

## Piercing the Veil – Private Corporations and the Income of the Affluent

Michael Wolfson, University of Ottawa, Mike Veall, McMaster, Neil Brooks, York University<sup>1</sup>

“At the end of the day, what we need is more transparency about income and wealth”

Thomas Piketty, (Interview with Amanda Lang,

<http://www.cbc.ca/player/News/TV+Shows/Lang+%26+O%27Leary+Exchange/ID/2459617460/> )

**Abstract** A great deal of attention has been given recently to trends in income inequality, especially to observations that the most dramatic changes have been occurring among the top 1%. The key source of data in Canada for these results is personal income tax returns. However, many high income individuals, using various provisions of the Income Tax Act, arrange to receive their income indirectly in private corporations. This kind of structuring of income enables lower effective income tax rates, for example by using the Small Business Deduction, benefitting from substantial tax deferral, and opportunities for income-splitting with close family members. As a result, inequality levels and trends, especially at the top of the income distribution, may be significantly biased due to the omission of such beneficially-owned income. This study draws on a new anonymous linkage of Canadian controlled private corporation (CCPC) income tax returns with a sample of their owners’ individual income tax returns under the authority and protection of the Statistics Act. We first describe the conceptualization of the role of private corporations in income inequality analysis, and the methods adopted. Initial results are presented, including the extent of use of private corporations in various forms, and the impacts on measured income inequality, especially in the upper tail of the distribution. In sum, top income shares are significantly higher when CCPC incomes are included.

**Introduction** During the past few years, the issue of income inequality has been attracting a great deal of public and media interest. There was a crescendo with the Occupy Movement shortly after the beginning of the “Great Recession” in 2008, amid concern with the growing share of income received by the top 1% (House of Commons, 2013).

Canada suffered far less from the Great Recession, but has paralleled the U.S. and some other countries in terms of a growing share of income accruing to the top 1%. Further, recent media coverage of the book by Thomas Piketty (2014) has sparked concern that without significant public policy intervention, the trend toward increasing income inequality will continue.

---

<sup>1</sup> Contact author: Michael Wolfson ([mwolfson@uottawa.ca](mailto:mwolfson@uottawa.ca)). We are deeply indebted to Xiaofen Lin for the most skillful and dedicated data analysis. This research is being funded by a SSHRC grant to study “The Economic Behaviour of the Affluent”.

Much of the recent evidence about income inequality, especially the share of the top 1%, is derived from income tax return data. For most individuals and their families, incomes reported on their individual income tax returns provide a reasonably complete measure. However, more so in Canada than in the U.S., this is not necessarily true for the wealthy. The reason is the role of private corporations. In Canada, there are significant tax planning advantages to receiving income indirectly, via CCPCs, the conventional term for Canadian Controlled Private Corporations.

The following sections provide background on the use of CCPCs in tax planning. Later sections of the paper provide a first set of empirical results on income inequality in Canada showing the role of income received in CCPCs.

**CCPCs, Tax Integration, and Tax Planning** There is a long history, in tax policy analysis, of concerns about “double taxation”. The idea is that if someone receives a dollar of income, it should be taxed at the same rate whether it is received directly, for example as a self-employed farmer, or indirectly if the farm is an incorporated business which receives the income in the first instance, and then distributes that income to the business owner. However, Canada has both a corporate income tax and an individual income tax, so the possibility of double taxation exists.

In order to address this concern, the Canadian Income Tax Act has had a series of provisions designed to prevent double taxation. For example, if the farmer (or restaurant owner or doctor) receives a dollar of income in his or her CCPC, but then pays it out the same year as a dollar of salary, that dollar is deducted from income when computing corporate income so it is not taxed at all in the CCPC, and is fully included in income for individual income tax purposes. In this case, there is no double taxation.

If the dollar of income received by the CCPC is paid out as a dividend, then another set of provisions come into play – the dividend gross-up and tax credit – the effect of which is that dividend income in the hands of individuals is generally taxed at a lower rate than other sources of income like wages and interest. In principle, this lower effective tax rate on dividends at the individual level is explicitly designed to recognize that the income has already borne tax inside the CCPC, generally at a lower tax rate, and especially lower if the CCPC is eligible for the Small Business Deduction. The idea of the dividend gross-up and tax credit is that income flowing into a corporation and then to a shareholder via dividends should bear exactly the same rate of tax as if the income had flowed to the individual directly. This principle is called the integration of the corporate and personal income tax systems. However, depending on the specific corporate and personal income tax rates applicable, and the rates of dividend gross-up and tax credit, there have often been periods over recent decades where there has been over-integration. In other words, in some cases the effect of the dividend gross-up and tax credit on income taxes payable at the individual level exceeded the amount of tax paid on the income within the corporation that was the basis for the dividends.

Perhaps even more important in terms of tax planning and avoidance<sup>2</sup>, it may be advantageous to retain the income within the CCPC for a number of years, and pay it out later. In this way, business owners can

---

<sup>2</sup> Note that tax planning and avoidance is legal, since it makes use of various provisions of the Income Tax Act.

obtain tax deferral for up to two-thirds of the tax they would otherwise have to pay had they received the income directly and were in the top income tax bracket. As shown in Appendix Table A2, in 2010 there was a \$48 billion increase in retained earnings within CCPCs, the measure of CCPC income we are using. This income was owned by someone, but is not included in the conventional income distribution statistics. \$31 billion of this income is owned directly by individual shareholders who had at least 10% of the common or preferred shares, while the rest was owned by corporation/trust shareholders and small shareholders<sup>3</sup>.

Structuring income so it flows first to a CCPC also enables the beneficial “owner” of this income to pay it out to other family members, including spouses and adult children, who may be in lower income tax brackets, or non-taxable. This strategy is called income-splitting and lowers the effective combined individual plus corporate tax rate on the income from a family perspective.

Another major benefit of using CCPCs to receive income is avoidance of capital gains tax. One way is that qualifying taxpayers will be able to use the \$800,000 lifetime capital gains exemption when transferring ownership of the business. Additionally, if the intent is to pass the business to the next generation without triggering a further capital gains realization, and the business is organized as a CCPC, the shares can be restructured and transferred by a procedure called an “estate freeze”.

As a result, it is possible that the widely publicized data on the share of the top 1% in Canada, and its trend, are significantly biased. The reason, simply, is that the published data rely only on incomes reported on individual income tax returns. These data take no account of income that may be received beneficially but indirectly through a CCPC. Nor do the data on top individuals’ income shares put together the incomes on a family basis that have resulted from income splitting tax plans using CCPCs.

The objective of this study is to pierce the corporate veil by bringing together anonymous data from individuals’ income tax returns with data on the incomes received in the CCPCs which they own. This is not an easy task. The Income Tax Act is Canada’s most complex piece of legislation. The financial incentives to use tax planning measures that make maximum use of available tax provisions can result in rather complex legal arrangements. Moreover, the corporate income tax data have never before been used for analysis at this level of detail.

As a result, this study focuses on a limited set of key results. Specifically, the main question we address is how much the share of income accrued by the top 1% (and other top income groups) changes when income received beneficially through CCPCs is included. (Income splitting and other aspects will be addressed in future planned work.)

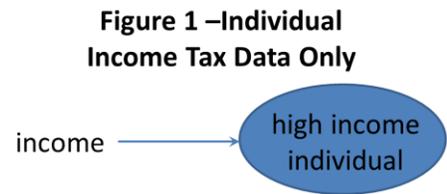
The following section provides an overview of the use of CCPCs for tax planning, and introduces key concepts that are used in the statistical analysis to follow. Then the main statistical results are presented. The key conclusions are that the share of income of the top 1% increases by about one-quarter when CCPC income is included. Further, since the Great Recession, the trends in top income

---

<sup>3</sup> Small shareholder here refers to shareholders who had less than 10% of the common or preferred shares.

shares have been increasing at a noticeably faster rate when CCPC incomes are included, compared to the trends when only incomes reported on individual income tax returns are considered.

**Why Create a Corporation** Figure 1 shows the standard approach to analyses of the incomes of the top 1%, and the shares of incomes of all the other income groups. It also indicates how the income of a high income individual would be reported if that individual did not engage in tax planning using a CCPC.



