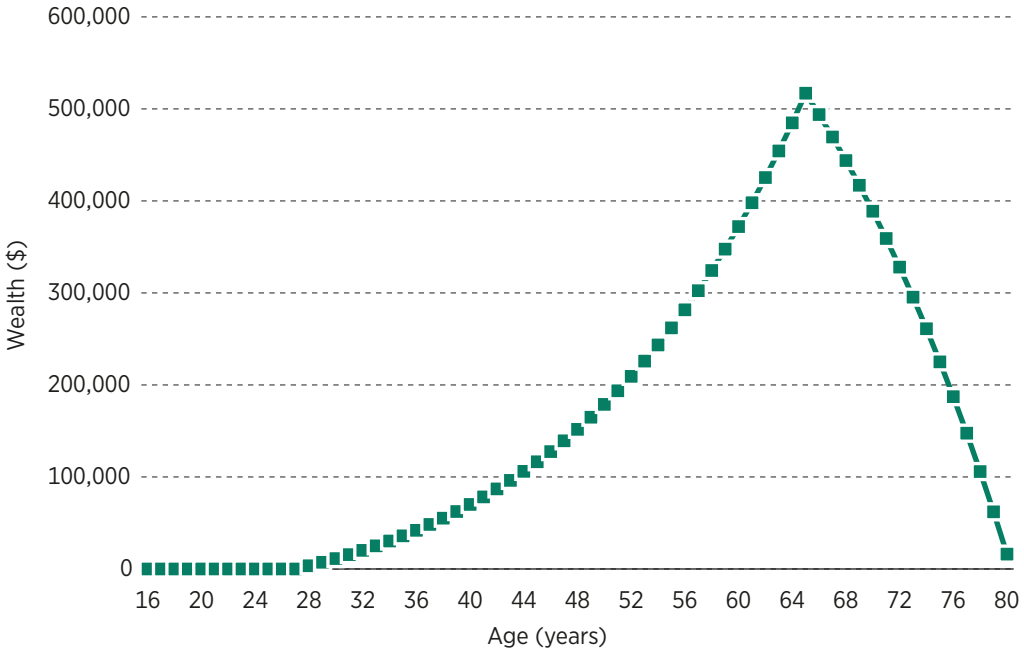
[9] Paglin provides insufficient information about the precise nature of the adjustments he has made. There is concern that using the "average age-wealth profile" derived from US data may not be a good proxy for the life-cycle effect because the average age-wealth profile may be influenced by non-life-cycle factors (like skill differentials, preference, and choice differences).

Table 2: Egalitarian society wealth distribution, Part 01

| Quintile | Wealth Share (%) |
|---|---|
| Top 20% | 51.03 |
| Second | 30.59 |
| Third | 14.38 |
| Fourth | 3.96 |
| Bottom 20% | 0.03 |
| Total | 100.00 |

Source: Model constructed by author.

Figure 3: Simulated age-wealth profile (life-cycle effect)




Source: Model constructed by author.

both Atkinson and Paglin were making and attempting to show in their own way. This exercise helps us appreciate that the life-cycle effect is potentially a dominant driver of wealth inequality.

Of course, we don't live in an egalitarian world. Indeed, we live in a world where differences among people are significant. People differ in terms of skills and abilities; in terms of preferences; in terms of the constraints that they face; and in terms of the luck they encounter along their life path. Each of these differences is likely to influence wealth inequality. Let's take, for example, a difference in time preference—specifically, that some people tend to prefer future to current consumption while others have a preference for current consumption. This difference will manifest itself in terms of differential saving

rate. We can modify the simple model, which assumes that everyone has an equal saving rate (of 10%), so that now half of society saves at 5% and the other half saves at 15%. The results of that simulation are displayed below in table 3. In comparison to Part 1 (table 2), the differential saving rate has the effect of pushing up the share going to the top quintile and reducing the second and third quintile shares. This stretches out the wealth distribution and increases measured inequality.

Table 3: Egalitarian society wealth distribution, Part 02

| Category | Wealth Share (%) |
|---|---|
| Top 20% | 61.22 |
| Second | 24.13 |
| Third | 11.52 |
| Fourth | 3.11 |
| Bottom 20% | 0.02 |
| Total | 100.00 |

Source: Model constructed by author.

It is important to stress that this is still an egalitarian community in the sense that everyone has identical incomes from employment through their working years and everyone faces the same rate of return. The only difference is that people make different choices about the level of saving based on their different time preference. The lower savings group will have substantially more consumption during their younger, working years than the folks who decided to defer some of that consumption by saving more. The latter group ends up with higher pension income and greater consumption post retirement. Yet, despite the fact that everyone is equal except for their time preference, we end up with a quite remarkable level of wealth inequality.

It is important to emphasize that, in this egalitarian society, there are none of the differences and life events that we often point to as contributing to economic inequality. There are no skill differentials: everyone is the same and does the same job. There are no sports, entertainment, and entrepreneurial superstars who are able to amass fortunes based on the their elite skill level. There is no unemployment, no illness, no disability, no divorce, no inheritances; and everyone has the same work-leisure preferences. Nevertheless, at any point in time, there is significant wealth inequality driven by the life-cycle effect and, possibly, by different choices about savings.

The results of this simulation exercise depend, to some extent, on the basic assumptions used. However, the assumptions about rates of growth of income; age at which saving begins; rate of return on investment; no inflation; and rates of saving are all broadly similar to assumptions made in the Atkinson

and Paglin analyses or are well in the range of actual values in the Canadian economy. Modest changes in these assumptions do not produce substantially different results as we see in the empirical section (table 8).

To the extent that the life-cycle effect (age) is an important (and arguably, *the most* important) explanation of wealth inequality, we would expect that demographic changes in society will produce changes in the level of wealth inequality. For example, as the baby-boom generation moved through into their twenties in the 1970s and 1980s (and the concomitant surge in attendance in post-secondary educational institutions), we might have expected an increase in wealth inequality, other things equal, due to that demographic bulge. And now, as that baby-boom bulge moves into retirement (peak wealth age), we might expect, again other things equal, a rise in wealth inequality.

# Empirical Evidence

What has been the pattern of wealth inequality in Canada over the past several decades? Is wealth inequality getting "worse" as some journalists and a few economists claim? [10] And if wealth inequality is increasing, what does that mean? Is it automatically a sign that the "system" is unfair and that the deck is stacked against upward mobility and opportunity? As well, to what extent is wealth inequality explained empirically by the life-cycle effect? What other factors play a role in explaining the level and trend in the inequality of household net worth?

This section presents the empirical evidence relevant to these and other questions relating to wealth inequality in Canada. The data used includes four public-use microdata files produced from the Statistics Canada occasional *Survey of Financial Security* (SFS). Those four files, for 1984, 1999, 2005, and 2012, contain information on assets, debts, net worth, after-tax incomes as well as basic descriptive and demographic information for each of the records in the database. [11]

## The trend in wealth inequality in Canada, 1970–2012

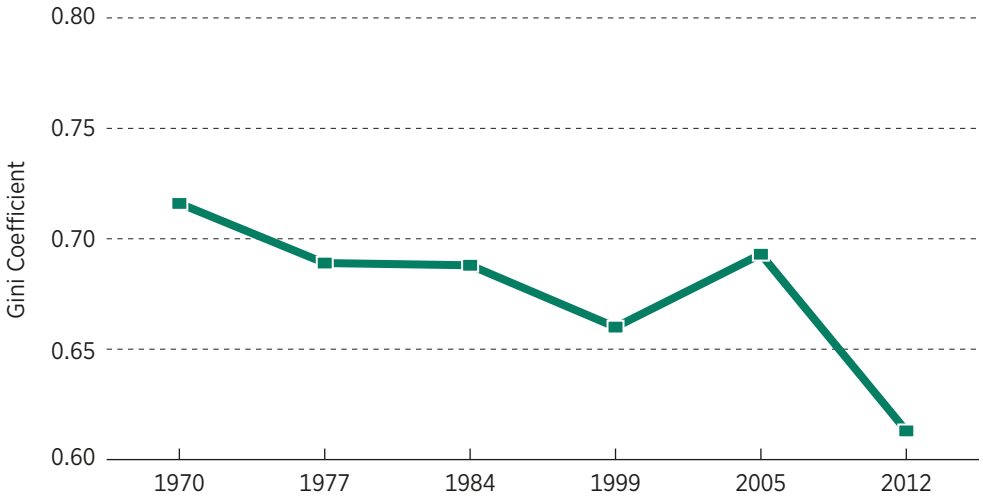
SFS public-use microdata files for 1984, 1999, 2005, and 2012 were used to determine the inequality of net worth among households. The author calculated quintile shares, decile shares, and Gini coefficients in each of those years. Prior to 1984, Statistics Canada determined wealth inequality for 1970 and 1977 for the same three indicators using some of their early surveys. They warn that there is an issue with data quality for those years due to the difficulty of collecting information on wealth and to the fact that certain components of wealth were excluded—principally equity in pension funds and insurance policies as well as some kinds of household durables (Oja, 1987: 5). The summary data they provide is included here with that proviso.

[10] It is interesting to note that the normative phraseology of the social activist has crept into journalistic and even some academic commentary about inequality.

