

Executive Compensation and Corporate Income Tax: A Question of Societal Equity

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Abstract

From the perspective of corporate social responsibility, which is intended to promote ethical and socially responsible behaviour by organisations, little research has focused on the tax avoidance that impedes governments' capacity to provide education, healthcare, security and infrastructures for managing environmental issues. Inspired by the 2014 American report, *Fleeing Uncle Sam*, this paper compares the compensation of CEOs of firms listed on the S&P/TSX Composite Index and the amount of corporate income tax these firms pay. The analysis findings show that more than 40 of the 203 sampled firms between 2013 and 2015 paid less in income tax than in CEO compensation. Nearly 70% of these firms paid no taxes or received a refund, while only a minority of them reported a net loss. Tax cuts and other generous corporate tax measures do not seem to have had the expected effect. The results of this study show that in paying little income tax, each year, firms spent less on contributing to the growth of the economy that supports them than they spent on compensating their CEO. This situation should be documented. Are these practices acceptable from a societal perspective?

Keywords: Executive compensation, Corporate taxation practice, Tax avoidance

1. Introduction

Published in 2014 by the Institute for Policy Studies and the Center for Effective Government, *Fleeing Uncle Sam* (Klinger and Anderson 2014) compares the compensation of 100 American Chief Executive Officers (CEOs) and the amount of income tax paid by their respective corporations. The study results led the authors to critique the ineffectiveness of the American taxation system as follows: "For corporations to reward one individual, no matter how talented, more than they are contributing to the cost of all the public services needed for business success reflects the deep flaws in our corporate tax system". It seems only reasonable that all of a society's entities should contribute to its prosperity according to their means. Large corporations are no exception.

This study highlights an interesting and important issue that has seldom been addressed in corporate social responsibility studies. Can a firm shirk participating in the quality of life of millions of people in the country in which it operates by avoiding paying income tax and yet at the same time pay its senior executives highly competitive compensation? Can it use public assets to create wealth without shouldering its fair share of its democratically established income tax burden? Minnick and Noga (2010) noted that pay-performance sensitivity provides longer incentive horizons for directors and executives by creating compensation contracts that motivate executives and directors to reduce long-run taxes. Could this kind of compensation constitute a transfer of wealth created by the use of a community's public assets to executives? The issues are important in the current environment since they involve concepts that are crucial to many of the country's social concerns.

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Escalating executive pay levels in an economy that is still recovering from the 2007-2008 recession have been attracting the attention of individuals and government for several years. The use of corporate tax cuts to stimulate productivity and economic growth has also spawned numerous debates. It is thus from this perspective that this study replicates the analyses of the Institute for Policy Studies and the Center for Effective Government in a Canadian context. The study findings are substantially similar to those noted in the American context. Twenty-four percent in 2013, 20% in 2014 and 27% in 2015 of the S&P/TSX Composite Index sample firms spent less on contributing to the growth of the economy that supports them than they spent on compensating their CEO. This article is divided into four major sections. The first presents the development of the theoretical framework, a description of the concepts, and a literature review summarising current knowledge on the subject. The second section covers the methodology and the collection and analysis of data, and is followed by a discussion of the results in the third section. Lastly, the final section reviews the results, the study limitations and future avenues of research.

2. Background

2.1 The Trickle-Down Theory

Under the trickle-down theory, corporate tax cuts are desirable because they promote long-term economic growth and productivity (Canadian Labour Congress 2013). The premise is that if organisations pay less tax, they will have more financial resources to invest in acquiring new assets and creating jobs. Theoretically, society as a whole would benefit from the spin-offs of the tax cuts granted. Despite the actual effectiveness of this theory being under widespread debate, it is often used to rationalize tax reforms. As the first to compare rising executive compensation and changing corporate tax rates, Klinger and Anderson (2014) make a valuable contribution to these components of corporate social responsibility. Based on their sample of the 100 highest-paid CEOs in the United States, they found that a total of 29 firms paid their CEO more in 2013 than they paid in taxes and therefore, by extension, that they had not paid their fair share of the tax burden. In addition, the 29 firms combined received tax refunds of some \$238M, whereas only 12 reported a loss during the period. Although Klinger and Anderson (2014) call attention to the astronomical sums paid to some American CEOs, they primarily focus on the firms' failure to contribute to the government and the most common tax loopholes used to avoid taxation. A number of these measures were introduced in the wake of the recession to put the economy back on its feet, but were later made permanent despite the prosperity of the firms concerned.