It is important to note that the income in Figure 1 can include income from a business. This would be reported as self-employment income, whether from consulting or owning a corner store. Such income is defined as revenue less the expenses incurred to earn that income. In regard to deducting expenses, in most cases (e.g. automobile or business lunch expenses) there is no particular advantage to having the income flow through a CCPC rather than directly as self-employment income.

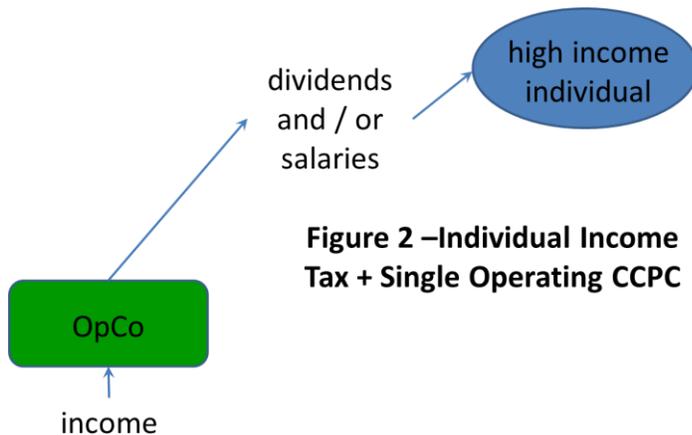


Figure 2 shows the simplest structure where instead of receiving income from a business directly, it is flowed through a CCPC. In this case, the CCPC is typically called an operating company (abbreviated OpCo in accounting and tax planning parlance). To the extent the individual needs income for living costs, in the role as a controlling shareholder, he or she arranges for OpCo to pay the owner either or both some salary and some dividends.

Most individuals do not create a structure like Figure 2. First, there are non-trivial costs for lawyers and accountants to establish the CCPC, and additional efforts to file corporation income tax, GST, and other information returns every year. So unless there are important tax planning benefits, it is usually not worthwhile for a taxpayer to create this kind of structure. However, if substantial income is at play, there are a number of important advantages of arranging affairs as in Figure 2 rather than Figure 1.

There is also one major non-tax advantage for setting up the structure in Figure 2. Historically, one of the principal reasons societies have created the legal entity of the corporation is to offer limited liability. If a business goes bankrupt, creditors can go after the assets of the corporation, but not those of its owner. This social construction of limited liability corporations is intended to enable entrepreneurs and shareholders to take greater risks, in the expectation that this will spur innovation and hence broader benefits for the economy.

But corporations have evolved to offer other benefits to their owners. From an income tax perspective, income received by OpCo in Figure 2 may be eligible for the Small Business Deduction (SBD), resulting in a reduced rate of corporate income tax – for example 15.5% in Ontario (federal plus provincial). Even if

the OpCo income were not eligible for the Small Business Deduction, it would be taxed at (and the general corporate income tax rate of 26.5% (again Ontario, federal plus provincial). Both of these tax rates are well below the top individual income tax rate which was 46.4% for a number of years and was recently raised to 49.5%.

Moreover, when the owner wants to have some of the income that has been received by and retained in the CCPC for living expenses, he or she has the discretion to pay this income out as either salary or dividends.<sup>4</sup> As salary, it is deductible to the CCPC and taxable in the hands of the individual. In this case, running the income through the CCPC is neutral in terms of the effective tax rate it bears. However, to the extent that the income is retained within the CCPC for a number of years and then paid as salary, the individual benefits from tax deferral. The taxpayer may also benefit from delaying the payout until he or she is in a lower income tax bracket. Much tax planning advice also involves minimizing a taxpayer's tax liability by choosing various elements of a shareholder-manager's remuneration, including optimizing the mix of salary and dividends (Golombek, 2010; Lynch, 2013; Beam et al., 2013).

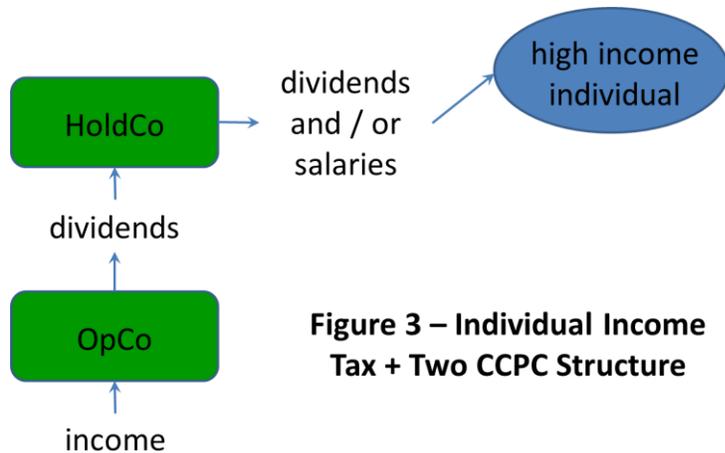
Income received in the CCPC can also be paid out as dividends. If the dividend was a "non-eligible dividend" (that is, it was paid out of profits that qualified for the SBD), the top individual level effective rate in Ontario is 34.9% (not counting the surtax); if it was an eligible dividend, the individual income tax rate is 29.5%. But taking account of the corporate tax paid, the effective tax rate on these amounts should equal what the person would have paid if they had been received directly. Thus, leaving aside tax deferral and income splitting possibilities, the current Income Tax Act provisions nominally provide close to exact tax integration. (In earlier years, the Act has sometimes allowed nominal over-integration.) Moreover, it may be that "effective" corporate income tax rates – taxes actually paid after use of various tax expenditure provisions such as accelerated depreciation, investment tax credits and others catalogued in the Dept of Finance Tax Expenditure Account (Department of Finance, 2013) – are below the nominal rates used as the basis for establishing the dividend gross-up and credit rates in the legislation.

While accelerated depreciation and investment tax credits are in principle available to the self-employed as well, they are virtually all claimed by corporations. One large exception is the Scientific Research and Experimental Development Tax Credit, which is only available to corporations, with a higher rate available for CCPCs. It is also possible to set up a "top hat" pension plan (RPP) within a CCPC which can enable the owner to defer more income than is possible with an RRSP.

Figure 3 illustrates a more complicated structure. In this case, a second CCPC has been interposed between the OpCo and the owner – a holding company (typically abbreviated HoldCo). This structure is facilitated by the fact that dividends paid by a corporation to another corporation flow tax free; so there is no tax penalty at all in terms of flowing dividend income back and forth between OpCo and HoldCo.

---

<sup>4</sup> Some money can also be loaned by the CCPC to the individual or relatives, e.g. as a mortgage on a house, though a minimal prescribed rate of interest must be charged.



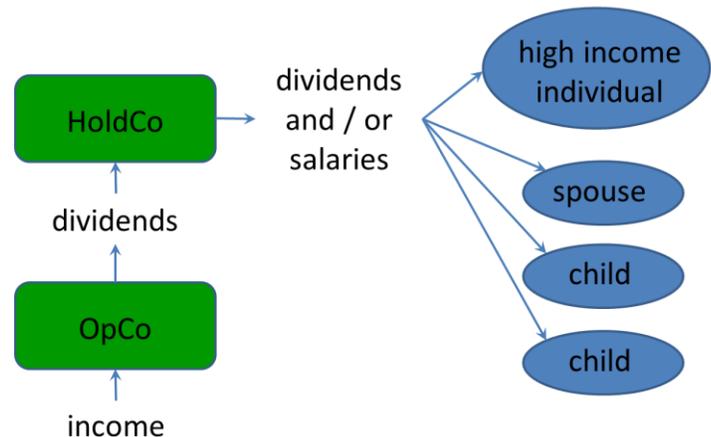
**Figure 3 – Individual Income Tax + Two CCPC Structure**

One advantage of this structure, compared to that in Figure 2, is related to limited liability. If there is any risk of bankruptcy in OpCo, yet the owner wants to continue tax deferral or other tax planning that requires the income be retained in a CCPC, then OpCo can flow its income each month or year to HoldCo, and HoldCo can keep the income until the owner wants it. There are many other possible tax planning benefits that could be realized with the structure in

Figure 3, but they are not essential to the general point: sophisticated tax planning can involve not only setting up a single CCPC to receive an individual taxpayer’s income, but also more complex ownership structures involving a number of CCPCs.