[11] The 1999 public-use SFS file contains some records with missing data and, in those cases, Statistics Canada decided to place nine '9's in the relevant cell. Many software programs treat such numbers as actual values making those entire records unusable. So, for 1999, those records with nonsense values (505 records representing close to 167,000 households) were dropped. This left 15,428 records (representing just over 12 million households) for the analysis. The impact of removing these records on the representativeness of the remaining file is unknown. Statistics Canada has obviously removed, imputed, or edited any missing data from the other three surveys and there were no similar data issues with those files. The 2005 public-use SFS file also has issues due to its much smaller sample size.

Figure 4 displays the trend of wealth inequality using the Gini Coefficient for Canada between 1970 and 2012. There is little ambiguity about the pattern. Wealth inequality has declined over the period and, by 2012, was about 17% below the level of four decades ago. Even if we take account of Oja's caveat about lower data quality during the 1970s and ignore the first two data points, inequality is still down 12% over the period from 1984 to 2012.

Figure 4: Wealth inequality trend, 1970–2012—Gini Coefficient




Sources: Oja, 1987; Statistics, Canada, *Survey of Financial Security*, various years; calculations by author.

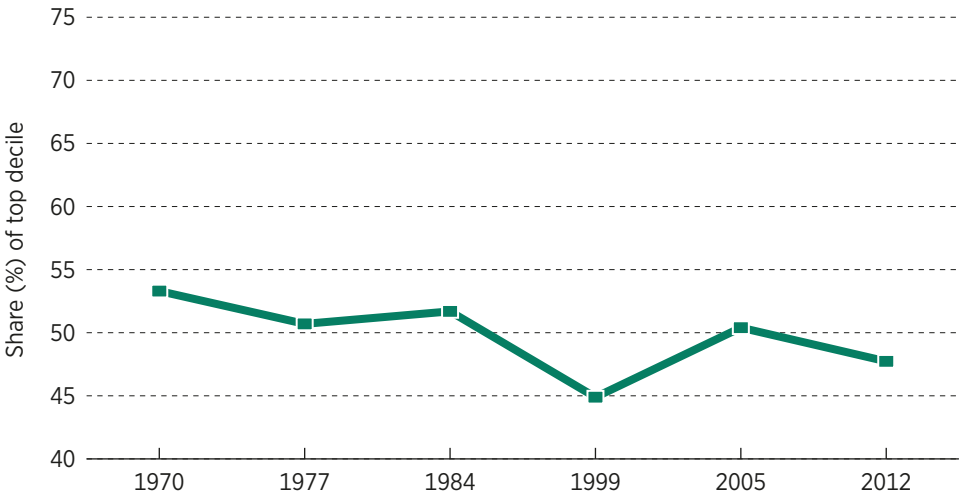
Figure 5 and figure 6 show wealth inequality over the same period using top decile and top quintile shares. Specifically, figure 5 displays the share of total wealth flowing to the top 10% of households and figure 6, the top 20% of households in terms of wealth. In 1970, the top 10% of households owned about 53% of the total wealth. By 2012, the top decile's share had fallen to about 48%, a decline of about 12%. For quintiles, the decline over the period was about 5.2%.

The differences between the top shares trend and the Gini trend are small. Clearly, the Gini takes into account the entire distribution whereas the top shares just look at one (high end) component of it. So, we would not expect them to be identical. They do show, however, the same basic trend. Wealth inequality declined until about 1999, increased somewhat to 2005 and then declined again to 2012. [12] Overall, each of the trends shows a long term decline in wealth inequality.

In recent years, Statistics Canada has presented wealth inequality slightly differently. In their news release of June, 2015, highlighting the changes in wealth distribution between 1999 and 2012, they show a single graph with the shares of wealth flowing to *each income quintile* (Uppal and Larochelle-Côté, 2015b). In that graph, wealth inequality by income quintile is shown to have increased over

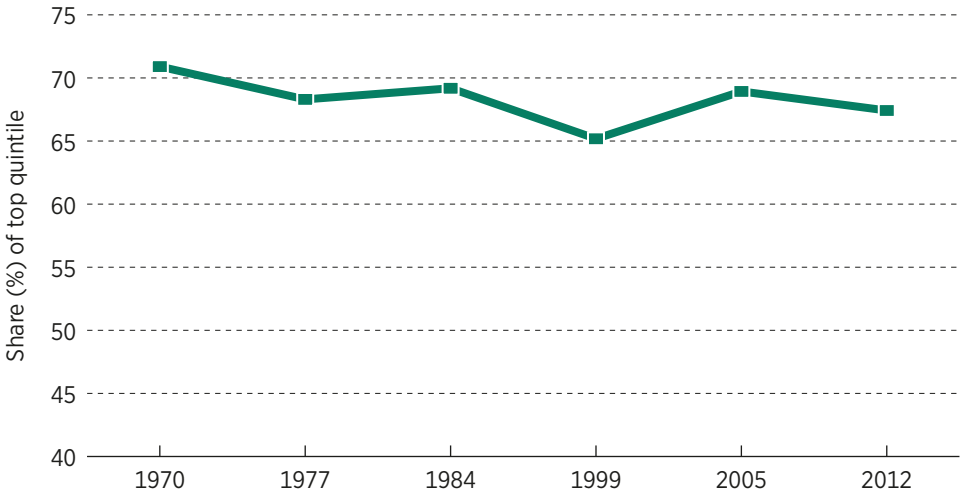
[12] The results for 2005 are not as reliable due to the small sample size in that year.

Figure 5: Wealth inequality trend, 1970–2012—share of top decile




Sources: Oja, 1987; Statistics Canada, *Survey of Financial Security*, various years; calculations by author.

Figure 6: Wealth inequality trend, 1970–2012—share of top quintile




Sources: Oja, 1987; Statistics Canada, *Survey of Financial Security*, various years; calculations by author.

that 13-year period. Share of wealth of the top income quintile has increased from 44.5% to 46.0% and that of the bottom income quintile has declined from 5% to 4%. However, the change in the distribution of wealth itself is not included. [13] The changes in wealth distribution by income quintile is shown below in table 4.

Using this measure (wealth shares by income grouping), wealth inequality has been increasing for a long time. This result stands in contrast to the pattern of wealth inequality shown in figures 4, 5, and 6. Part of the explanation

[13] In Oja, 1987, the agency included both ways of displaying wealth inequality.

Table 4: Wealth shares by total income quintile shares

| Income quintile | 1970 | 1977 | 1984 | 1999 | 2012 |
|---|---|---|---|---|---|
| Bottom 20% | 10.4 | 9.0 | 6.1 | 5.0 | 4.0 |
| Second | 13.8 | 12.8 | 12.4 | 10.6 | 9.6 |
| Third | 14.0 | 15.0 | 16.4 | 16.6 | 16.5 |
| Fourth | 19.0 | 19.0 | 20.3 | 23.4 | 23.8 |
| Top 20% | 42.8 | 44.3 | 44.8 | 44.5 | 46.0 |

Note: Income is defined as before-tax income.
Sources: Oja, 1987; Statistics Canada, *Survey of Financial Security*, various years; calculations by author.

for this is found in social and demographic changes. The lower share of wealth among the households in the bottom quintile is due, to some extent, to the fact that we now have a much higher proportion of young people (aged 18–24) still in school and therefore likely to be positioned in bottom quintile of both the income and wealth distribution. Forty years ago, many more young people were employed and beginning to acquire assets by their early twenties. As well, today, we have proportionately more households permanently dependent on government programs and trapped in a low-income, low-wealth predicament. The current labour market is clearly more challenging than it was decades ago and that makes it more difficult for people, especially poorly educated and unskilled people, to work their way out of relative poverty.

The pattern of wealth inequality by *after-tax income quintile* changes this picture slightly. Data is only available since 1984. Table 5 shows the distribution of wealth by after-tax income quintile drawn from the four public-use microdata files that have been provided by Statistics Canada. [14]

Over the period 1984 to 2012, wealth inequality by after-tax income shares has increased somewhat but by less than with pre-tax income shares. While the bottom quintile owns slightly less, the middle class (quintiles 2, 3, and 4 as a group) owns slightly more with the top quintile owning about the same over the 28-year time span. The Gini Coefficient is not available for after-tax shares; however, based on the comparison in table 5, it would be hard to make much of a case for a growing wealth gap. It is important to stress that the difference between the two tables is small. It might be expected that since the distribution of after-tax income is more compressed than that for pre-tax income, wealth distribution by those shares might also be somewhat more compressed.

[14] Statistics Canada does not determine wealth shares by after-tax quintile and does not have microdata files involving wealth prior to 1984.