Although a number of studies have investigated the actual effectiveness of corporate tax cuts, there is no consensus on the issue. As mentioned above, tax cuts are often justified by the trickle-down theory, but the benefits to economic growth, investment and job creation are far from being empirically proven. A Canadian Labour Congress report entitled "What Did Corporate Tax Cuts Deliver?" (2013) maintains that tax cuts have not yielded the expected economic growth. Instead, they have helped large Canadian corporations build up cash reserves, creating "dead money" that cannot be invested elsewhere in the Canadian economy. The report also identifies corporate CEOs as the big winners since their compensation has escalated thanks to this hoarded cash. In the final analysis, the authors view tax cuts an ineffective and costly way to boost investment.

Using historical data, Stanford (2011) also noted that lowering the corporate tax rate has not had a visible impact on investment levels, which appear instead to be influenced by interest/exchange rates and GDP growth. He sees increasing public spending as a more effective way for the government to stimulate the economy, for example by expanding infrastructure instead of granting tax cuts. In studying a sample of 198 companies listed on the S&P/TSX Composite index, Macdonald (2011) found that in terms of job creation they did not keep up with the average employment growth in the Canadian economy from 2005 to 2010. Furthermore, these firms were making 50% more profit than they were 10 years earlier and paying 20% less in income tax. The study calculated that if these companies had been taxed according to the 2000 tax rate (i.e. 28%), government coffers would have been \$12 billion richer. After examining data from 10 Canadian provinces from 1977 to 2006, Ferede and Dahlby (2012) took an opposing point of view, claiming that higher corporate tax rates go hand in hand with lower private investment and slower economic growth. Their analyses suggest that a 1% cut in the corporate tax rate is related to a 0.1% to 0.2% increase in the annual growth rate. Arnold et al (2011) examined the ideal tax structure for Canada that would jump start the economy after the recession and promote long-term growth.

According to their scenario analyses, corporate income taxes impede growth since a high tax rate discourages capital investment in organisations. Income tax is usually reported in a firm's income statement (or in the note to the financial statements) as two separate amounts: tax payable and deferred tax. The tax payable is the amount of tax the firm has to pay on its taxable earnings over a given period.

It can also become a tax refund if the company has incurred a loss. Deferred income tax is an asset or liability representing a tax amount that is payable or recoverable in future periods. Deferred taxes often result from temporary differences, i.e. differences between an asset's or liability's book value and its tax value, or other past transactions. This study examines only tax payable since deferred tax is of little interest to its objective to compare the compensation amounts actually paid out in 2013, 2014 and 2015. In 2000, Canada's federal corporate tax rate was 28%, a percentage that continued to fall in subsequent years. After several reforms under Conservative and Liberal governments, it dropped to 15% in January 2012, where it has remained ever since (Canadian Labour Congress 2013). To give a concrete example of the impact of this reduction, for the period ending March 31, 2013, the federal government collected \$256.6 billion in income tax, only 14% of which was comprised of corporate income tax, compared to 49% in personal income tax. The remainder derived from GST and various other taxes. Federal and provincial income tax combined, tax thresholds range from 20% to 30% of taxable corporate income, depending on the province in which the firm's head office is located.

2.2 Executive Compensation

In addition to these studies, some researchers have investigated the various facets of the dramatic rise in CEO compensation in Canadian corporations. Based on a sample of 240 firms listed on the S&P/TSX Composite Index, Mackenzie (2015) tracked CEO compensation growth since the 2007-2008 recession. In 2013, the average compensation was pegged at \$9.2M, a figure equalled only in 2007, i.e. before the recession. Since 2008, the average CEO pay package has increased by 25%, widening the income gap even more given that the average worker's earnings rose by only 12.3% over the same period. Despite the attention and widespread criticism the issue has attracted, there does not seem to have been any noticeable change in CEO compensation levels. A number of studies have been conducted on the substantial salary increases in order to compare executive compensation from one country to the next. Comparing the compensation of Canadian and American CEOs, Southam and Sap (2010) noted a significant difference between the two for companies listed exclusively in the US and those listed exclusively in Canada. However, this difference was not observed in organisations listed on both Canadian and American markets. Using the TSX 60 Index in Canada and the 50 largest corporations in the US as a sample, Allaire (2012) observed that compensation levels were identical at the end of 2010, despite considerable differences in the past. Data on the average compensation of CEOs of firms listed on the TSX60 Index also shows that in 2010 compensation reached pre-recession (2007) levels, which appears to coincide with Mackenzie's findings (2015). Since there is no consensus on comparing compensation levels between the two countries, it was uncertain whether the findings of this analysis would be similar to those of Klinger and Anderson (2014).