One further major benefit of creating one or more CCPCs is income splitting, as illustrated in Figure 4. It is relatively straightforward to structure the shares of the CCPC so that the principal owner has all the voting shares and thereby retains control of the business, while the spouse and adult children each own other non-voting classes of shares. The CCPC owner can then flow income from the CCPC to other family members by carefully planned declaration of different dividends on different classes of shares. To the extent that the spouse and/or children are in lower income tax brackets, the effective rate of tax, from the family’s perspective, can be substantially lowered.

**Figure 4 – Family Members’ Income Tax + Two CCPC Structure**



Similarly, the corporation can pay salaries to other family members to split income, though to do so, there must be a plausible indication that work of real value to the CCPC is being performed.

**Who Owns CCPCs** The previous section set out in general terms why it may be beneficial in terms of tax planning for individuals legally to arrange their affairs so that substantial amounts of their income flow to them indirectly via one or more CCPCs. The key empirical question is how often does this occur, and to the extent that it does occur, does it skew our understanding of the extent of income inequality in Canada.

In this section, we present results from a complex linkage of various income tax return forms. It should be emphasized that while computer files of millions of returns were drawn upon, the only results

provided to the authors were aggregated to ensure that absolutely no identifiable information was released. The main objective is to show statistical patterns

**Figure 5 – Percentage of Tax Filers Owning Over 10% of the Shares in at Least One CCPC by Income Group, 2001 to 2011**

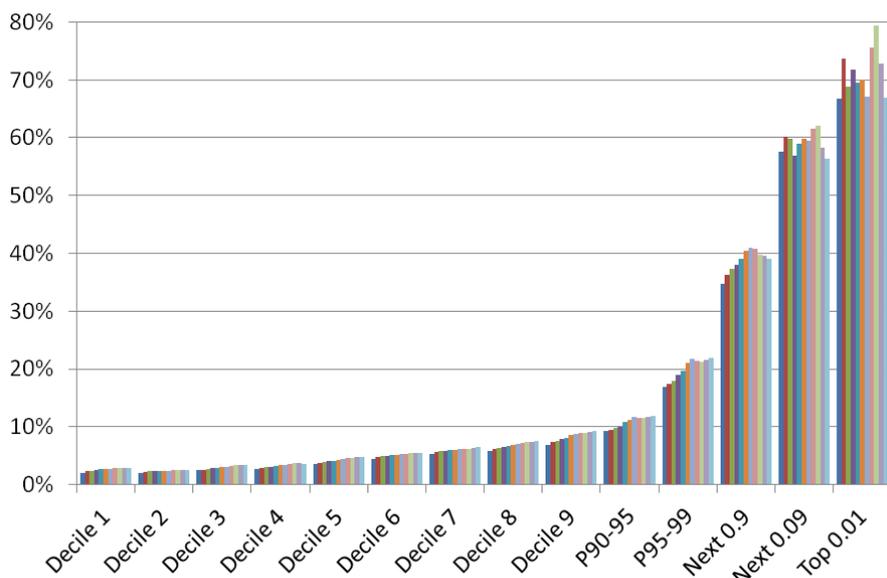
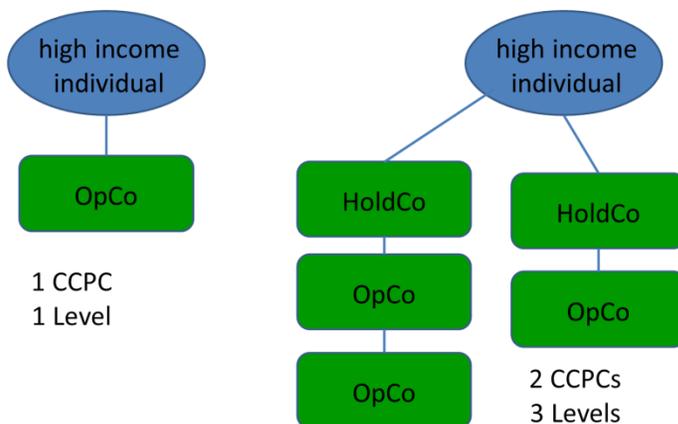


Figure 5 shows the proportions of individual tax filers owning at least 10% of the shares of at least one CCPC, arrayed by income group.<sup>5</sup> Within each income group, the series of bars tracks these ownership rates over the decade from 2001 to 2011. The most vivid result is the highly skewed pattern. At least 65%, and in some years as many as 80% of the tax filers in the top 0.01% (one hundredth of a

percent) were CCPC owners<sup>6</sup> during this decade. Well over half of those in the next 0.09% (the 99.90<sup>th</sup> to 99.99<sup>th</sup> percentiles) owned a CCPC. In contrast, fewer than 5 percent of tax filers in the bottom half of the income distribution owned a CCPC.<sup>7</sup>

As noted in Figure 4 above, there may be good tax planning reasons to structure a taxpayer’s affairs using more than one CCPC. Figure 6 illustrates this possibility with two ownership structures: the one on the left being the simplest, the one on the right involving a number of CCPCs. Based on these structures, we have defined two indicators of an individual’s CCPC ownership structure: the total number of CCPCs owned directly, and the maximum number of levels of CCPC ownership.

**Figure 6 – Two Indicators of Ownership Structure**



<sup>5</sup> Income in this case refers to individual income after income tax payments. It includes actual dividend and all capital gains income rather than grossed-up dividends as used in the dividend tax credit calculation and the fraction of capital gains that are included in the taxable income calculation.

<sup>6</sup> More precisely, owned at least 10% of at least one CCPC.

<sup>7</sup> Some of these low income individual CCPC owners may be spouses of high income tax filers.

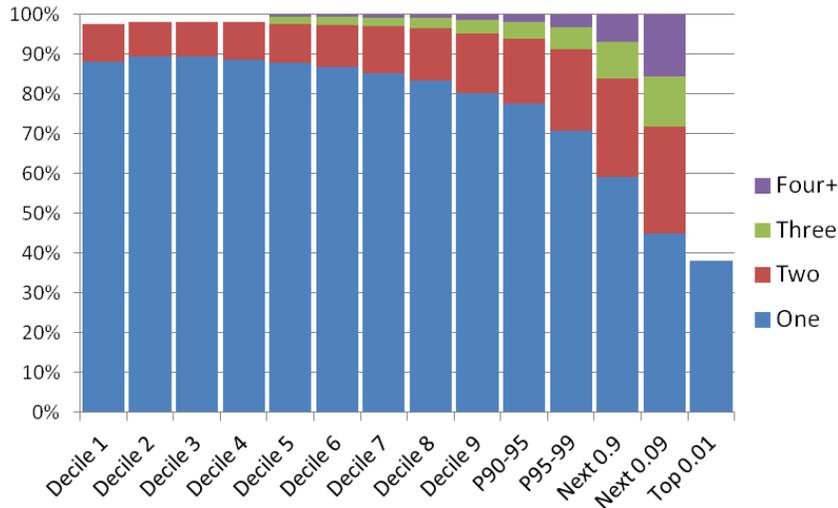
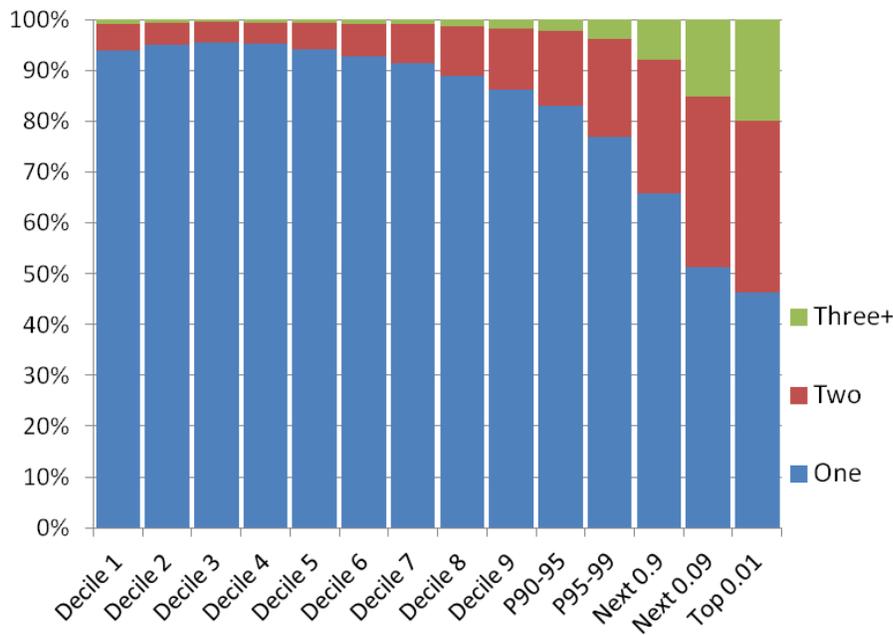


Figure 7 shows, for those who own at least one CCPC, the number of directly owned CCPCs by income group, while Figure 8 shows the maximum number of levels of CCPCs, again by income group. For both indicators of the complexity of the ownership structures, complexity increases substantially as we move up the income spectrum.