Table 5: Wealth shares by after-tax income quintile

| After-tax Income Quintile | 1984 | 1999 | 2005 | 2012 |
|---|---|---|---|---|
| Bottom 20% | 5.81 | 5.56 | 5.44 | 4.14 |
| Second | 11.83 | 11.96 | 9.29 | 9.53 |
| Third | 16.03 | 17.91 | 18.28 | 16.37 |
| Fourth | 20.55 | 23.18 | 22.63 | 24.11 |
| Top 20% | 45.82 | 41.60 | 44.71 | 45.99 |

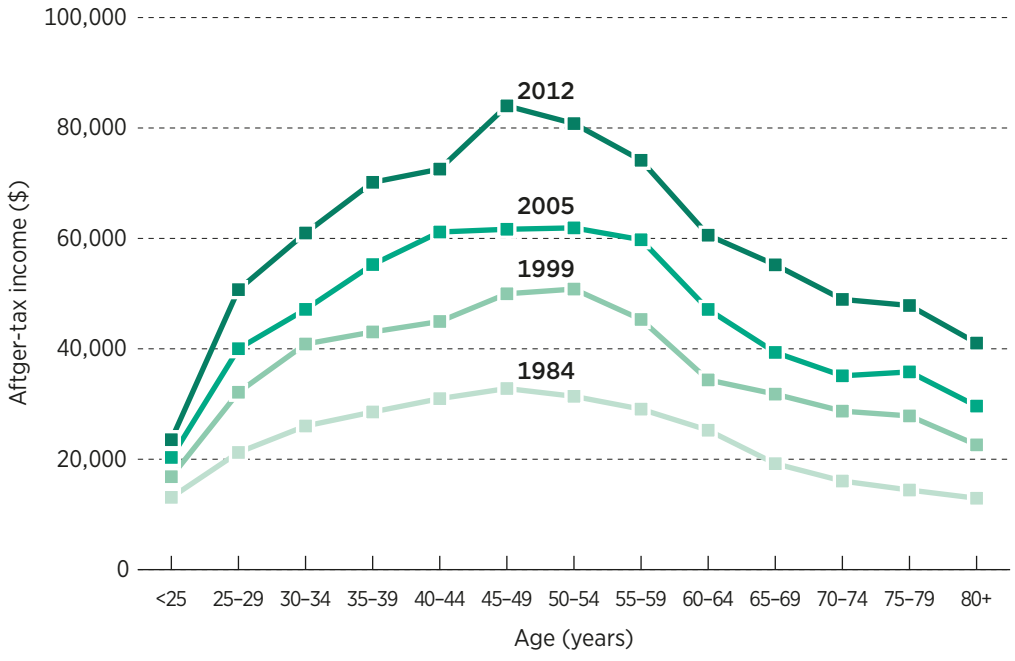
Note: Income is defined as after-tax income.
Sources: Statistics Canada, *Survey of Financial Security*, various years; calculations by author.

## Life-cycle patterns

### To what extent do we observe a life-cycle effect in the data over this period?

Let's start with after-tax income. More than any other definition of "income", disposable income represents a household's potential living standard. It is the base for consumption, saving, and wealth accumulation. And, according to the Life-Cycle Hypothesis, it should have a clear, identifiable hill-shaped pattern. Figure 7 shows the path of after-tax income by age grouping for each of the years under consideration, 1984, 1999, 2005, and 2012. The graph shows

Figure 7: Age pattern of after-tax income, 1984–2012



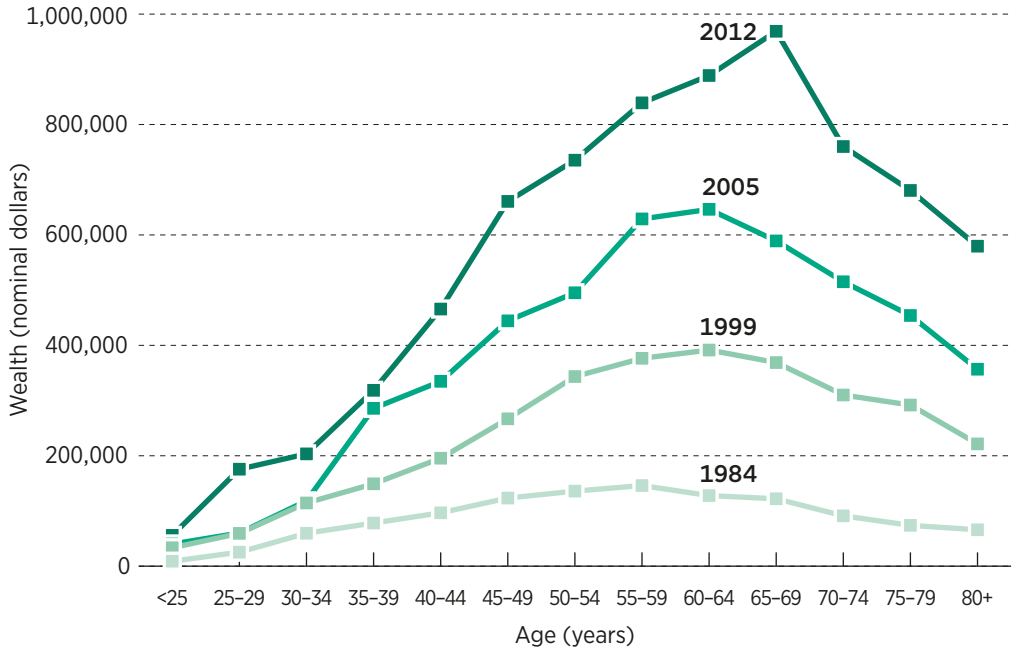

Sources: Statistics Canada, *Survey of Financial Security*, various years; calculations by author.

a definite hill-shaped pattern of nominal after-tax income for each of the four years. The peak income years appear to be in the 45 to 55 range, consistent most empirical evidence on income and age. It is certainly not surprising that income starts out low for young people, then grows as workers acquire greater experience and skill and take on more responsibility, and then fall off after retirement. This is exactly what the Life-Cycle Hypothesis predicts and that is what we observe in each of the years.

### Does wealth follow a similar, expected hill-shaped pattern?

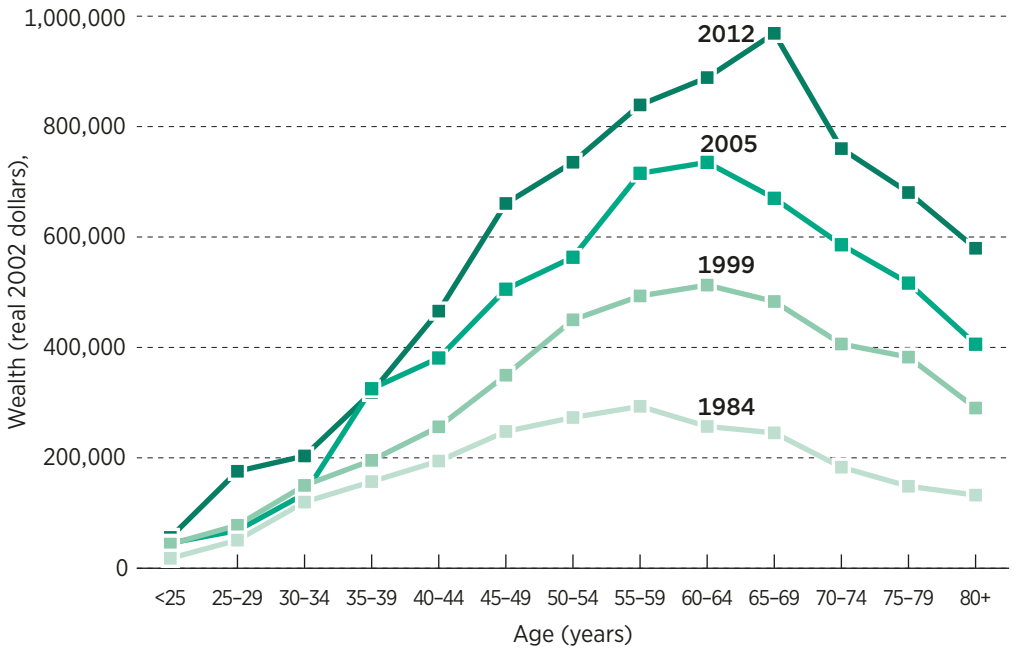
Figure 8 shows the age-path of wealth for the four years. The age-pattern of wealth appears to follow a predictable hill shape consistent with the Life-Cycle Hypothesis. Putting each of the years on the same graph has softened the visual impact of the earlier years but a look at the summary levels in each year (Appendix C, p. 40) indicates that the pattern is just as striking in the earlier periods. What is interesting is that the age of peak wealth has increased over time. In 1984, the highest level of wealth occurred in the 55–59 age grouping. In 2012, the age of peak wealth had increased by a full decade. Older people appear to be retaining more of their wealth. One explanation of this is that people are living longer and need to hang on to more of their wealth later in life. Perhaps, more importantly, the baby-boom cohort is accentuating the age-wealth pattern because they are the richest cohort ever and there are more of them.

Figure 8: Age-wealth pattern, nominal dollars, 1984–2012




Sources: Statistics Canada, *Survey of Financial Security*, various years; calculations by author.

Figure 9: Age-wealth pattern, real 2012 dollars, 1984–2012




Sources: Statistics Canada, *Survey of Financial Security*, various years; calculations by author.

If we look at the same age-wealth pattern only in real 2012 dollars (figure 9), we notice that there have been significant real improvements in wealth levels for virtually all age cohorts but especially for those over 60. In each of the years surveyed, the households with a head between 55 and 75 seemed to have the biggest gains in percentage terms. Table 6 summarizes the real gains by age cohort over the entire period shown in figure 9. This is an important result. It shows that, over the period, real wealth has increased overall and that each age group has shared in that increase (with no exception). This data highlights the overall improvement in the financial situation of seniors in real terms.

