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CENTRE FOR THE STUDY OF LIVING STANDARDS

What Explains the Rising Profit Share in Canada?

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Abstract

The distribution of the gains of economic growth among workers and corporations has evolved over time. While an extensive body of literature has studied the fall in the share of labour income in the gross domestic product (GDP), less attention has been paid to the development of the components of its counterpart, the capital share. In the system of National Accounts, the capital share of income can be broken down into net operating surplus and net mixed income (which includes corporate profits before taxes, net interest paid, net other payments and inventory valuation adjustment, and net mixed income) and capital consumption allowances (CCA). This report contributes to the discussion on the rising capital share by studying the evolution of the Canadian corporate profit share in the past three decades using both financial and national accounts data. We analyze trends at the aggregate and sectoral level and compare the aggregate trends to those in the United States during the same period. We also provide an overview of the structural factors affecting the corporate profit share in Canada. According to national accounts data, the corporate profit share before tax in Canada rose 3.8 percentage points between the 1961-1999 and 2000-2017 periods, an increment that significantly enhanced the surge in the capital share of income. Similarly, the financial corporate profit share of income increased by 7.2 percentage points between 1997 and 2017. This development was widespread, with the profit share increasing in all sectors except mining, quarrying and oil, and gas extraction. It was also concentrated. We find that the financial sector, which accounts for less than one tenth of GDP, was responsible for 33 per cent of the increase in the corporate profit share. Complete time series of the profits data used in this report can be found in a profits database developed as part of this research project.

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Executive Summary

The distribution of the gains of economic growth among participants in the economy has evolved over time. The fall in the share of labour income of the gross domestic product (GDP) in Canada, despite low unemployment and moderate economic growth, has risen questions about the unequal distribution of growth and the future of work. Where have the 2.4 percentage points of income that shifted from the labour share to its counterpart, the capital share, between the 1961-1999 and 2000-2017 periods (from 58.9 per cent to 56.5 per cent) gone?

The capital share of income can be broken down into net operating surplus and net mixed income (which includes corporate profits before taxes, net interest paid, net other payments and inventory valuation adjustment, and net mixed income) and capital consumption allowances (CCA). This report contributes to the discussion on the rising profit share by studying the evolution of the Canadian corporate profit share before taxes in the past three decades using both financial and national accounts data.

The report is organized in six sections. The first section discusses the conceptual issues and data sources related to corporate profits. The second and third sections analyze trends in the corporate profit share at the aggregate and sectoral level and compare the aggregate trends to those in the United States during the same period. The fourth section reviews the literature of the determinants of both the profit share and the labour share, with special emphasis on the factors affecting the corporate profit share in Canada. These include openness to trade, technological progress, labour bargaining power, the intensity of competition, and structural changes in the composition of output. The fifth section discusses the implications of the secular rise in the corporate profit share for public policy. The final section concludes.

The key findings of this report are presented below:

- The before-tax corporate profit share on a national accounts basis in Canada rose 3.8 percentage points between the 1961-1999 and 2000-2017 periods from 5.6 per cent to 9.3 per cent. After a sharp decline during the late 1980s and the early 1990s, it has been on a clear upward trend (starting 1993).

- The profit share of the United States was higher than Canada's in every business cycle between the 1974-1981 and 1990-2000 periods, but has fallen behind Canada's profit share since the 2000s. While it increased 2.3 percentage points between the 1990-1999 and 2010-2016 periods (from 7.8 per cent to 10.1 percent), its rise was less pronounced on average than in Canada.

- Capital consumption allowances, the other main component of the capital share, have also increased as a share of national income in Canada between the 1961-1999 and 2000-2017 periods, rising from 16.8 per cent to 17.8 percent. This increase was mainly driven by the steady rise in the corporations' share of consumption of fixed capital.

- According to financial data, which unlike national accounts data for profits does include dividends received by corporations as part of revenue, the corporate profit share before tax in the Canadian economy also rose between 1997 (first year for which data from this source at the sectoral level is available) and 2017, increasing 7.3 percentage points from 12.2 per cent to 19.5 percent. This development was widespread, with the profit share increasing in all sectors except mining, quarrying and oil and gas extraction.