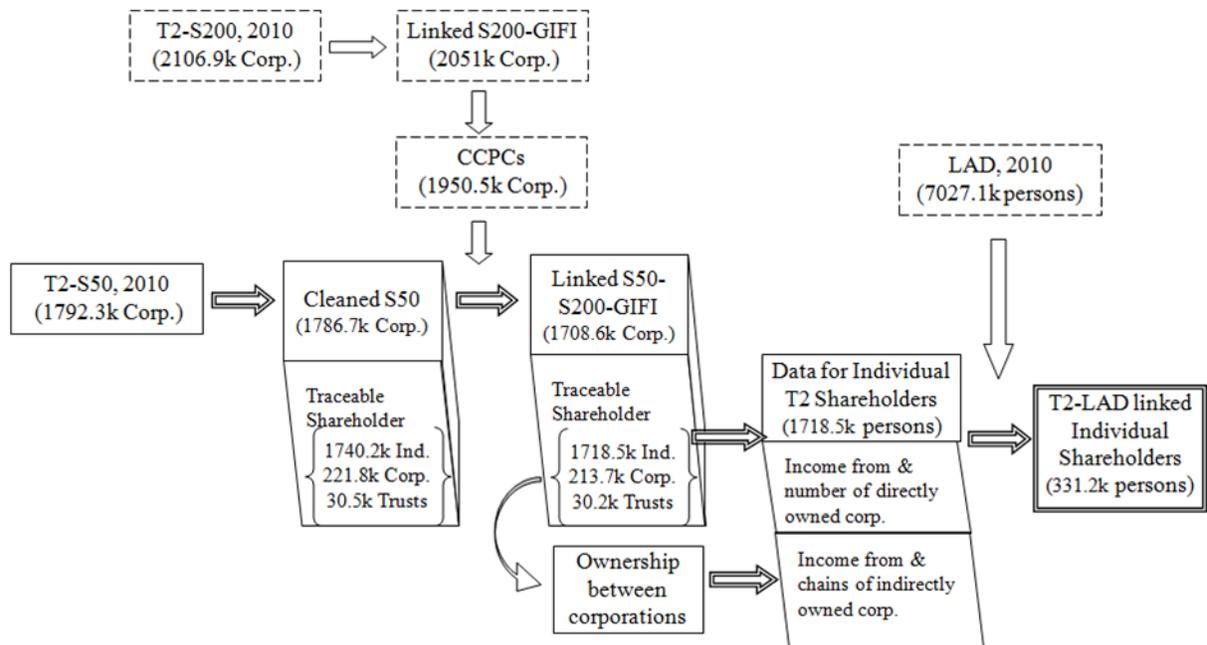
**Figure 7 – Among Owners, Number of CCPCs Owned Directly by Income Group, 2011<sup>8</sup>**



**Figure 8 – Among Owners, Maximum Number of Levels of CCPC Ownership by Income Group, 2011**

**Methods** As should be evident at this point, the corporate and individual income tax data underlying these results are highly complex. The analysis first required linkage of a number of tax return schedules. This linkage process started from three different points, as illustrated in Figure 9 with counts for 2010.

<sup>8</sup> Some details for the first four deciles and for the top 0.01% have been suppressed for confidentiality reasons.



**Figure 9 – Overall Process of Record Linkage to Create the Analysis File**

One starting point was the main corporate income tax return, the T2-S200. There were over 2.1 million corporations that filed a T2-S200 in 2010. These returns were first linked to the standardized financial information form prescribed by CRA, the GIFI (General Index of Financial Information), with 2.05 million returns successfully linked to a GIFI. Next, all corporations other than CCPCs, about 100 thousand, including publicly traded corporations, were removed, leaving about 1.95 million CCPCs.

The second starting point was the T2-S50 form which shows the share owners of each corporation whenever an owner has more than 10% of the outstanding preferred or common shares. There were almost 1.8 million corporations who filed T2-S50 forms in 2010. The vast majority had adequate identification for these shareholders – either a SIN (social insurance number) for individual shareholders, a BN (business number) for corporate owners, or a T number for trust owners.

The next key step was linking these two files – the corporate income tax returns with the GIFI financial accounting information on the one side, and the schedule showing all the owners with at least 10% of the outstanding common or preferred shares on the other. This resulted in about 1.7 million CCPCs with financial information and traceable share owners. There are three types of shareholders owning more than 10% of the shares of these CCPCs. About 1.7 million are individuals, over 200 thousand are corporations, and about 30 thousand are trusts. Just as one CCPC can have more than one owner, one unique shareholder may hold shares from multiple different corporations. Each unique traceable individual is counted in the 1.7 million individual shareholders, while each ownership relationship belonging to the shareholder is used to generate the total income flowing through CCPCs for the shareholder (see below).

The third starting point was the 20% sample of individual income tax files, the LAD (longitudinal administrative database), with about 5 million filers. The final linkage was between the 1.7 million individual shareholders on corporations' T2-S50s, and the LAD individual tax filers. Because the LAD is a 20% sample, the final linkage resulted in 331 thousand individuals owning at least 10% of at least one CCPC.

Table A1 in the appendix provides information on the main financial characteristics of the corporations – total revenue, net income, assets,  $\Delta$  retained earnings<sup>9</sup> – at each stage of this linkage process. Corporations in general received over \$3.5 trillion in revenue, and generated almost \$386 billion in net income (the entire corporate universe, first column of Table A1). But these amounts are highly skewed, indicated by the almost 20-fold difference between average (mean) sales of \$1.7 million, and median sales of \$96 thousand. The CCPC portion of the corporate universe, while numerous, comprises firms which are considerably smaller though still highly skewed – over 95% of all corporations are CCPCs, while their average revenue was about half the overall average, though the median revenue was almost unchanged from that of all corporations.

In addition to this major record linkage effort, which was done every year from 2001 to 2011 inclusive, there were two other major tasks. One is calendarization, the other is determining the appropriate percentage of each CCPC “belonging” to a given shareholder.

The majority of CCPCs have a 12 month fiscal year. But many do not; and for many of those that do, the fiscal year straddles two calendar years. Thus, it has been necessary to prorate incomes and other financial flows within each CCPC to form calendar year amounts

Also, relatively few CCPCs are 100% owned by a single shareholder. Further, a considerable number of CCPCs are owned indirectly via intermediate CCPCs as shown in Figures 2 to 4 above. Thus it is also necessary to prorate each CCPCs financial items to reflect ownership fractions.

The appendix provides additional details on the methods used.