Table 6: Real gains (%) in wealth by age cohort, 1984–2012

| Age group | Real gains by age group | Age group | Real gains by age group |
|---|---|---|---|
| under 25 | 309.25 | 55–59 | 286.17 |
| 25–29 | 345.10 | 60–64 | 346.07 |
| 30–34 | 169.73 | 65–69 | 395.11 |
| 35–39 | 202.94 | 70–74 | 415.19 |
| 40–44 | 239.83 | 75–79 | 458.31 |
| 45–49 | 266.69 | 80 and over | 437.60 |
| 50–54 | 269.34 | | |

Sources: Statistics Canada, *Survey of Financial Security*, various years; calculations by author

## Low net worth by age group, 2012

The influence of age on wealth holding is also seen if we examine the proportions with either zero wealth or insignificant wealth levels by age. Table 7 displays these proportions and, predictably, the pattern is what we would expect if the Life-Cycle Hypothesis is an important determinant of saving and wealth. Here, having a net worth of less than $5,000 is considered insignificant because, in most cases, the assets are merely personal effects (like electronic devices including computers and televisions, clothing and some furnishings).

The gains by the under-30 age group are notable but perhaps anomalous. Given the substantial increase in participation in post-secondary education, increase in student debt load, and the dramatic changes in the labour market (towards low-paying service jobs for the poorly educated), we might have expected that group to struggle to acquire positive net worth before 30 rather than experience a more than 300% gain in real wealth levels over the full period.

Table 7: Low net worth by age group, 2012

| Age group | Percentage with zero net worth | Percentage with net worth <$5000 |
|---|---|---|
| under 25 | 21.52 | 48.46 |
| 25–29 | 16.96 | 27.84 |
| 30–34 | 10.34 | 21.76 |
| 35–39 | 9.43 | 17.54 |
| 40–44 | 5.56 | 10.40 |
| 45–49 | 3.30 | 10.90 |
| 50–54 | 5.22 | 10.03 |
| 55–59 | 4.41 | 12.31 |
| 60–64 | 2.97 | 10.40 |
| 65–69 | 2.25 | 8.50 |
| 70–74 | 1.16 | 8.59 |
| 75–79 | 1.84 | 4.87 |
| 80 and over | .73 | 5.72 |

Sources: Statistics Canada, *Survey of Financial Security*; calculations by author.

## Data anomalies

A close examination of the 2012 *Survey of Financial Security* (SFS) microdata file reveals a disturbing "choppiness" in the reported data on net worth. While a random sample of the population is never going to be a perfect representation of that population, there appear to be a significant number of sudden and large changes between years for which there is no obvious explanation. [15]

[15] The information about the net worth of those aged 17 to 22 will not be as reliable as the other data points because of low sample counts.

The fact that the survey shows that average net worth of 17- and 18-year-olds in Canada in 2012 was over $45,000 is problematic. It is important to note that the vast majority of people that age are still in high school and are living with their parents. The only people of that age who would be surveyed would be those living on their own or as a head of a larger household. Our expectation would be that people in that circumstance would, *on average*, have almost no positive net worth.

If we dismiss the records of 17 and 18 year olds because of small sample size, what should we make of the wealth data of those 19 and 20? The average wealth of a 19-year-old in 2012 was $15,355 and that of a 20 year old was $81,186, a more than five-fold jump. Again, to be included in the survey, you must be living independently of your parents. In that case, these young people were either in a post-secondary institution or in the very early stages of their work life. While any positive net worth at that age is suspect, the sudden quintupling of wealth defies explanation. There is no obvious *en masse* threshold effect that would help explain such an increase.

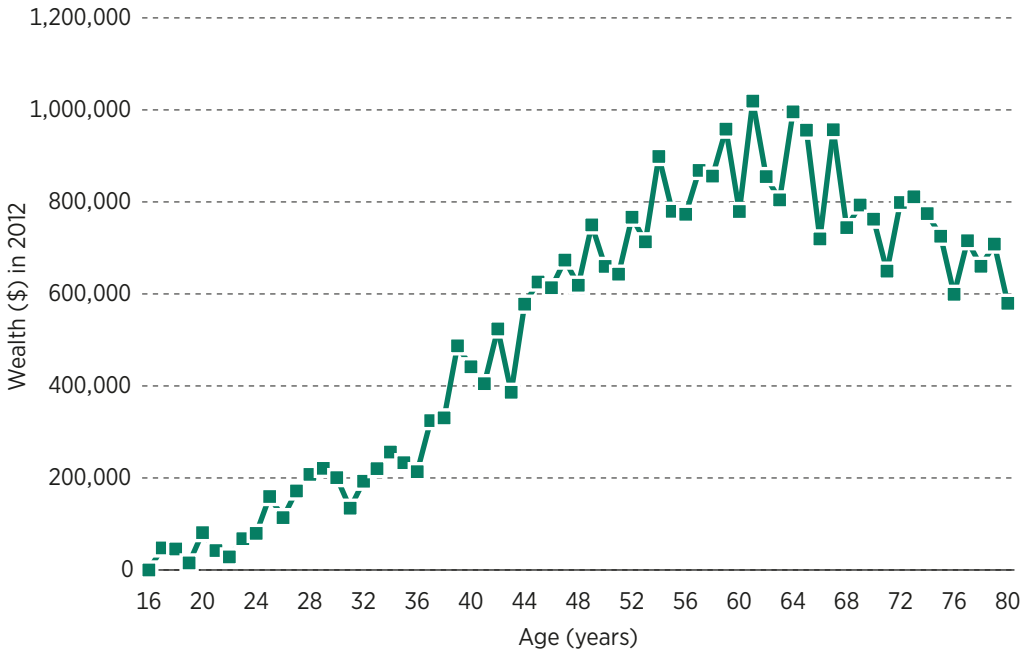
The rest of the data on average wealth by age continues to have these unexplainable "lurches" year to year. How do we account for a 50% increase in wealth between ages 26 and 27 and between ages 38 and 39? How do we explain a pattern that has average wealth holding go from $405,000 to $524,000 and then to $386,000 and then back to $578,000 between the ages of 41 and 44? In the real world, the averages should iron out all the different individual data points to produce a fairly even pattern. The cohort graphs (figures 7, 8, and 9) are much smoother because of the five year groupings that mask these year-to-year anomalies. The concern, of course, is that despite their best efforts, Statistics Canada's data on wealth may not be entirely reliable.

Figure 10 displays the full 2012 age-wealth profile without the grouping. This profile, drawn from the survey sample, is far more choppy and contains many more unexplainable anomalies than if the full population data were available. Despite the anomalies, the broad life-cycle pattern is clear. We have very low levels of wealth in the younger years; wealth levels rising rapidly in middle age and peaking around the "normal" retirement age; then falling off somewhat during retirement.

## Does the Life-Cycle Hypothesis explain the differences in wealth?

To what extent does age (the life-cycle effect) explain the wealth inequality that we observe? This is not a new question. Economists have struggled with this issue since, at least, the 1970s. Superficially, we observe a pretty close fit between the actual age-wealth profile (once we iron out the year-to-year choppiness) in figures 6 and 7 and the hypothetical "pure" life-cycle pattern in figure 2. However, the visual similarity does not constitute empirical evidence of the strength of the relationship between age and wealth.

Figure 10: Age-wealth pattern, 2012




Sources: Statistics Canada, *Survey of Financial Security*; calculations by author.

A number of researchers have attempted to quantitatively investigate the nature and magnitude of this connection. In a review of the empirical literature up to that point, Davies and Shorrocks make the point: "All versions of the life-cycle saving model predict that wealth will vary with age. If these age-related differences are quantitatively important, then a substantial portion of observed wealth inequality may be due to the fact that people are sampled at different points of their lifetime" (1999: 648). They continue: "To determine whether this is a plausible approximation to the real world, a number of authors have examined the distributions that would be observed in simple egalitarian societies where all wealth differences are due to age" (1999: 648). Davies and Shorrocks reviewed the work of several researchers who used this approach including Atkinson (1971), Davies and Shorrocks (1978), Michael Wolfson (1977), and Davies (1982). Atkinson (1971) found that "within age group" wealth inequality was similar to wealth inequality for the whole population and concluded: "Life cycle differences are not an important factor in explaining the observed [wealth] inequality" (1971: 24).

Davies and Shorrocks (D&S, 1999) examined several authors who used a pure (egalitarian) life-cycle society as their starting point and then modelled in different earnings, different rates of return, variations in time preferences, and even introduced inheritances into the mix—all to see if, and to what extent, there were departures from the basic life-cycle results. They report that each of these studies suggest that life-cycle effects are quite important in explaining

wealth inequality. Davies and Shorrocks (1978), for example, found that life-cycle factors accounted for between 60% and 82% of actual wealth inequality using the Gini coefficient (D&S, 1999: 649). And "Wolfson's work attributes considerable wealth inequality to life-cycle factors, but also leaves substantial room for the role of inheritance" (D&S, 1999: 650). Davies ran a simulation model to capture the life-cycle effect and then re-ran the model to include inheritances. He found that "in the absence of inheritances, a simulated Gini coefficient of .66 is obtained, compared to the estimated actual value of .75" (D&S, 1999: 650). And, he also reports that "allowing a small variation across families in the rates of time preference had a strong impact on the degree of simulated wealth inequality" (D&S, 1999: 650).