Traditionally, total executive compensation is comprised of the following five components: (i) base salary, (ii) bonus, (iii) long-term bonus plan, (iv) pension plan and (v) other compensation. Base salary, which constitutes the fixed component of total compensation, is also the most common since it is paid to almost all executives. It is determined by the specific responsibilities and characteristics of the position. To establish salaries that are competitive and comparable, public corporations often use benchmarking, which consists in comparing compensation data across similar organisations. Base salary is usually re-evaluated and adjusted each year. Annual bonuses are short-term cash incentives paid to motivate CEOs to reach specific goals, be they individual or tied to company performance over a particular reference period. A firm's goals may be both financial and non-financial. The most commonly targeted financial measures are sales, earnings per share and ratios such as return on assets and return on equity (Sharma and Smith 2001).

The amounts from long-term plans are usually paid in the form of shares or stock options. A common problem with this type of compensation is that it is frequently difficult to determine its actual value, especially in the case of options. The evaluation methods used often yield a conservative estimate, with the result that the options often turn out to be of greater value than estimated in the accounting data (Mackenzie 2015, Sharma and Smith 2001). Another criticism of this type of compensation is that, despite its being intended to encourage executives to make decisions that optimize share value, it compensates them for an element over which they have no control (Martin 2009).

In reality, share prices vary according to market expectations and few are tied to a CEO's performance or corporate objectives. Some researchers and economists go so far as to claim that CEO incentives should simply be abolished because they represent the most common form of legal corruption (Mintzberg 2009). A pension plan is made up of the contributions paid into it. Although most pension plans are defined benefit pension plans, the popularity of this type of plan has recently declined because it is considered too costly and volatile. In most cases, these plans have been replaced by defined contribution plans or even, although less frequently, completely eliminated from compensation packages. Some experts even doubt the need for companies to offer their CEOs such generous pension plans, pointing out that CEOs are extremely well-paid throughout their career and have access to more than sufficient subsistence savings. However, this shift seems to be slow in gaining traction. In 2013, *The Globe and Mail* found that 50% of CEOs of the 100 largest Canadian corporations still enjoyed defined benefit plans, a figure that has scarcely varied in the last five years.

The final component, other compensation, encompasses a variety of social and indirect benefits that are not included in any of the other components. They differ widely from firm to firm but mainly include travel costs, association membership fees, company car or aircraft use, and medical and dental plans. Other compensation usually comprises a very small share of total compensation (Sharma and Smith 2001). American studies have even shown that shareholders may view excessive benefits of this kind as a sign of weak corporate governance (Yermack 2006; Grinstein, Weinbaum, and Yehuda 2017). The literature on executive compensation usually focuses far less on these two components because of their relative unimportance and the difficulty of obtaining comprehensive information about them until quite recently (Frydman and Jenter 2010). The compensation of Canadian executives has changed dramatically over the last 70 years (Allaire 2012). In the 1950s, it was largely composed of a base salary and an annual bonus, with long-term incentive plans gradually becoming more widespread. Today, stock options or other incentive plans often represent the largest compensation component, in contrast to base salaries, which are diminishing. According to Allaire (2012), long-term incentive plans accounted for 46% of the average compensation in 2010 (24% for stock purchase plans and 22% for stock options plans). Some scholars and experts (Martin 2009) see these figures as bolstering the argument that total compensation is insufficiently tied to corporate performance.

According to Mackenzie (2017), Canada's 100 highest paid CEOs on the TSX index earn the average Canadian wage by 11:47 a.m. on January 3. The average compensation of these top 100 CEOs was \$9.5 million in 2015, in comparison to a Canadian working 52 weeks that same year at the average weekly earnings rate of \$952.11 who would have earned \$49,510 (Mackenzie 2017). A Canadian worker paid minimum wage would have earned \$23,256, which constitutes a ratio of 426. The general path of CEO pay in Canada has been remarkably resistant to the state of the economy in general (Mackenzie 2017). According to Mackenzie (2017), despite a serious recession in 2008 and 2009, the average income of the top 100 CEOs has increased by 99% since 1998, in contrast to the average Canadian income, which grew by 9%. Mackenzie (2017) describes the process for establishing CEO compensation as controlled, incestuous, and circular.