**Major Results** The key question in this study can now be addressed: how much difference does the omission of income flowing through CCPCs make to our understanding of income inequality in Canada, including the share of the top 1%.<sup>10</sup> We focus on income after tax using three definitions. The first is the standard concept based on total income, including actual capital gains and dividends, less federal and provincial income taxes paid as reported on individual income tax returns. The second and third add the changes (“ $\Delta$ ”) in retained earnings of the corporations owned by each individual, first considering only CCPCs owned directly, and then including all CCPCs whether owned directly or indirectly. The change in retained earnings being used as “income” of the CCPCs, derived from the figures reported on the GIF1 portion of each CCPC’s corporate income tax return, is essentially the CCPCs

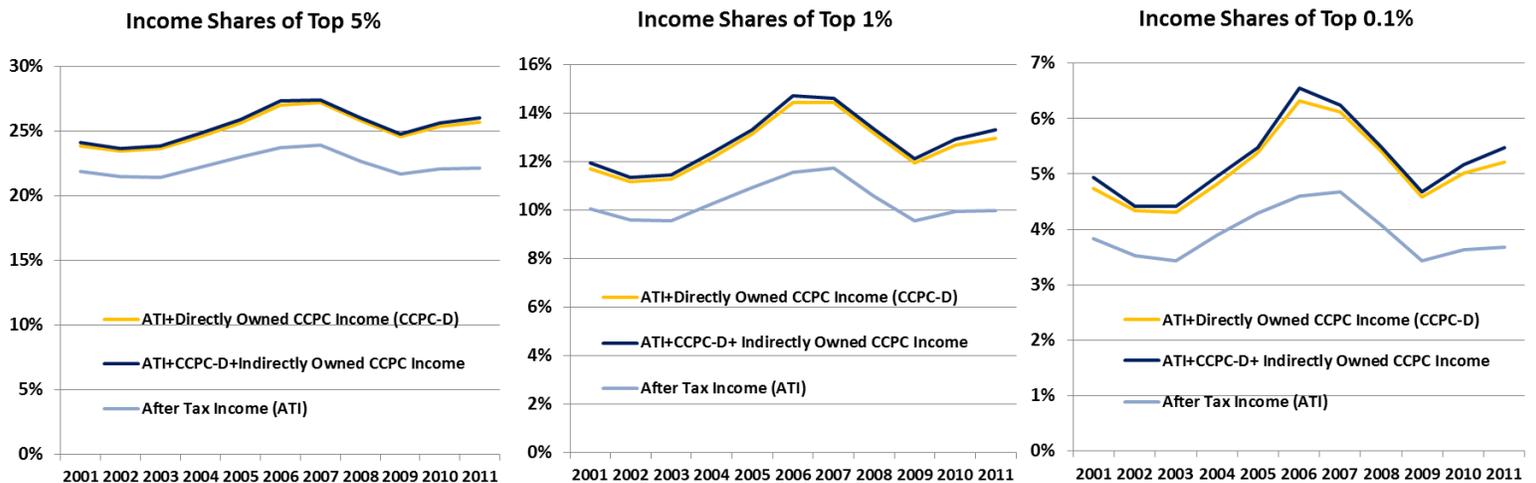
---

<sup>9</sup> Change in retained earnings, see below.

<sup>10</sup> A number of studies examine top income shares in Canada using various income definitions but do not consider CCPC income. These include Fortin, Green, Lemieux, Milligan and Riddell (2012), Veall (2012), Murphy, Roberts and Wolfson (2007) and Saez and Veall (2005, 2007).

income, less corporate income taxes paid, and less dividends paid. In this way, we avoid double counting income received in the CCPC that is then paid out as dividends to the owner.<sup>11</sup>

On the other hand, we are failing to capture any dividend payouts to the owner’s family. We are also failing to capture any wages and salaries paid to family members, which would have been deducted as business expenses in determining the CCPC’s income. There are other items involved in the accounting for the change in retained earnings for which more careful exploration will be required. Also it should be recalled that we are working with a 20% sample. Thus, the results to be reported should be considered a first approximation, and likely an under-estimate of the CCPC income beneficially received by top income individuals .



**Figure 10 – Trends in Top Income Shares by Income Definition and Top Income Group, 2001 to 2011<sup>12</sup>**

Figure 10 shows the time trends in income shares for the top 5%, top 1%, and top 0.1% before and after inclusion of CCPC income – first only for directly owned CCPCs, and then for both directly and indirectly owned CCPCs. There is a significant across-the-board increase in the shares of these top income groups when income received and retained within CCPCs is taken into account – the level of income shares in each panel and for all years moves up with the change to the more inclusive income concepts.

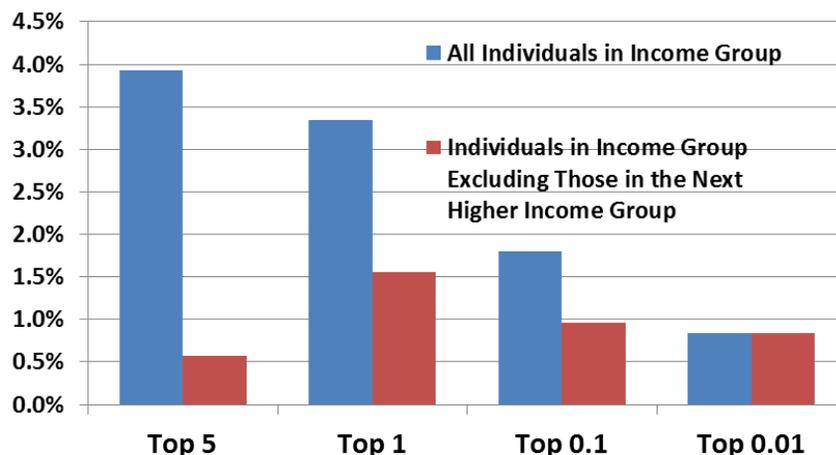
A second intriguing observation is that the incremental impact of including the incomes of indirectly owned CCPCs is quite small (i.e. moving from the middle to the top line in each panel). Most of the impact is for directly owned CCPCs (i.e. moving from the bottom to the middle lines).

<sup>11</sup> Specifically, CCPC income for our purposes here is defined as line 3849 minus line 3660 (GIFI short). The Appendix provides further details on how this amount was derived from the available data. In future analyses, we plan to examine this income definition more closely.

<sup>12</sup> Note that for each income concept, individuals have been ranked by that definition of income. Thus, individuals in the top 1% for after-tax income (ATI), for example, will generally not be the same as individuals in the top 1% for ATI plus directly owned CCPC income, or for ATI plus directly plus indirectly owned CCPC income.

Over time, the patterns of change in top shares are broadly similar: top shares increased from 2001 to 2006, just before the “Great Recession”, then declined substantially over the next three years. But looking more closely, it is notable that in the post “Great Recession” period since the 2009 low point, the recovery in top income shares has been considerably larger when CCPC income is included. The top shares appear rather flat when CCPC income is not included (the bottom line in each panel), but especially for the top 0.1% there is a significant trend increase in income share when CCPC income is taken into account. The implication is that the recent increase in income inequality at the top has been muted if not obscured by the omission of CCPC income.

Figure 11 focuses on the most recent year, 2011, and shows the change in top income shares for two income concepts: individual after-tax income as conventionally observed in the income inequality literature (and as shown in the bottom lines in Figure 10), and the broader income concept with all CCPC income added (corresponding to the top lines in Figure 10). According to the conventional measure, the top 1% received 10.0 percent of after-tax income (see also Table A3). When CCPC income is added, the share of the top 1% rises by 3.3 percentage points to 13.3%. As shown by the much lower red bar for the top 5%, almost all of their 3.9 percentage point increase in income share was in the top 1% rather than in the share of those in the 95<sup>th</sup> to 99<sup>th</sup> percentiles of income.