Davies and Shorrocks argue that, even if a model of a pure egalitarian society is capable of exactly replicating the actual wealth distribution of a nation, so could a model of an inegalitarian society—with wealth determined entirely by inheritance (1999: 651). While the obvious point (that any "model" can be constructed to fit the data observed in the real world) is taken, surely there is no theoretical case to be made that inheritances determine the distribution of wealth. The economic theory behind the Life-Cycle Hypothesis is based on a foundation of repeated observation in different societies and in different time periods. It has been rigorously tested and supported. It has won its originators a Nobel Prize in economics. There is no theory that claims that inheritances explain actual wealth holdings, and the empirical evidence, as was revealed earlier in this study, shows that inheritances play a very small role in explaining wealth.

Davies and Shorrocks favour models that include both life-cycle effects and inheritances. Other researchers take a different approach. Paglin (1975) compares a life-cycle-driven pattern of wealth against the actual wealth holdings to determine the role that the life-cycle effect plays. His work suggests that using his "Paglin-Gini" explains about 50% of observed wealth inequality in the United States in the early 1960s. The other 50% would potentially be explainable by other factors, including inheritances. Almas and Mogstad (2012) argue that the Paglin Gini adjusts not only for the life-cycle effect but also for any other factor that is related to age (such as education). They employ a variation of the Paglin adjustment attempting to correct for this omission and find that life-cycle effects are, in fact quite small.

Modigliani, of course, believed that empirical research supported his view that age was a very important determinant of wealth. In a review of the relative importance of inheritances and the life-cycle effect, Menchik and Jiankoplos (1998) point out that a study by Ando and Kennickell supported the view that the life-cycle effect accounted for about 80% of wealth. Other researchers, they point out, have found that life cycle accounts for a much smaller percentage.

Attempts to reconcile these opposing views and to marshal additional evidence to support, or to contradict, each view are an ongoing part of current economic research. Blinder (1988) made a very thoughtful attempt to adjudicate this dispute. In the end, he concludes that using direct methods to measure the amount of inherited wealth supports the view that only 20% to 30% of wealth is inherited. On the other hand, he concludes that the best estimates of life-cycle wealth place it in the 30%-to-50% range. Consequently, at least 20% of total wealth cannot be explained as the result of either inheritances or life-cycle savings (Menchik and Jiankoplos, 1998: 51–52).

Results for the United States do not exactly mirror what is happening in Canada. The United States does have somewhat more measured inequality of wealth and somewhat less economic mobility between groups; and inheritance is somewhat more important due to the greater amount of wealth at the top end. It would not be surprising, therefore, to find more of a life-cycle effect in Canada.

The important lesson to be drawn from a review of the various attempts to explain wealth variations in the United States is that, while the life cycle may be an obvious place to start and may be expected to play a prominent role, there are many other factors (besides inheritances) that can help explain wealth inequality. Skill differentials (and all of the considerations that play a role in these differences); preferences and choices; barriers and institutional (including state-produced) constraints; and luck are all likely to help determine differences in wealth not accounted for by life-cycle effects and inheritances.

## The Paglin method

This study will employ a variant of the method used by Paglin (1975) to estimate the proportion of wealth inequality that we can attribute to age. Any remaining inequality will, obviously, be the result of these other (non-life-cycle) factors. The estimation is applied only to the 2012 (the most recent) wealth database for Canada. Paglin argued that the "average age-wealth profile" is a good proxy for the life-cycle effect in the sense that, if everyone was at the average, everyone's lifetime income would be the same. This assumption "would produce equality of wealth for families in the same age bracket, but would allow differences in wealth based on age" (Paglin, 1975: 608). Employing this approach, his "Paglin-Gini" coefficient for the United States in 1962 was .50. This compared to a value of .76 for the "Lorenz-Gini". This means that the traditional (Lorenz-Gini) measure of wealth inequality overstated the degree of inequality by about 52% (Paglin, 1975: 608).

While the use of an intra-age average in this context will certainly equalize lifetime wealth for every unit, the averages may well capture more than the pure age effect. Embedded in the averages could be other factors unrelated to age such as educational and choice differences that may be correlated with

age. [16] For this reason, Almas and Mogstad (2012) construct a model that equalizes lifetime incomes based solely on age and leaves out any other considerations that might be correlated with age.

Since the simple simulation model summarized in table 3 (and figure 2) earlier in this publication was designed to model the pure life-cycle effect leaving out all other factors unrelated to age, it can be similarly used as a benchmark for comparison. That simple (egalitarian) case produces a Gini Coefficient of .535. The actual Gini for 2012 is .613. This suggests that age is capable of explaining about 87% of the wealth inequality—at least using this particular version of the life-cycle model of an egalitarian society.

How robust is this result? Does it stand up to variations in the basic assumptions of the model? To test this, five additional versions of the comparison simulation model were employed and the corresponding Gini Coefficients determined. The results of this test are displayed in table 8.

Table 8: Testing age as a factor in wealth inequality, 2012

| Case | Income growth rate | Saving rate | Rate of return wealth/ annuities | Start saving at age | Stop saving at age | GINI coefficient |
|---|---|---|---|---|---|---|
| Base | 2.25% | 10.0% | 5% | 28 | 65 | .535 |
| 01 | 2.00% | 10.0% | 5% | 28 | 65 | .533 |
| 02 | 2.00% | 7.5% | 5% | 28 | 65 | .533 |
| 03 | 2.00% | 7.5% | 4% | 28 | 65 | .523 |
| 04 | 2.00% | 7.5% | 4% | 25 | 65 | .502 |
| 05 | 2.00% | 7.5% | 4% | 25 | 68 | .503 |
| 06 | 2.00% | 7.5% | 4% | 25 | 68 | .516 |

Small changes in the basic assumptions of the model appear to result in only a marginal difference in measured inequality of wealth. To the extent that a pure life-cycle effect can be captured by a static egalitarian model (where everyone has the same lifetime wealth) with characteristics similar to those in table 8, then we can say that most of the observed inequality in Canada in 2012 (about 80% to 87%) is explained by the life-cycle effect. This result is not entirely surprising. It is consistent with some of the higher-end results from studies examining US wealth inequality and the United States does appear to show a greater inheritance effect on wealth than Canada.

[16] Inherited wealth may also have somewhat of an age effect to the extent that older people tend to inherit more than the young.

Undoubtedly, there are other egalitarian models with different assumptions that could generate less wealth inequality. However, this particular model was constructed to mimic the Life-Cycle Hypothesis—a theory that is well tested and is the dominant model that we have to explain exactly these inter-age differences in income, consumption, savings, and wealth. As well, the basic assumptions used here are broadly similar to those found in modern societies today. [17]

[17] While saving rates in Canada are relatively low, if we include forced saving via the tax system and employer pension plans, the 10% assumption seems to be reasonable. Long-term rates of return on wealth invested in a balanced portfolio of stocks (or exchange traded funds) is approximately 4% to 6% (Credit Suisse, 2016).

# Commentary

The evidence presented here suggests that the distribution of wealth in Canada is not more unequal than was the case about 28 years ago. The Gini Coefficient for net worth in Canada declined by about 12% from 1984 to 2012. The top 10% held about 52% of the wealth in 1984; by 2012 that share was down to 48%.

What are we to make of studies that track the distribution of wealth by income groupings? Statistics Canada, for example, points to the fact that, between 1999 and 2012, an increased share of wealth went to the top income quintile and a decreased share to the bottom income quintile as evidence of a growing wealth gap. First, why measure wealth inequality by looking at it through the filter of income? In what way does it improve our understanding of wealth differences? We certainly don't measure income inequality that way. Second, the use of total, pre-tax income as a representation of "income" is questionable. Over the years, total income has become less and less valid as a proxy for a household's standard of living as taxes and other deductions have increased. Most studies examining income inequality use after-tax income and when that indicator is employed here, the changes in wealth inequality by income quintile are found to be very small (with no change in the share going to the top quintile).

These results will be surprising to many students of the Canadian economy. Over the past three decades, there have been significant changes in society that we expect would have increased wealth inequality.

### 1 The aging of Canadian society

There is now a much higher proportion of people over 65 than in the past (Statistics Canada, 2015). It is this age cohort that has seen the largest increases (by far) in wealth, as the information in table 7 shows.

### 2 Increased participation in post-secondary education

There has been increased participation by young people in post-secondary education, especially in the 1980s and 1990s (Berger, 2009). This means that we have more young people delaying wealth acquisition until their late twenties, pushing more of them into the very bottom of the wealth distribution.

### 3 Increased female participation in the labour force

In 1981, about 61% of females between 25 and 54 were in the labour force. By 2012, that number was about 82% (Statistics Canada, 2016). This increase means that there were many more two-income families and, for those households,

wealth acquisition would, on average, accelerate. That, in combination with assortative mating, [18] would tend to stretch out the distribution of wealth, making it more unequal.

4 Increase in dependency

Since the 1980s, there has been an increase in the number and proportion of the population who are reliant on welfare over the long term (Caledon Institute of Social Policy, 2015). This kind of permanent dependency keeps people trapped at a very low, near-poverty, state of existence that makes it almost impossible to acquire assets of any significance. Perhaps more importantly, there are built-in disincentives in these programs, making it very difficult for people to become independent and improve their living standard.