Controlled because, in practice, CEOs have a lot of influence on who gets nominated to or kicked off a board. That's a powerful incentive for board members not to rock the boat. Incestuous because the typical board includes at least a couple of people who themselves are CEOs of other companies. It's not hard to see why they might not be able to work up much enthusiasm for an attack on executive compensation. Conflicted because CEO compensation is supported by, and often driven by, an executive compensation industry that largely depends on corporate management for their business and has a powerful incentive to keep management happy with them. Circular because the engine behind CEO compensation is comparisons with other CEO compensation. (Mackenzie 2017). Lastly, it should be noted that a substantial share of this compensation is paid in the form of stock options, which are subject to far less tax than salary income. In fact, from an after-tax perspective, a dollar received from the exercise of a stock option is worth two dollars of salary income (Mackenzie 2017).

2.3 Corporate Social Responsibility

The concepts of corporate citizenship and corporate social responsibility have substantially evolved over time. Matten and Crane (2005) defined corporate citizenship as the administration of a bundle of individual citizenship rights – social, civil, and political – conventionally granted and protected by governments.

From this perspective, there is some ambiguity as to whether tax avoidance and tax minimization, which are legal, unlike tax evasion, which is not, fall within the realm of corporate citizenship. For Waddock (2008), the terms “corporate citizenship” and “corporate responsibility” differ from the concept of corporate social responsibility, which connotes only companies’ efforts to directly benefit societies (e.g. philanthropy, volunteerism) or the discretionary responsibilities of the firms (Carroll 1979, Waddock 2008). The concepts of tax avoidance and tax minimization have thus not been directly associated with these concepts.

More recent studies, such as those by Sikka (2013) and Beal and Neesham (2015) have approached these concepts from new angles. Sikka (2013) sees “corporate social responsibility” as broader than simple compliance with law. “Social history is littered with laws that permitted slavery, discrimination, abuse of woman, children and workers, but their shortcomings have been contested on moral, ethical, accountability, human rights and other grounds” (Sikka 2013). Thus, legal though they may be corporate tax avoidance and tax minimization raise questions about organisations’ claims of social responsibility. How can a firm claim to be socially responsible and yet implement tax avoidance mechanisms that impede governments’ capacity to provide education, healthcare, security, pensions, clean water, or redistribute wealth to eradicate poverty, and provide a peaceful and equitable society (Sikka 2013)? Beal and Neesham (2015) introduce the concept of systematic corporate social responsibility, which they define as the moral and practical obligation of market participants to consider the effects of their actions on the desired systematic outcomes and to regulate their behaviour to contribute to their realization of these outcomes (Beal and Neesham 2015). This approach makes it easier to understand the importance of firms’ individual actions to achieve better outcomes. Beal and Neesham’s work (2015) thus helps demonstrate that tax avoidance/tax minimization efforts and exorbitant CEO compensation must not become the norm. Instead they should be documented and studied so that their impact on all corporate stakeholders can be understood. Only through awareness of these actions and their repercussions can pressure be brought to bear on deviant organisations and their executives to change their behaviour in order to achieve better societal outcomes.

3. Methodology

3.1 Data Collection

Data was collected from two sources. Information on total compensation and each of the above-described components was derived from the proxy circulars of each firm filed on the website of the Canadian Securities Administrators (www.sedar.com). Since CEO compensation is a main focus of this analysis, certain factors had to be taken into account in collecting the data. For example, when a CEO was replaced during the year, the compensation amount retained was the total of the former CEO’s compensation (including severance pay where applicable) and that of the new CEO. All the compensation amounts paid to CEOs had to be considered, whether they were paid to one or more individuals.

The taxes payable and the variables were extracted from the S&P Capital IQ database. Several variables were selected to identify the characteristics of the sample firms and, more specifically, of those the analysis identified as paying more in compensation than in taxes. These variables are as follows: total assets (in Canadian dollars), sales (in Canadian dollars), net earnings (in Canadian dollars), and two ratios – return on assets and return on equity.

3.2 Sample

The sample is comprised of firms listed on the 2013, 2014 and 2015 S&P/TSX Composite Index, which was selected for the availability and accessibility of its data and similarity with the sample used in the Klinger and Anderson (2014) study based on the compensation of the 100 highest-paid CEOs of American public corporations. Logically then, the 100 highest-paid CEOs in Canada should be executives of companies listed on the S&P/TSX Composite Index. In light of the availability of data, the final sample comprised 203 firms.