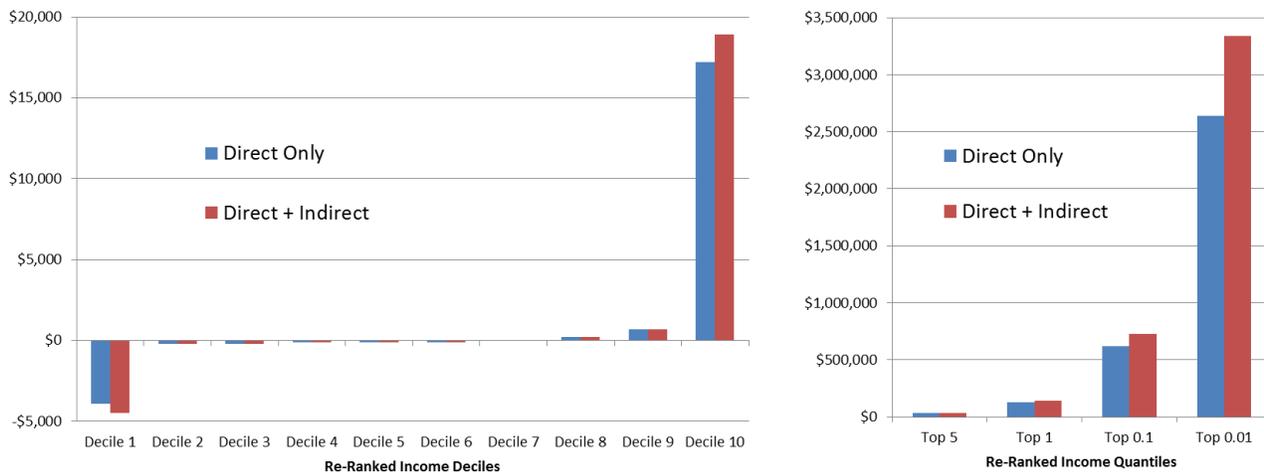
**Figure 11 – Changes in Top Income Shares from Inclusion of CCPC Income, 2011**

For the top 0.1%, the income share rises by about 40%, from 3.7% to 5.2%. And for the top 0.01%, the one in 10,000 individuals with the highest incomes, their measured income shares increased by about 60%, from 1.3% to 2.1% of income.

In terms of dollar incomes, Figure 12 shows the increases in average income for individuals attributable to owning one or more CCPCs, both directly only (blue bars) and directly plus indirectly (red bars). Underlying this graph, individuals have been ranked three times, once according to each of these specific income definitions. More precisely, the red bars show the differences between average ATI + direct CCPC income for each income group based on ranking using that income definition, minus ATI only for individuals in the same quantile income group, but ranked in terms of ATI only; a similar procedure was used for the blue bars. Thus, for example, the blue bar for the top 1% in Figure 12 shows average ATI + direct + indirect CCPC income of the top 1% of all individuals when they are ranked (i.e. sorted) by ATI income plus their direct + indirect CCPC income, minus the average ATI only of the top 1% when all individuals are ranked by their ATI. Note that by ranking individuals by their ATI

plus their direct + indirect CCPC income, we are seeing the distribution of income as it would be if income inequality data were routinely produced inclusive of beneficially owned CCPC income.

**Figure 12 – Average Amounts of CCPC Income by Income Quantile, 2011**



It is notable that CCPC income is essentially zero in the middle 80%, i.e. in the second to ninth income deciles. For the bottom decile, though, we see income losses – averaging about \$4,500. In the very top income groups, CCPC income is very highly skewed. For the top 1%, taking account of CCPC income adds over \$100,000. CCPC income adds more than \$600,000 for the top 0.1%, and it adds from \$2.7 to \$3.5 million to measured annual income for the top 0.01% (see also Table A3).

**Concluding Comments** This is the first in a planned series of papers using the anonymously linked CCPC and individual income tax sample database. Future analyses will explore what difference CCPCs make to observed progressivity and effective income tax rates across the range of incomes, how the importance of CCPCs varies by industry, the extent of income-splitting with family members, and the role of various tax expenditures in increasing or reducing after-tax income inequality once income flowing through CCPCs is taken into account.

These initial results clearly indicate an important role played by tax planning using CCPCs in Canada. Our understanding of the income shares accruing to those at the top of the income spectrum is significantly biased by their omission – income inequality is higher than conventionally measured, and the most recent trends show a divergence: the trend in top income shares since the Great Recession using conventional data is rather flat, but is upwards when private corporation income is imputed to its beneficial owners. In line with Piketty quoted at the beginning, this paper contributes to better transparency regarding the distribution of income and wealth.

## References

- Beam, Robert E. et. al., Introduction to Federal Income Taxation in Canada, 34<sup>th</sup> edition, 2013-2014, ch. 13 (Toronto: CCH Canada, 2013)
- Department of Finance (2013), *Tax Expenditures and Evaluations*, <http://www.fin.gc.ca/taxexp-depfisc/2012/taxexp1102-eng.asp#toc8>
- Fortin, Nicole, David A. Green, Thomas Lemieux, Kevin Milligan and W. Craig Riddell (2012), 'Canadian inequality: recent developments and policy options,' *Canadian Public Policy*, 121-145
- Golombek, Jamie (2010), *Rethinking RRSPs for Business Owners: Why Taking a Salary May Not Make Sense*, CIBC Private Wealth Management Small Business Report, October. <https://www.cibc.com/ca/pdf/jg-rethinking-rrsps-en.pdf>, as accessed June 11, 2014.
- House of Commons (2013), "Income Inequality in Canada: An Overview", Report of the Standing Committee on Finance (James Rajotte Chair). <http://www.parl.gc.ca/content/hoc/Committee/412/FINA/Reports/RP6380060/finarp03/finarp03-e.pdf> as accessed June 11, 2014.
- Lynch, Ciaran P. (2013), *Changes to the Dividend Tax Credit- How does this affect the self-Employed*, T. E. Wealth, August. <http://www.tewealth.com/blog/changes-to-the-dividend-tax-credit-%E2%80%93-how-does-this-affect-the-self-employed/> as accessed June 11, 2014.
- Murphy, Brian, Paul Roberts, and Michael Wolfson (2007) 'High income Canadians,' *Perspectives on Labour and Income*, Statistics Canada, September, accessed at <http://www.statcan.gc.ca/pub/75-001-x/2007109/article/4096885-eng.htm>
- Piketty, Thomas (2014), *Capital in the Twenty-First Century*, The Belknap Press of Harvard University Press, Cambridge and London.
- Saez, Emmanuel and Michael R. Veall (2005), "The Evolution of High Incomes in North America: Lessons from Canadian Evidence," *American Economic Review*, June, 831-849
- Saez, E. and M. R. Veall (2007), "The Evolution of High Incomes in Canada, 1920-2000", in A. B. Atkinson and T. Piketty (eds.) *Top Incomes Over the Twentieth Century: A Contrast Between Continental European and English-Speaking Countries*, Oxford University Press, pp. 226-308.
- Veall, Michael, R. (2012), "Top income shares in Canada: recent trends and policy implications", *Canadian Journal of Economics*.

## Appendix – Data and Methods

This paper makes use of administrative data from both corporate and individual tax returns. From the corporate tax files we make use of information from the General Index of Financial Information (GIFI) for the corporate balance sheet and income statement, and T2-Schedule 50 (T2-S50) for shareholder information. Data for individual tax filers comes from the Longitudinal Administrative Database (LAD) which is a 20% sample from the T1 Family file.

The broad strategy has been to use the T2-S50 to identify owners of CCPC's and then to associate balance sheet and income statement information on the CCPCs to their owners. This information was then linked to individual tax filer income data on the LAD to produce a longitudinal database of 20% of tax filers augmented with the corporate information.

The time period for this study is all years from 2001 through 2011. While GIFI filing process started in 1998, data quality concerns precluded using earlier years' data.

This Appendix briefly outlines these data sources, the processes used for linking the files to create the final file used for statistical analysis, and provides some more detailed data on results specifically for 2011.

**T2 Schedule 50** Beginning in 1998, all CCPCs were required to list the names of all shareholders who held more than 10% of the shares of the CCPC as part of their annual tax returns. As a result, owners of less than 10% of a CCPC are not identified, so this analysis necessarily underestimates the impact of income retained in a corporation on the incomes of shareholders.

For each shareholder, CCPCs were required to provide the name of shareholder and indicate whether the shareholder was another corporation, an individual, or a trust, and to provide the corresponding Business Number (BN), Trust (T) number, or Social Insurance Number (SIN). Additionally CCPCs are asked to provide on the T2-S50 each shareholder's percentage of common shares and percentage of preferred shares owned.

To give some idea of the magnitude of this file, in 2010 1.7 million CCPCs reported information for 4.7 million distinct ownerships. There was valid information (i.e. a valid BN or T or SIN) for 4.2 million records of these various kinds of ownerships.