5 Increase in "superstar" incomes

While the data here is sketchy, there appears to be a disproportionate increase in the salaries/incomes of our sports, entertainment and executive stars. For example, there are several thousand players in the NHL, most of them from Canada. The average salary of NHL players in real dollar terms has almost tripled from 1993 to 2012 (Yam, 2005; Burke, 2012). In a study of top 100 Canadian executive salaries, the CCPA found that the average for that group in 2014 (almost $8 million per year) was up about 22% from six years earlier (Mackenzie, 2016). According to tax-filer data for Canada, the after-tax incomes of the top 1% increased (in real dollar terms) by about 75% between 1982 and 2010 (and for the top 0.1%, after-tax incomes have fully doubled in real terms). Over the same period, there has been almost no apparent increase in the real incomes of the bottom 99% (Citizens for Public Justice, 2013). All of this suggests that the much higher incomes at the top end not only stretch of the distribution of income but also will likely increase wealth inequality because of the enhanced capacity of high-income households to accumulate net worth.

The fact that wealth inequality has not increased (and, according to the main indicator, has actually declined) implies that there were other factors working to reduce wealth inequality. The share of wealth owned by the middle 60% (and especially the top end of that middle) has increased over time. Perhaps the increases in human capital and skill development over the period has worked to bolster the middle and thereby reduce inequality. The disproportionate rise in home prices combined with lower borrowing costs may also have helped to strengthen the balance sheets of the middle class. The increase in the underground economy and in underreported incomes may have contributed,

[18] That is, the tendency of similar people, and similarly successful and able people, to marry each other. See Greenwood, Guner, Kocharkov, and Santos, 2014.

indirectly, to some degree of wealth equalization (Dunbar and Fu, 2015). Finally, the concerns about data quality outlined earlier in this publication suggest that our information on net worth may not be reliable.

The evidence presented in this paper also supports the view that inheritances are not significant in Canada. The study by Morissette and Zhang (2006) concluded that less than 5% of the wealth gap in Canada is explained by inheritances. Evidence from the United States also points to the view that inheritances do not play a dominant role in wealth holding. Indeed, a recent study by Edward Wolff of New York University (Wolff and Gittleman, 2011) concludes that inheritances actually have an equalizing impact on the distribution of wealth in the United States.

What is it about wealth inequality that bothers social justice advocates, including many academics and people with a voice in the media? Is it merely a matter of envy, that is, people wishing they had the wealth and life styles of rich people but dressing that up to make it look like a moral objection? Let's set envy aside and examine some of the stated arguments against inequality of wealth.

### 1 The rich don't need all of the wealth they have

The rich have wealth in excess of what they need to live comfortably and so it is only "fair" that they be compelled to share some (or all) of that excess with others who have less. The ability to importantly improve the lives of poor people at a modest cost to the rich is a sufficient justification for wealth redistribution. This is a utilitarian argument that rests on the premise that people either have no real "rights" to property or, even if they do, the state can override those rights if it is for the common good.

### 2 Great wealth inevitably means great power over others

Harvard philosopher T.M. Scanlon asks if the concern about differences between what people have is not mere envy? He outlines several reasons why we might object to wealth inequality that go beyond envy. His principle argument is that inequality can give wealthier people an "unacceptable degree of control over the lives of others" (Scanlon, 2014: 2). The rich have more power to direct resources (including labour and capital) towards ends of their choosing. They exercise that power not only by their purchases by also by their ability to control the businesses they own and the people they employ. Scanlon uses the example of a wealthy person owning a media outlet which, he argues, "can give control over how others in society view themselves and their lives, and how they understand their society" (Scanlon, 2014: 2).

### 3 The rich have the power and the incentive to influence political decision-making in ways that favour their interests

Scanlon also makes the point that economic inequality can undermine the fairness of political institutions because people who hold elected offices must

depend on campaign contributions and will be more responsive to the interests and demands of wealthy contributors (Scanlon, 2014: 2). The recent US election has highlighted concerns about the cronyism and the rich getting unfair advantages on taxes, regulations, government contracts, and so on.

### 4 Economic inequality (of both income and wealth) adversely affects opportunity

Economists have typically argued that, in fact, economic inequality has a strong incentive effect encouraging people to work harder and smarter to improve their living standard. In a sense, successful people (especially those who have emerged from modest backgrounds) are role models and their stories provide inspiration for those less well off. However, weighing against the incentive effect is a concern that inequality itself may hamper opportunity. The mechanism through which that might work can be articulated as follows:

> [I]nequality directly undermines equality of opportunity, likely through a variety of mechanisms. As the gap between the rich and poor widens, lower-income families have less ability relative to their rich counterparts to invest in enrichment goods for their children. Children from families with less income have relatively less extensive and privileged social networks and, compared to their rich peers, are more likely to experience the type of "toxic" stress that can hamper brain development and long term academic, health, and economic outcomes. (Bernstein and Spielberg, 2015)

While this argument is framed in terms of income inequality, it appears to fit as well with wealth differences. The idea that economic inequality can actually, by itself, hamper opportunity has been expressed recently by former President Obama. In his October, 2016 guest article in the *Economist* magazine, he stated: "That's the problem with increased inequality—it diminishes upward mobility. It makes the top and bottom rungs of the ladder "stickier"—harder to move up and harder to lose your place at the top" (Obama, 2016).

### 5 Opposition to wealth inequality is driven primarily by ideology

A core principle of socialism is equality of outcome. Adherents believe that the only good, fair, and successful society is one that is equal. Socialists may employ other arguments to achieve this goal but it is the goal of equality that is important. Thus, it is reasonable to use whatever works to convince voters and politicians that economic inequality is bad and that government intervention and redistribution are appropriate ways to remedy inequality.

What are we to make of these arguments against wealth inequality? Setting aside points 3 and 5 for the moment, it is easy for skeptics to find these arguments less than compelling. Utilitarianism is a serious problem for anyone

who values liberty and who believes that every one of us has fundamental rights that no one (or no group) can violate. Unless you have acquired wealth by theft, coercion or other immoral means, the wider society has no right to forcibly take some or all of your wealth no matter what benefits it might bring to others. [19]

The argument that economic inequality hampers opportunity and upward mobility is simply not convincing. Poverty, as opposed to inequality, may be a barrier to opportunity. If people are too poor to acquire basic skills to get a foothold in the labour market or too poor to afford land in an agricultural society, that may well prevent them from moving forward to improved living standards. However, the link between inequality itself and opportunity is simply not there. Imagine a society where we have high levels of inequality (both wealth and income) but where the lowest incomes are over $100,000. No one lacks the means to acquire the things they or their children need for upward mobility. If a few more billionaires enter that society, what impact does that have on opportunity? It is not inequality, *per se*, that represents the barrier.

Bill Gates, Mark Zukerberg, Jeff Bezos, Sergei Brin, and Warren Buffet: these are few of the world's wealthiest people, multi-billionaires all. What power do they have over us? In what ways do they limit our autonomy and or ability to make choices to improve our own lives? An argument can be made that each of these people (and the companies they created) actually expand our choices and reduce the power of earlier entrenched interests and the inefficient use of capital. For sure, they control and direct resources within their own companies but any other CEO (including a bureaucrat appointed by the state) would have a similar power. And any wealthy person who owns a media outlet certainly has a voice but that voice is in a highly competitive market of information and entertainment. And again, if a non-wealthy person (or committee) was in control of a media enterprise, they would have that same power and voice. Is it possible that the real objection is having someone who has been financially successful and who might have capitalist sentiments in charge rather than someone with a different perspective?

The argument (#3) that the wealthy, as benefactors, can (and do) buy favours from their political friends has some merit. But the problem here surely lies with the political system and not with wealth itself. A truly accountable government needs to have mechanisms in place to prevent any kind of corruption or cronyism.

[19] This, of course, raises broader questions about the appropriate role of the state and when it is justified to interfere with the freely made decisions of individuals and the consensual arrangements and transactions between citizens. These questions clearly go beyond the scope of this paper.

# Conclusion

This paper has attempted to address two questions: "Is wealth inequality in Canada increasing?" and "What is driving the wealth inequality that we observe?" The empirical evidence presented here strongly suggests that, at least in recent decades, wealth inequality in Canada has not increased. As well, the evidence here appears to support the view that the life-cycle effect, which tells us that, for most people, wealth accumulation is a steady, lifelong process, is the dominant explanation for observed differences in wealth.

Specifically, we note that there has been a 17% decline in the Gini Coefficient (the most popular indicator of inequality) on Canadian net worth between 1970 and 2012. As well, both top decile share and top quintile share have declined over the same period, although by a smaller percentage. Even if we look at wealth inequality by income quintile (a dubious measure of wealth inequality to be sure) and use after-tax income as our definition of income, wealth inequality, at least since 1984, has not changed in any significant way. The fact that wealth inequality has not increased has led many in the social justice community to focus attention, rather, on the degree of wealth inequality. The fact that the top 20% of Canadians own about 67% of the wealth and the bottom 20% own none has been the subject of much attention and outrage.