3.3 Data Analysis

The data was analysed in two successive steps. First, a descriptive analysis was performed respecting (i) the sector of activity in which the sample firms are active (ii) the total compensation components and (iii) the firms’ financial statistics (variables). Total compensation and income tax were compared using a ratio calculation for 2013, 2014 and 2015, as indicated below.

$$\frac{\text{Income tax paid by the firm (in 201X)}}{\text{CEO total compensation (in 201X)}} = \frac{\dots \text{sum (2013-14-15)}}{\dots \text{sum (2013-14-15)}} \quad (1)$$

In theory, the ratio could always be expected to be higher than 1. Canada's largest public corporations should theoretically be able to pay at least as much in income taxes as they pay in CEO compensation. A ratio below 1 indicates that the firm paid less in income tax. The ratio could be negative if a firm received a tax refund.

4. Results

4.1 Descriptive Statistics

As the following table shows, the energy and raw materials sectors alone make up about half the sample firms at 28.6% and 21.2% respectively. Firms active in the financial sector are in third place at 15.3%, followed by those in the industrial sector at 10.8%. The consumer discretionary (6.9%), utilities (5.4%), consumer staples (4.9%), information technology (3.9%), telecom services (2.0%) and healthcare (1.0%) sectors make up the rest of the sample.

Table 1 Firms by Activity Sector.

Activity sector (GICS)	Number	% of firms
Energy	58	28.6%
Materials	43	21.2%
Financials	31	15.3%
Industrials	22	10.8%
Consumer discretionary	14	6.9%
Utilities	11	5.4%
Consumer staples	10	4.9%
Information technology	8	3.9%
Telecom services	4	2.0%
Healthcare	2	1.0%

Table 2 presents the statistics on total compensation and its components for the sample firms in 2013, 2014 and 2015. According to the data collected for the more recent year (2015), the average total compensation is \$5,646,146, the median is \$3,439,211, the standard deviation is \$14,118,070, the maximum is \$198,031,062 and the minimum \$240,000.

Table 2 Components of CEO Compensation.

		Average	Median	SD	Minimum	Maximum
2013	Base salary	810,952	711,588	483,949	0	4134,000
	Bonus	1347,811	780,000	2223,970	0	25987,552
	LT incentive	2752,114	1437,499	5142,182	0	63373,359
	Pension plan	213,006	0	613,752	-1841,263	5450,000
	Other	353,732	47,256	1756,275	-961,982	17998,469
	Total	5477,614	3307,342	7741,253	270,000	90743,592
2014	Base salary	780,899	725,000	474,260	0	4237,000
	Bonus	1252,929	775,000	2037,208	0	20692,418
	LT incentive	2626,329	1636,537	6393,357	0	88689,513
	Pension plan	196,203	0	519,867	-593,013	3834,551
	Other	234,189	49,009	758,535	0	5614,716
	Total	5090,549	3591,732	6984,644	230,000	89715,019
2015	Base salary	818,420	752,265	489,545	0	4341,000
	Bonus	1128,105	682,500	1583,377	0	14455,363
	LT incentive	3358,720	1674,300	13670,778	0	194193,331
	Pension plan	184,722	0	484,314	-1273,000	4273,370
	Other	156,180	46,354	528,625	0	6532,718
	Total	5646,146	3439,211	14118,070	240,000	198031,062

All the above amounts are in Canadian dollars.

Valeant Pharmaceuticals Intl. CEO J. Michael Pearson is unquestionably the highest paid in 2015, with a total compensation of \$198,031,062. In fact, his compensation is at least six times higher than that of the CEO in second place in 2015.

Bruce C. Bone, CEO of Labrador iron ore Royalty, receives the lowest compensation at a modest \$240,000 in 2015, which is 825 times lower than the highest compensation in the sample or 119 times lower than the second highest compensation. Given the maximum and minimum total compensation amounts, it is clear that CEO total compensation varies widely.

The other three total compensation statistics reflect a fairly significant gap between the average and median amounts, which usually suggests asymmetric data. Also, in 2015 the standard deviation (\$14,118,070) is higher than the average (\$5,646,146). The coefficient of variation (calculated by dividing the standard deviation by the average) is over 0.70, signalling that the average is not particularly representative and does not adequately summarize the sample data. Calculating the individual coefficients of variation of each component yields the same conclusion. Explanation of these irregularities may be found in American studies. Frydman and Jenter (2010) showed that as CEO pay escalated over time, its distribution also became more asymmetric due to the presence of outliers, in this case particularly high or low compensations. When asymmetric information is present, using the median is recommended as it considered to be more representative than the average. It was also established above that the average is not particularly representative of the data, given the high standard deviation. A more detailed examination of the statistics for each total compensation component in 2015 shows the base salary median to be \$752,265, making this component second in terms of size. Its range of \$0 to \$4,341,000 indicates that a minority of firms pay their CEO no base salary and the total compensation is variable. At \$682,500, the median annual bonus is the third largest component in the sample. Annual bonuses range up to \$14,455,363. The largest component is the long-term incentive plan, with a median of \$1,674,300 and a maximum of \$194,193,331. This finding corresponds to that of other studies (Allaire 2012), which show it to have comprised the largest share of total compensation since the 1990s.