**T2 Schedule 200 (GIFI income statement and balance sheet)** All corporations are required to file a T2 Corporation Income Tax Return, and as part of the return must include the GIFI financial statement information. The GIFI is a uniform list of accounting items that defines a standard set of income statement and balance sheet accounts, where each item has a unique code (for example, cash is 1001).

There were 2.1 Million corporations filing tax returns for fiscal periods that started or ended in 2010. Of these, 1.9 million were CCPCs with valid GIFI information. About 0.2 million CCPC's did not provide any valid shareholder information (presumably because none of the shareholders owned more than 10% of the CCPC), leaving 1.7 million CCPCs with both valid GIFI and valid T2-S50 shareholder information.

**Longitudinal Analysis Database (LAD)** The Statistics Canada Longitudinal Administrative Database (LAD) is an anonymized, annual 20% sample of individual tax filers for Canada from 1982 to 2011. Most recently, it contains about 5 million tax records per year. Records are linked longitudinally and are by individual filer.

We excluded from the analysis any tax returns filed in the year of death, and those for individuals living abroad. Also excluded were filers living in military barracks and in embassies.

### **Determining Ownership**

**Direct:** The T2-S50 lists owners of CCPCs who may be individuals, corporations, or trusts and who own at least a 10% share in the corporation (see Figure A1 further below). If the owner is an individual, he or she is considered a **direct individual owner**, and the corporation that he/she owns belongs to the first level of CCPCs as shown in Figure 6 in the main text. These individual shareholders are identifiable with a valid SIN reported on the T2-S50, which made it possible to link them with LAD records. The majority of T2-S50 individual owners were directly associated with only one CCPC (81% in 2010).

**Indirect:** In addition, we have identified CCPCs that are indirectly owned by an individual tax filer. When a CCPC is listed as a shareholder on a T2-S50 filed by another CCPC, an inter-corporate ownership link is established. An intermediate file was created with all these inter-corporate ownership links, based on the T2-S50 data. We were then able to connect CCPCs with other CCPCs as owners and then to individual owners whenever one of these other CCPCs had a direct owner. This procedure enabled us to identify **indirectly owned** CCPCs.

**Levels of ownership:** By applying the approach just described for indirect ownership to CCPCs that are already indirectly owned, we also identified further levels of ownership links. By repeating this approach until no more inter-corporation ownership links can be found, we can connect each CCPC, even if owned only by other CCPCs, back the first level directly owned CCPC, and then to its individual owner. The individual shareholder and all CCPCs owned directly or indirectly by the individual form a chain of ownership. All these chains belonging to the same individual form a complete ownership network, identified by using the T2-S50s. As shown in Figure 8 in the main text, most individual shareholders had only one level of ownership, i.e. a direct ownership.

**Fractions of ownership:** Given the network of ownership links just described, it was then necessary to determine what fraction of each CCPCs income (see below) should be allocated to a given individual owner. (Both directly and indirectly owned CCPCs may have more than one individual owner.)

To do this, we calculated share weights for each shareholder of a CCPC based on all of its shares reported on T2-S50. It is possible for a CCPC to issue both common and preferred shares, and for each of these types of shares to issue various classes of shares, including some with voting rights and others without. This range of share types is important for some kinds of sophisticated tax planning such as

estate freezes. However, the T2-S50 does not collect any of this detailed share information; it only makes a distinction between common and preferred shares. This data limitation importantly circumscribed our ability to determine accurately the beneficial ownership of CCPC income. As an approximation, we have given equal weight to both common and preferred shares to define ownership fractions.

To begin illustrating the method used, Figure A1 (see below) provides an actual T2-S50 with hypothetical information, where the CCPC is owned by a combination of at least the two individuals and one other CCPC shown explicitly on the return. Since the total percent of both common and preferred share ownership reported on the form is less than 100% for each type of share, there must therefore be other shareholders, where none owns 10% or more of the outstanding shares of each type, and therefore need not be listed on this form.

If we add up the reported ownership fractions, they total 80% for common shares and 80% for preferred. While it is somewhat arbitrary, the method for determining income fractions starts with the total possible ownership, 200%, as the denominator. Then in this example individual A is deemed to own  $40 / 200$  or 20% of this hypothetical CCPC.

If, in this same example, CCPC P owned a portion of CCPC Q, we use the same approach to determine what fraction of CCPC Q's income "belongs" to CCPC P.

CCPC income: As noted in the main text, we have not used net income, either for book or tax purposes, as our income concept. The main reason is that neither of these income concepts subtracts dividends paid. The owner may be paying him or herself some of these dividends, and we would be double counting such dividends if we simply added net income from CCPCs to income reported on individual income tax returns. The alternative we have used is based on retained earnings as reported on the GIFL. Each corporation filing a GIFL is required to report its retained earnings/deficit at both the beginning and end of the fiscal year. We subtract the retained earnings at the beginning of the fiscal year from the retained earnings at the end of the fiscal year in order to arrive at our concept of CCPC income (sometimes referred to as " $\Delta$  retained earnings").

Calendarization: A process of calendarization was then applied to arrive at annual income for each CCPC on a calendar year basis, to align with the accounting period for individual income tax returns.

This is necessary because the fiscal reporting periods of CCPC's do not necessarily correspond to a calendar year. In fact, the fiscal period of a corporation can start or end on any day of a calendar year, and need not always have a duration of 365 days.

For firms with fiscal periods that span calendar year boundaries (December 31 / January 1), we allocate the relevant financial flows (n.b. not stocks like assets or opening or closing retained earnings) proportionally to the number of days in each of the two calendar years involved. We then aggregate the amounts from all (short) fiscal periods that fall fully within the calendar year, and those that have been partially allocated to the calendar year, to get the calendarized total annual amounts.

For example, when calendarizing the year 2010, if the first fiscal period ran from July 23 2009 to July 22, 2010 we take the proportion of the total that fell in 2010, (i.e. the number of days of that fiscal period that fell in the calendar year divided by the total number of days in the fiscal period times the aggregate amount for the fiscal period) and add to it the similarly calculated proportion of the second fiscal period that fell within the calendar year. In rare cases where fiscal periods overlap we have given priority to the first fiscal period and reduced the pro-rated contribution of the second fiscal period to just those days that fall within the calendar year but do not overlap the first period.

Cleaning the data: Not all the microdata contained in the T2-S50 or Schedule 200/GIFI are usable. We have dropped a number of records for various reasons. The cumulative impact of these exclusions on aggregate corporate income, assets, and net retained earnings are detailed in Table A1.

The raw microdata include a number of duplicate records that were identified and removed.

Not all fields of a given T2-S50 contained valid data for the SIN or BN of the shareholder. Because these are the keys used to link to the LAD and to determine ownership chains, CCPCs without this information had to be excluded from the analysis. However, before dropping such a record, we first attempted to impute the SIN by examining data for the same entity (wherever possible) in other fiscal periods.

Not all forms received by CRA are fully completed. In some cases CCPCs filed a T2-S50 with a list of its shareholders, but did not provide the fraction information for some of the shareholders. These records have been excluded.

When filing a T2-S50, a CCPC is required to give the names of its shareholders, as well as their ID number. Although it is clearly indicated on the form that only one of the three numbers (Business number, SIN, or trust number) should be provided, in the raw data there are records where one shareholder has both BN and SIN reported. In these cases, we checked the name of the shareholder together with the validation of its associated BN and SIN to identify whether this was an individual shareholder, a corporate shareholder, or an invalid record, so that an appropriate ID number could be assigned and used to trace the shareholder and its ownership relations.

Further, some records on T2-S50s had a SIN for a given shareholder, but the name showed that this shareholder was clearly a corporation (i.e. the name ended in Ltd. or Inc.) The types of shareholders for these records are considered as un-identifiable, and thus excluded from the linkage to LAD.

As shown in the first two columns of Table A1, almost all corporations in Canada who filed a T2 and provided GIFI for at least one fiscal period in 2010 are CCPCs – 1.95 million out of a total of 2.05 million. But the 100,000 non-CCPC corporations are the largest, accounting for over half of total revenue – \$1.8 trillion out of a total of \$3.5 trillion in 2010, leaving \$1.7 trillion in the hands of CCPCs. Similarly, these non-CCPC corporations, which are mostly public corporations listed on stock exchanges, had well over half the net income – about \$230 billion out of a total of \$386 billion. The difference in assets is even more striking, with CCPCs holding only about one-quarter – \$2.7 trillion out of \$11.5 trillion.