Students of economics have long appreciated that, for most people, wealth has a predictable age pattern. The Life-Cycle Hypothesis developed in the 1950s by Modigliani and Brumberg shows that income, consumption, saving, and wealth accumulation change with age because of the natural rhythms of education, work, marriage and family formation, pension saving, and retirement. This means that, even if everyone were identical, there would be substantial wealth inequality because, at any point in time, we have people at different points in their life cycles. Of course, everyone is not identical and there are differences in wealth that are not due to age. The critical point here is that life-cycle effects, alone, are capable of explaining most of the observed wealth inequality in Canada.

Reasons for differences in wealth that are not related to the life-cycle effect would include skill differentials (and all of the personal characteristics that lie behind those differences); preferences and choices; luck (which would include inheritances); and institutional and policy considerations. The latter point refers to any institution, regulation, or policy that constrains (in an important way) the ability or incentive for upward mobility.

It is an empirical question as to how much of wealth inequality is explained by the life-cycle effect and how much by the other factors. Evidence from US studies about the relative importance of the life-cycle effect vary

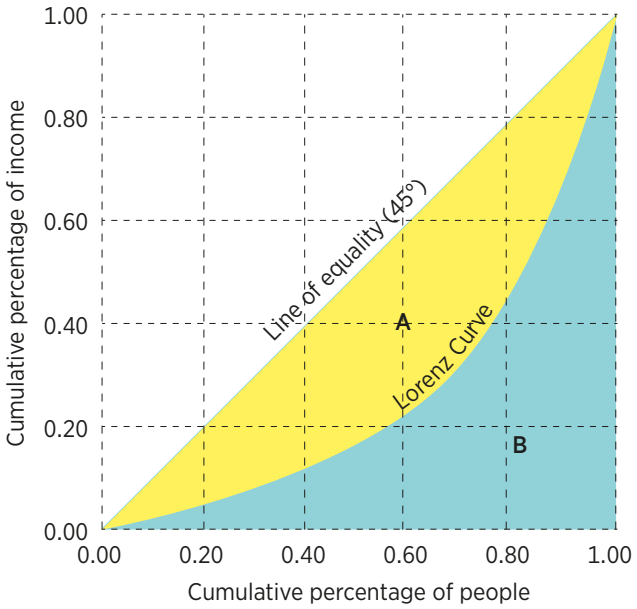
considerably—from the 30%-to-50% range to the 80% range. This paper uses a variant of the Paglin's (1975) approach and shows that the life-cycle effect in Canada likely accounts for between 80% and 87% of wealth inequality in 2012. This is a tentative result both because there are concerns about the reliability of the raw data (drawn from a Statistics Canada survey) and the fact that Paglin's methodology is not the only approach to the problem. Nevertheless, the results do appear to be consistent with many of the US studies.

There is much heat and fury about wealth inequality. This paper addresses the popular perception and finds that much of the concern is misplaced. The fact that the bottom 20% have no wealth is not surprising and is unworthy of the passion devoted to it. Many of those in the bottom wealth quintile are young and have not yet had an opportunity to accumulate any wealth. Many people with no wealth in their twenties will be in the top wealth quintile (or even top decile) by the time they retire. The paper suggests that attention could be appropriately diverted towards the issues of poverty (real deprivation) and barriers (including governmental) to upward mobility.

# Appendix A: Lorenz Curve and Gini Coefficient

The *Gini Coefficient* is an index of income equality that has been used for many years and in many countries. Its nature can best be understood by considering the *Lorenz Curve* (figure A1), which measures along the horizontal axis the cumulative percentage of people with income from the lowest to the highest level and along the vertical axis the cumulative share of income earned by them. The 45° line represents a situation in which income is distributed equally. The two axes represent total inequality as one person earns all income in the country. The curved line shows a realistic degree of equality similar in nature to that found for Canada and most countries in the world.

Figure A1: The Lorenze Curve




The calculation of the Gini Coefficient basically involves dividing the area labeled A by the areas labelled A plus B in figure A1. In other words, the Gini Coefficient (G) is G = A ÷ (A + B). If the Lorenz Curve coincides with the 45° line, the denominator of the equation is zero so that G is also zero and income is perfectly equal. If the Lorenz Curve coincides with the two axes, B is zero and the ratio G is equal to one, reflecting perfect inequality. The arithmetic formula involved in the calculation of the areas A and B using the basic data on family incomes is complex and need not be discussed here.

* Adapted from Appendix 1.B: Properties of Gini Coefficient Used as a Measure of Income Equality, in *Income Mobility: The Rich and Poor in Canada* (Grubel, 2016: 16–17).

The Gini Coefficient has some undesirable statistical properties that require that it be used with caution. Table A1 illustrates one problem. The total incomes in the two countries A and B are the same at $200,000. However, in country A, the income of the lowest quintile group is $20,000 while that in B is only $9,000. Yet, the calculated Gini Coefficient is the same for both countries, 0.2. The explanation is that incomes of the second and third quintiles in A are below those in B. For the top two quintiles, the relationship is reversed with incomes in A exceeding those in B. Analysts focusing on the incomes of the bottom quintile would declare the distribution in B to be less fair than that in A but the Gini Coefficient contradicts this conclusion.

Table A1: Different income distributions with the same Gini Index

| Household group | Annual Income ($) | |
|---|---|---|
| | Country A | Country B |
| 1 | 20,000 | 9,000 |
| 2 | 30,000 | 40,000 |
| 3 | 40,000 | 48,000 |
| 4 | 50,000 | 48,000 |
| 5 | 60,000 | 55,000 |
| Total | 200,000 | 200,000 |
| Gini | 0.2 | 0.2 |

Source: Bellù and Liberati, 2006.

There are other problems with the Gini Coefficient as a reliable guide to changes in income equality through time. Thus, the coefficient changes when the aggregation of the basic data goes from deciles to quintiles and when previously single income earners form families.

# Appendix B: Simulation Exercise—Egalitarian Society, part 01

## Lifetime earnings and wealth simulation model

| Number | Age (years) | Income ($) | Saving ($) | Wealth ($) |
|---|---|---|---|---|
| [Basic assumptions of simulation ➡ | | 1.02 | 10.000% | 1.05] |
| 1 | 16 | 0.00 | 0.00 | 0.00 |
| 2 | 17 | 0.00 | 0.00 | 0.00 |
| 3 | 18 | 0.00 | 0.00 | 0.00 |
| 4 | 19 | 5,000.00 | 0.00 | 0.00 |
| 5 | 20 | 6,000.00 | 0.00 | 0.00 |
| 6 | 21 | 30,000.00 | 0.00 | 0.00 |
| 7 | 22 | 30,600.00 | 0.00 | 0.00 |
| 8 | 23 | 31,212.00 | 0.00 | 0.00 |
| 9 | 24 | 31,836.24 | 0.00 | 0.00 |
| 10 | 25 | 32,472.96 | 0.00 | 0.00 |
| 11 | 26 | 33,122.42 | 0.00 | 0.00 |
| 12 | 27 | 33,784.87 | 0.00 | 0.00 |
| 13 | 28 | 34,460.57 | 3,446.06 | 3,446.06 |
| 14 | 29 | 35,149.78 | 3,514.98 | 7,133.34 |
| 15 | 30 | 35,852.78 | 3,585.28 | 11,075.28 |
| 16 | 31 | 36,569.83 | 3,656.98 | 15,286.03 |
| 17 | 32 | 37,301.23 | 3,730.12 | 19,780.45 |
| 18 | 33 | 38,047.25 | 3,804.73 | 24,574.20 |
| 19 | 34 | 38,808.20 | 3,880.82 | 29,683.73 |
| 20 | 35 | 39,584.36 | 3,958.44 | 35,126.36 |
| 21 | 36 | 40,376.05 | 4,037.61 | 40,920.28 |
| 22 | 37 | 41,183.57 | 4,118.36 | 47,084.65 |
| 23 | 38 | 42,007.24 | 4,200.72 | 53,639.61 |
| 24 | 39 | 42,847.39 | 4,284.74 | 60,606.33 |
| 25 | 40 | 43,704.34 | 4,370.43 | 68,007.07 |
| 26 | 41 | 44,578.42 | 4,457.84 | 75,865.27 |
| 27 | 42 | 45,469.99 | 4,547.00 | 84,205.53 |
| 28 | 43 | 46,379.39 | 4,637.94 | 93,053.75 |
| 29 | 44 | 47,306.98 | 4,730.70 | 102.437.13 |
| 30 | 45 | 48,253.12 | 4,825.31 | 112.384.30 |
| 31 | 46 | 49,218.18 | 4,921.82 | 122.925.34 |
| 32 | 47 | 50,202.54 | 5,020.25 | 134.091.86 |
| 33 | 48 | 51,206.59 | 5,120.66 | 145.917.11 |
| 34 | 49 | 52,230.73 | 5,223.07 | 158.436.04 |
| 35 | 50 | 53,275.34 | 5,327.53 | 171.685.37 |