The pension plan and other compensation represent the two smallest components, with respective medians of \$0 and \$46,354. They are the only components with a minimum under zero, that of the pension plan being -\$1,841,263; -\$593,013; -\$1,273,000 respectively in 2013; 2014; 2015, and that of other compensations being -\$961,982 in 2013. In a few cases, CEOs had been overly compensated in the previous year, making the negative amounts adjustments. These results coincide with those of other studies (Sharma and Smith 2001) where other compensation accounts for only a very small portion of total compensation. Interestingly, the pension plan median is 0, signifying that at least half the sample firms did not pay a pension plan amount in 2013, 2014 and 2015. Table 3 sets out the financial characteristics of the 203 sample firms for 2015. On average (for 2015), they have total assets of \$43G (median = \$4.3G), sales of \$6G (median = \$1.8G) and net earnings of \$108M (median \$36M). They also show an average return on equity of 6.99 (median = 3.41) and return on assets of -3.11 (median = 0.74).

Table 3 Financial statistics of the Sample.

	Mean	SD	Median	Minimum	Maximum
2015 Tax payable ¹	125.426	293.970	30.081	-261.000	2,330.000
Deferred tax ¹	-53.651	361.073	-3.045	-3,890.143	600.000
Total assets ¹	42,817	150,198	4,296	290	1104,373
Sales ¹	6,169	10,086	1,802	0	46,894
Net earnings ¹	108	1,651	36	-7,380	9,925
ROE	6.991	168.112	3.406	-169.690	2,330.769
ROA	-3.114	12.656	0.736	-62.532	17.368

¹ In millions of Canadian dollars

The average tax payable is \$125M (median = \$30M) and deferred taxes at -\$54M (median = -3.0M), although only the tax payable is taken into account in calculating the ratio.

4.2 Key Results

The statistical data respecting the ratio obtained by dividing the tax payable by total compensation is presented below:

Table 4 Tax/Compensation Ratio.

	Mean	SD	Median	Minimum	Maximum
Ratio 2013	20.04	32.24	9.47	-76.33	162.24
Ratio 2014	24.37	43.05	10.80	-13.90	281.72
Ratio 2015	20.47	42.34	8.84	-50.70	427.18
Ratio 3 years	20.79	33.12	9.65	-20.50	233.70

Since the ratio is based on the total compensation data, it is no surprise that it also appears to present a tendency towards asymmetry and reflect an average that is not particularly representative of the sample. The minimum ratio of -76.33 is recorded for Blackberry Ltd. in 2013, which received the largest refund of all the 14 firms entitled to a tax refund (\$691.86M or \$592M in US dollars). The maximum ratio of 427.18 noted for Fairfax financial holdings was due to its CEO's low total compensation in 2015. The following section presents the results of the ratio analysis. Of a total of 203 firms, 48 or 23.65% had a ratio lower than 1 in 2013, 40 or 19.70% had a ratio lower than 1 in 2014, and 55 or 27.09% had a ratio lower than 1 in 2015. Also, over the three years, 38 or 18.72% had a ratio lower than 1. Table 5 shows the distribution of these 203 firms according to their ratio.

Table 5 Ratio Distribution

Ratio	2013			2014			2015			3 years		
	No.	(%)	Cml. (%)	No.	(%)	Cml. (%)	No.	(%)	Cml. (%)	No.	(%)	Cml. (%)
[-100, -10[	2	0.99	0.99	1	0.49	0.49	4	1.97	1.97	1	0.49	0.49
[-10, -1[	8	3.94	4.93	2	0.99	1.48	8	3.94	5.91	2	0.99	1.48
[-1, -0.1[	3	1.48	6.40	1	0.49	1.97	4	1.97	7.88	4	1.97	3.45
[-0.1, 0[	0	0.00	6.40	1	0.49	2.46	0	0.00	7.88	1	0.49	3.94
[0]	18	8.87	15.27	21	10.34	12.81	22	10.84	18.72	16	7.88	11.82
[0, 0.1]	5	2.46	17.73	4	1.97	14.78	3	1.48	20.20	4	1.97	13.79
[0.1, 1]	12	5.91	23.65	10	4.93	19.70	14	6.90	27.09	10	4.93	18.72
[1, 10]	59	29.06	52.71	55	27.09	46.80	55	27.09	54.19	68	33.50	52.22
[10, 100]	88	43.35	96.06	99	48.77	95.57	87	42.86	97.04	89	43.84	96.06
[100, ∞]	8	3.94	100.00	9	4.43	100.00	6	2.96	100.00	8	3.94	100.00
Total	203	100.00		203	100.00		203	100.00		203	100.00	