However, the last three columns of Table A1 show that the impacts of CCPCs excluded from our analysis because they were lacking T2S-50 forms with usable shareholder information were modest. The analysis was able to use data for 1.72 million CCPCs out of a total of 1.95 million, and \$48.1 billion out of a total of \$50.0 billion of  $\Delta$  retained earnings.

Table A2 starts with the last column of Table A1, and indicates the fractions of the major financial items that were ultimately allocated to owners. \$47.8 billion out of a total of \$48.1 billion of  $\Delta$  retained earnings made by CCPCs with shareholder information can be allocated to shareholders that were reported on schedule T2-S50, leaving a residual of \$300 million belonging to those shareholders who held less than 10% of either common or preferred shares. Among the \$47.8 billion that can be assigned to shareholders on schedule T2-S50, \$30.9 billion can be assigned to individual shareholders, \$15.1 billion to corporation/trust shareholders, with the rest of 1.7 billion left untraceable due to unidentifiable shareholders as mentioned earlier in data cleaning.

**Table A1 – Schedule 200 Corporation\* and Shareholder Samples in 2010**

		All Corporations	CCPCs	CCPCs Filing T2-S50	CCPCs with share information in T2-S50
Corporations	(000's)	2,051	1,951	1,725	1,719
Total Revenue	Sum(\$M)	3,546,100	1,695,172	1,486,680	1,485,471
	Percent	100%	48%	42%	42%
	Mean (\$)	1,728,968	869,080	861,907	863,997
	Median (\$)	96,441	96,041	104,919	105,336
Net Income/Loss	Sum(\$M)	385,777	151,862	137,420	137,407
	Percent	100%	39%	36%	36%
	Mean (\$)	196,616	81,316	83,371	83,606
	Median (\$)	1,691	1,845	2,908	2,949
Assets	Sum(\$M)	11,502,956	2,680,931	2,101,751	2,099,995
	Percent	100%	23%	18%	18%
	Mean (\$)	5,608,484	1,374,459	1,218,497	1,221,424
	Median (\$)	128,183	125,221	142,360	143,130
Δ Retained Earnings	Sum(\$M)	139,425	49,952	48,081	48,082
	Percent	100%	36%	34%	34%
	Mean (\$)	69,011	25,983	27,958	28,047
	Median (\$)	-	-	-	-

\*Corporations with a Schedule 200, GIF, and at least one fiscal period in 2010

**Table A2 – Schedule T2-S50 Sample Selections, 2010 (starting from last column of Table A1)**

	T2-S50 CCPCs	With Shares belonging to Shareholders on T2-S50	Individual Shareholders	Corporate/Trust Shareholders	Other Shareholders (Non Traceable or require manual editing)
Shareholders (000s)			1,719	214	N/A
Total Revenue (\$M)	1,485,471	1,451,024	650,416	665,295	135,313
Net Income/Loss (\$M)	137,407	133,865	66,477	54,037	13,352
Assets (\$M)	2,099,995	1,997,188	852,068	918,170	226,950
Δ Retained Earnings (\$M)	48,082	47,794	30,920	15,127	1,746
Total Revenue	100%	98%	44%	45%	9%
Net Income/Loss	100%	97%	48%	39%	10%
Assets	100%	95%	41%	44%	11%
Δ Retained Earnings	100%	99%	64%	31%	4%

Table A3 provides the numbers underlying Figures 11 and 12 in the main text plus some additional data for 2011. The first three rows show the mean incomes for each of the three income concepts for all the quantile groups examined – first the ten income deciles, and then four ever smaller top income groups. Recall that for each income concept, individuals have been ranked by that definition of income.

For example, average incomes hardly change at all for deciles 2 through 9; in fact for the first 6 deciles, average incomes decrease, and there are losses in the first decile. As noted in the discussion of Figure 12 in the main text, some CCPCs experienced losses, and those CCPC owners with such losses are concentrated in the first decile. At the top of the income spectrum, in contrast, incomes increase substantially with the move to inclusion of beneficially owned CCPC income.

The next three rows show the shares of aggregate income accruing to the various income groups, again for the same three income concepts. For example, the shares of those in the middle, the 5<sup>th</sup> and 6<sup>th</sup> deciles, both drop by 0.3 percentage points when both directly and indirectly owned CCPC income is included. The share of the top 1% increases by 3.3 percentage points from 10.0% to 13.3%, i.e. by one-third.

The last three rows show the proportions of each income group who have any CCPC ownership. In these rows, the proportions shift because individuals are being ranked or sorted differently. For example, when individuals are ranked by their after-tax income alone, 2.9% of those in the bottom decile show up as CCPC owners, while 40.8% of those in the top 1% are CCPC owners. But when individuals are ranked by their after-tax income plus all their CCPC income, the proportions of owners at both ends of the income spectrum increases. The proportion of owners in the first decile increases because they have losses in their CCPCs which are now being taken into account; and the proportions in the 10<sup>th</sup> decile and

higher income groups also increase because their CCPC incomes are large. In fact, for the top 0.01%, 85.7% are CCPC owners, and their CCPC income increases their income share from 0.9% to 1.5%, a two-thirds increase.

Table A3 -- Selected Items by Income Group for Different Income concepts and Different Income Rankings, 2011

Income Concept	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Top 5	Top 1	Top 0.1	Top 0.01
<b>Mean Incomes - \$</b>														
After-Tax Income = ATI	1,700	9,100	14,500	19,200	24,500	30,800	37,700	46,200	59,200	118,100	159,800	359,900	1,328,700	4,690,600
ATI + Direct Only	- 2,200	8,900	14,300	19,100	24,400	30,700	37,700	46,400	59,900	135,300	192,400	485,400	1,950,700	7,333,000
ATI + Direct + Indirect	- 2,800	8,900	14,300	19,100	24,400	30,700	37,700	46,400	59,900	137,000	195,700	500,200	2,058,000	8,029,300
<b>Income Shares - %</b>														
After-Tax Income = ATI	0.5	2.5	4.0	5.3	6.8	8.5	10.4	12.8	16.4	32.7	22.1	10.0	3.7	1.3
ATI + Direct Only	-0.6	2.4	3.8	5.1	6.5	8.2	10.1	12.4	16.0	36.1	25.7	13.0	5.2	2.0
ATI + Direct + Indirect	-0.7	2.4	3.8	5.1	6.5	8.2	10.0	12.3	16.0	36.5	26.1	13.3	5.5	2.1
<b>CCPC Owners - %</b>														
After-Tax Income = ATI	2.9	2.5	3.3	3.7	4.7	5.5	6.5	7.6	9.3	18.7	25.6	40.8	57.4	66.9
ATI + Direct Only	6.1	2.7	2.9	3.1	3.9	4.4	5.0	5.9	8.0	22.7	33.8	60.8	76.7	84.5
ATI + Direct + Indirect	6.3	2.7	2.9	3.1	3.9	4.4	4.9	5.9	7.9	22.8	34.0	61.5	77.5	85.7
Income Concept	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Top 5	Top 1	Top 0.1	Top 0.01



Figure A1 – CRA T2 Schedule 50 (T2-S50) with Hypothetical Share Ownership Information

Name of corporation	Business Number	Tax year-end Year    Month    Day
---------------------	-----------------	--------------------------------------

All private corporations must complete this schedule for any shareholder who holds 10% or more of the corporation's common and/or preferred shares.

	Name of shareholder (after name, indicate in brackets if the shareholder is a corporation, partnership, individual, or trust)	Provide only one number per shareholder			Percentage common shares	Percentage preferred shares
		Business Number (if a corporation is not registered, enter "NR")	Social Insurance number	Trust number		
	100	200	300	350	400	500
1.	Individual A				40	0
2.	Individual B				20	51
3.	CCPC P				20	29
4.						
5.						
6.						
7.						
8.						
9.						
10.						