## Lifetime earnings and wealth simulation model, continued

| Number | Age (years) | Income ($) | Saving ($) | Wealth ($) |
|---|---|---|---|---|
| 36 | 51 | 54,340.85 | 5,434.08 | 185.703.73 |
| 37 | 52 | 55,427.66 | 5,542.77 | 200.531.68 |
| 38 | 53 | 56,536.22 | 5,653.62 | 216.211.89 |
| 39 | 54 | 57,666.94 | 5,766.69 | 232.789.17 |
| 40 | 55 | 58,820.28 | 5,882.03 | 250.310.66 |
| 41 | 56 | 59,996.69 | 5,999.67 | 268.825.86 |
| 42 | 57 | 61,196.62 | 6,119.66 | 288.386.82 |
| 43 | 58 | 62,420.55 | 6,242.06 | 309.048.21 |
| 44 | 59 | 63,668.96 | 6,366.90 | 330.867.52 |
| 45 | 60 | 64,942.34 | 6,494.23 | 353.905.13 |
| 46 | 61 | 66,241.19 | 6,624.12 | 378.224.51 |
| 47 | 62 | 67,566.01 | 6,756.60 | 403.892.33 |
| 48 | 63 | 68,917.33 | 6,891.73 | 430.978.68 |
| 49 | 64 | 70,295.68 | 7,029.57 | 459.557.19 |
| 50 | 65 | 71,701.59 | 7,170.16 | 489.705.20 |
| 51 | 66 | 46,470.69 | | 467.719.77 |
| 52 | 67 | 46,470.69 | | 444.635.07 |
| 53 | 68 | 46,470.69 | | 420.396.13 |
| 54 | 69 | 46,470.69 | | 394.945.25 |
| 55 | 70 | 46,470.69 | | 368.221.82 |
| 56 | 71 | 46,470.69 | | 340.162.22 |
| 57 | 72 | 46,470.69 | | 310.699.64 |
| 58 | 73 | 46,470.69 | | 279.763.94 |
| 59 | 74 | 46,470.69 | | 247.281.44 |
| 60 | 75 | 46,470.69 | | 213.174.82 |
| 61 | 76 | 46,470.69 | | 177.362.87 |
| 62 | 77 | 46,470.69 | | 139.760.33 |
| 63 | 78 | 46,470.69 | | 100.277.65 |
| 64 | 79 | 46,470.69 | | 58,820.85 |
| 65 | 80 | 46,470.69 | | 15,291.20 |

| Income | | Wealth | | |
|---|---|---|---|---|
| 829,970 | 28.97 | 5,283,211 | 50.83 | Principal: 489705.20 |
| 647,345 | 22.60 | 3,180,091 | 30.59 | Interest: 0.05 |
| 603,027 | 21.05 | 1,509,047 | 14.52 | Term: 180 |
| 516,010 | 18.01 | 419,022 | 4.03 | PMT: 3872.557542 |
| 268,489 | 9.37 | 3,446 | 0.03 | |
| 2,864,842 | 100.00 | 10,394,817 | 100.00 | |

# Appendix C: Summary Values for the Age-Wealth Pattern, 1984–2012

## Age distribution of household average after-tax income and net worth

**1984**

| Age grouping | After-tax income | Net worth |
|---|---|---|
| under 25 | 13,091.51 | 8,986.95 |
| 25–29 | 21,227.23 | 25,344.81 |
| 30–34 | 26,019.53 | 59,675.50 |
| 35–39 | 28,561.75 | 78,154.88 |
| 40–44 | 30,976.58 | 96,707.40 |
| 45–49 | 32,810.55 | 123,373.72 |
| 50–54 | 31,391.99 | 135,957.00 |
| 55–59 | 29,071.42 | 146,037.35 |
| 60–64 | 25,249.97 | 127,882.85 |
| 65–69 | 19,197.82 | 122,110.22 |
| 70–74 | 16,050.51 | 91,167.86 |
| 75–79 | 14,420.47 | 73,944.85 |
| 80 and over | 12,932.52 | 65,955.06 |

**1999**

| Age grouping | After-tax income | Net worth |
|---|---|---|
| under 25 | 16,835.99 | 33,418.49 |
| 25–29 | 32,131.44 | 59,409.34 |
| 30–34 | 40,871.94 | 114,528.87 |
| 35–39 | 43,058.13 | 149,220.72 |
| 40–44 | 44,953.46 | 195,570.92 |
| 45–49 | 49,970.64 | 266,945.66 |
| 50–54 | 50,821.96 | 343,494.68 |
| 55–59 | 45,315.92 | 376,539.04 |
| 60–64 | 34,367.72 | 391,511.81 |
| 65–69 | 31,791.98 | 368,850.17 |
| 70–74 | 28,711.60 | 310,075.50 |
| 75–79 | 27,844.04 | 291,910.27 |
| 80 and over | 22,601.72 | 221,525.14 |

**2005**

| Age grouping | After-tax income | Net worth |
|---|---|---|
| under 25 | 20,320.45 | 40,178.96 |
| 25–29 | 40,022.66 | 60,072.72 |
| 30–34 | 47,144.39 | 118,302.79 |
| 35–39 | 55,262.41 | 285,895.13 |
| 40–44 | 61,158.61 | 334,856.69 |
| 45–49 | 61,653.81 | 444,381.57 |
| 50–54 | 61,906.86 | 495,268.31 |
| 55–59 | 59,758.13 | 629,013.69 |
| 60–64 | 47,132.80 | 646,388.75 |
| 65–69 | 39,344.80 | 589,168.31 |
| 70–74 | 35,109.74 | 515,188.48 |
| 75–79 | 35,819.50 | 454,092.56 |
| 80 and over | 29,627.95 | 356,760.32 |

**2012**

| Age grouping | After-tax income | Net worth |
|---|---|---|
| under 25 | 23,538.64 | 55,814.45 |
| 25–29 | 50,720.59 | 175,653.16 |
| 30–34 | 60,977.49 | 203,415.76 |
| 35–39 | 70,160.16 | 318,530.57 |
| 40–44 | 72,554.65 | 465,773.09 |
| 45–49 | 84,007.25 | 660,759.07 |
| 50–54 | 80,797.97 | 735,399.97 |
| 55–59 | 74,148.03 | 839,266.38 |
| 60–64 | 60,578.77 | 888,778.23 |
| 65–69 | 55,210.98 | 968,914.10 |
| 70–74 | 48,948.26 | 760,155.89 |
| 75–79 | 47,844.37 | 680,586.93 |
| 80 and over | 41,040.15 | 579,615.86 |

# Appendix D: A Critical Look at the 2012 Viral Video, *Wealth Inequality In America*

A viral video about wealth inequality in America now has 20 million views (Politizane, 2012). It captures pretty well the level and depth of understanding of wealth by most in the social-justice community. The six minute video involves a comparison between three things: (1) what people (who were apparently surveyed but with methods, questions, and technical details unknown) believe is the distribution of wealth; (2) what people believe is the ideal distribution of wealth; and (3) the actual distribution of wealth. Because the majority of those "surveyed" thought that an ideal distribution was more equal than (1) or (3), this, for the narrator of the video, constitutes proof that people know that the US system "is skewed unfairly".

The video is superficial and somewhat dishonest. In several parts of the video there is confusion between wealth and income [1] As well, in the article that the video is based on, the authors did not actually ask respondents to state their ideal wealth distribution but rather gave them a choice between the current *wealth* distribution in the United States and the current (more equal) *income* distribution in Sweden. Respondents were asked which society they would rather join (in a Rawlsian veil of ignorance) and most stated that they preferred the more equal distribution. The fact that Sweden actually has almost the same level of *wealth* inequality as the United States (Brandmeir, Grimm, and Holzhausen, 2015: 52] did not stop the authors from concluding that "most Americans prefer Sweden". An argument can be made that the survey results simply tell us that Americans, like most people, are risk averse and does not reveal any kind of preference relating to kind of society they regard as "ideal". [2] Finally, the video contained not a whisper about the life-cycle effect. Were respondents made aware that even in a highly egalitarian society (where everyone has exactly the same lifetime wealth), there will be large differences in wealth at any point in time?

[1] For example, there is a poverty line (which is income based) right in the middle of a wealth chart.

[2] Respondents were asked to pick between two outcomes and not two "processes". A more equal wealth distribution might find more favour among respondents if it occurred naturally because everyone was equally able and made similar choices than if it occurred through aggressive redistribution and by prohibiting bequests and *inter vivos* transfers. And respondents' answers might have changed if the more equal society had living standards and average wealth at the level of a third-world nation, like Cuba.

The social justice community in Canada were sufficiently impressed by this video that they made a similar one for Canada, produced by the Broadbent Institute and narrated by Ed Broadbent (Broadbent Institute, 2014). Many of the criticisms made of the US wealth inequality video hold for this production as well. We have the same facile treatment of differences in wealth and the same expressions of shock and outrage at the fact that the bottom 20% hold virtually no wealth. The pejorative language (a more unequal wealth distribution is "worse" than a more equal one) and the call for action to change the distribution through political means implies, again, that unequal wealth is an obvious "bad" that requires no justification.

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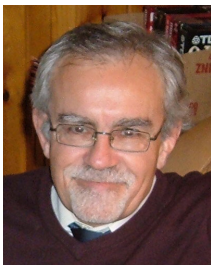
# About the Author

## Christopher A. Sarlo



Christopher A. Sarlo is Professor of Economics at Nipissing University in North Bay, and is a senior fellow at the Fraser Institute. Professor Sarlo has research interests in the areas of poverty, cost of children, inequality (income and wealth distribution), the economics of marriage and divorce, and libertarian issues.

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