The data was divided into intervals of variable size according to a logarithmic scale adapted to the nature of the ratios. A linear scale would be biased in favour of ratios over 1. A ratio between 10 and 100 reflects a numerator 10 to 100 times greater than the denominator, while a ratio between 0.01 and 0.1 reflects a denominator 10 to 100 times greater than the numerator. Over the three years, close to half the offending firms (i.e. those paying more compensation than income tax, 16/38) have a ratio of 0 since, according to their financial information, they paid absolutely none of the income tax owing. Firms with a ratio of 0 are of particular note since the ratio is independent of the CEO's salary. It was observed that while these 16 firms paid their CEOs an annual average \$2.6M, they paid none of the tax payable. Firms that received a tax refund over the three years are in a similar position since the negative ratios cannot be compared to other ratios. In fact, they compare an expenditure (compensation) with earnings (tax refund), not two expenditures. Extremely high compensation seems to be incompatible with a tax refund, no matter what the amount. Of the eight firms with a negative ratio, seven posted a net loss for the year, even though the CEOs of these eight firms are among the highest paid in the country (annual average \$9.6M). The firm that reported a profit is Air Canada, which posted net earnings of \$409M, received a tax refund of \$8M and yet paid its CEO a total of \$7.7M annually, an amount well above the average.

A ratio of between 0 and 1 for a total of 14 firms indicates that they paid less in income tax than in CEO compensation. As Table 4 shows, four of these corporations had ratios of between 0 and 0.1, signalling that they paid over 10 times more in salaries than in taxes. The 10 other firms paid up to 10 times more in compensation than in taxes since their ratios were between 0.1 and 1. The final section of the study profiles the 38 offending firms. Twenty-two are active in the energy sector, seven in raw materials, three in financials and three in consumer discretionary.

The others are divided among three minority sectors. Naturally, as previously noted in Table 1, the large majority of the sample firms are involved in the three above-mentioned sectors. Thus, most of the firms in this subgroup have a ratio of less than 1. However, if we calculate the number of firms in the subgroup in comparison with the total number of firms in each sector, these 38 offending firms are more active in these sectors. For example, more than 57% of the offending firms operate in the energy sector, although they make up only 29% of the sample. In terms of earnings, 29 of these 38 firms reported a net loss over the three years financial statements, while all the others reported profits.

5. Conclusion

The study results are remarkably similar to those of Klinger and Anderson (2014).

Their study shows that 29 of the 100 firms with the highest paid CEOs in the United States paid more in compensation than in income tax in 2013. This study's findings reveal that one-quarter of the sample firms do not seem to pay their fair share of taxes each year. Tax cuts and other generous corporate tax measures do not seem to have had the expected effect. Not only does prior research demonstrate that corporate tax cuts are not in any way beneficial to economic growth (Canadian Labour Congress 2013) or job creation (Macdonald 2011), but the results of this study also show that in paying little income tax, each year, more than 19.7% of the S&P/TSX Composite Index sample firms spent less on contributing to the growth of the economy that supports them than they spent on compensating their CEO. This situation should be documented. Are these practices acceptable from a societal perspective? How can information be communicated so that the various stakeholders impacted become aware of these situations? Despite its contribution to research, the study has some limitations. For example, although it determined the number of firms that paid more compensation than taxes, the results are valid only for 2013, 2014 and 2015. Since the data refers only to three years, it is impossible to determine whether it represents a long term trend. Although cross-sectional, Klinger and Anderson's study (2014) is part of a series of reports, the first of which was published in 2011, which allows them to note any changes in the findings or other trends over time. For instance, they discovered that Boeing, Chesapeake Energy and Ford Motors had paid more compensation than income tax in 2010, 2011 and 2013. As well, using the S&P/TSX Composite Index as a sample limits the generalisation of the results. The sample was partly chosen for the accessibility of its data and its representativeness, in line with its objective to use a sample similar to the top 100 highest-paid CEOs in the United States. However, another sample could have been used. It is also impossible to generalise the results outside of Canada.

It could be of interest to conduct a longitudinal study over a dozen or so financial years. As in this study, the sample could be made up of firms listed on the S&P/TSX Composite Index. A longitudinal study would enable the calculation of variations in the number of firms with a ratio of less than 1 over the years and determine whether the situation appears to be improving or deteriorating. In addition, it would be possible to identify repeated offenders among the firms paying insufficient taxes. The analyses could also examine the firms' characteristics, such as their geographical reach or their governance practices.

It would be useful to apply the same approach to samples of firms from different countries to compare the results. It is unlikely that the problems plaguing the United States and Canada are not affecting other countries in the same way. These studies will shed new light on the tax systems in place and corporate practices.

References

- Allaire, Y. (2012). Pay for value: Cutting the gordianknot of executive compensation. Institute for Governance of Private and Public Organizations.
- Arnold, J. M., Brys, B., Heady, C., Johansson, A., Schwellnus, C., & Vartia, L. (2011). Tax policy for economic recovery and growth. *The Economic Journal*, 121(550), F59–F80.
- Beal, B. D., & Neesham, C. (2015). Systemic corporate social responsibility: Micro-to-macro transitions, collective outcomes and self-regulation. *Social Responsibility Journal*, 12(2), 209–227.
- Canadian Labour Congress. (2013). What did corporate tax cuts deliver? A background report for corporate tax freedom day 2013. Canadian Labour Congress.
- Carroll, A. B. (1979). A three-dimensional model of corporate social performance. *Academy of Management Review*, 4, 497–505.

- Ferede, E., & Dahlby, B. (2012). The impact of tax cuts on economic growth: Evidence from the Canadian provinces. *National Tax Journal*, 65(3), 563–594.
- Frydman, C., & Jenter, D. (2010). CEO compensation. Massachusetts Institute of Technology, Stanford University.
- Grinstein, Y., Weinbaum, D., & Yehuda, N. (2017). The economic consequences of perk disclosure. *Contemporary Accounting Research*, 34(4), 1812–1842.
- Klinger, S., & Anderson, S. (2014). Fleecing Uncle Sam: A growing number of corporations spend more on executive compensation than federal income taxes. Center for Effective Government and Institute for Policy Studies.
- MacDonald, D. (2011). Corporate income taxes, profit, and employment performance of Canada's largest companies. *Canadian Centre For Policy Alternatives*, April, 6.
- MacKenzie, H. (2015). Glory days: CEO pay in Canada soaring to pre-recession highs. *Canadian Centre for Policy Alternatives*.
- Mackenzie, H. (2017). Throwing money at the problem 10 years of executive compensation. *Canadian Centre for Policy Alternatives*.
- Martin, R. (2009). Undermining staying power: The role of unhelpful management theories. *Rotman Magazine Spring*.
- Matten, D., & Crane, A. (2005). Corporate citizenship: Toward an extended theoretical conceptualization. *Academy of Management*, 30(1), 166–179.
- Minnick, K., & Noga, T. (2010). Do corporate governance characteristics influence tax management? *Journal of Corporate Finance*, 16, 703–718.
- Mintzberg, H. (2009). No more executive bonuses. *Wall Street Journal*, 30(A17).
- Sharma, B., & Smith, A. (2001). Firm performance and executive compensation in Australia and Canada. *Journal of Comparative International Management*, 4(2).
- Sikka, P. (2013). Smoke and Mirrors: Corporate Social Responsibility and Tax Avoidance. In K., Haynes, A. Murray, & J. Dillard (Eds.), *Corporate Social Responsibility A research Handbook*, Routledge, New York, United States.
- Southam, C., & Sapp, S. (2010). Compensation across executive labor markets: What can we learn from cross-listed firms? *Journal of International Business Studies*, 41, 70–87.
- Stanford, J. (2011). Having their cake and eating it too: Business profits, taxes, and investment in Canada: 1961 through 2010. *Canadian Centre for Policy Alternatives*.
- The Globe and Mail. (2012). Executive Compensation Set to Rise. [Online] Available: <http://www.theglobeandmail.com/report-on-business/careers/executive-compensation-set-to-rise/article4349552/> (April 9, 2015).
- Waddock, S. (2008). The development of corporate responsibility/corporate citizenship. *Organization Management Journal*, 5, 29–39.
- Yermack, D. (2006). Flights of fancy: Corporate jets, CEO perquisites, and inferior shareholder returns. *Journal of Financial Economics*, 80, 211–242.