- The sector enjoying the largest increase in the profit share between 1997 and 2017 was finance and insurance, up 28.8 points. The second largest was information and cultural industries, up 22.32 points. In 2017, finance and insurance accounted for 29.1 per cent of total profits in the Canadian economy, up from 26.7 per cent in 1997. Manufacturing fell from 36.6 per cent to 18.2 per cent of total profits over the period.

- Banks (the depositary credit intermediation subsector of finance and insurance), as well as securities, commodities contracts and other financial investments and related activities are the central drivers of the 28.8 percentage points rise in profit shares experienced by the finance and insurance sector according to financial data (Quarterly Survey of Financial Statistics) between 1997 and 2017. As the finance sector is the main provider of credit in the economy, the striking rise of dividends and interest on consumer credit and government debt we observe in the past two decades, has translated into higher profits for the sector.

- In terms of the 7.3 percentage point increase in the aggregate profit share between 1997 and 2017, finance and insurance contributed 33 per cent to this rise, with four fifths of this contribution from the large increase in the average profit share in the sector and one fifth from the sector's rising share of GDP. Seven sectors each accounted for around one tenth of the rise in the profit share: wholesale trade; retail trade; real estate; information and cultural services; professional services; construction; and education and health services. On the other hand, developments in mining and manufacturing both reduced the aggregate profit share.

We identify two underlying forces driving the upward trend in the aggregate profit share in Canada. First, structural factors such as globalization, technological change and declining union density have weakened labour's bargaining power and hence workers' share of income, with a corresponding rise in capital's share. Second, factors specific to the financial and insurance sector, such as increased markups and market concentration, have boasted profits substantially in that sector.

From a public policy perspective, two main implications arise from the findings of this report. First, inclusive growth may be impeded by the rising profit share given that the shift in incomes, from workers to capital owners and claimants of profits (shareholders), has important consequences for income inequality. Second, the spectacular rise in the profit share of the financial sector suggests that the government should investigate whether this situation is healthy for the overall economy and to what degree it reflects increased concentration. Policies that promote greater competition in the sector, such as measures that promote fin tech innovations to intensify competition for the traditional players, should be encouraged.

What Explains the Rising Profit Share in Canada?[1]

Introduction

Does economic growth in Canada translate into widespread benefits among workers and corporations? It is well known that the share of labour income in the gross domestic product (GDP) has been declining in Canada despite low unemployment and moderate economic growth. The share of GDP going to employees decreased 2.4 percentage points between the 1961-1999 and 2000-2017 periods, from 58.9 per cent to 56.5 per cent respectively. This decline was almost doubled between 1981 and 2008, going from 59.9 per cent in 1981 to 55.3 per cent in 2008. The fall in the labour share implies a rising in some of the components of its counterpart in GDP, the capital share, which includes corporate profits, interest and investment income, net mixed income, and capital consumption allowances (CCA). This has indeed been the case for the corporate profit share, which accounts for most of the surge in the capital share. The before-tax corporate profit share on a national accounts basis in Canada rose 3.8 percentage points between the 1961-1999 and 2001-2016 periods from 5.6 per cent to 9.3 per cent. Since these trends have important implications for the government's inclusive growth agenda, it is crucial to understand the drivers of this development. The objective of this report is to shed light on the nature of this corporate profit share increase and the drivers behind this rise.

This report contains five sections. The first section discusses the conceptual issues and data sources related to corporate profits. The second section examines trends in the corporate profit share in Canada, at both the aggregate and sectoral levels. The third section compares the aggregate trends in the corporate profit share in Canada to those in the United States and briefly discusses the developments in other components of the capital share. The fourth section reviews the literature of the determinants of both the profit share and the labour share, and analyzes the factors affecting the corporate profit share in Canada. These include openness to trade, technological progress, labour bargaining power, including both the union coverage rate and employment protection legislation, the intensity of competition, and structural changes in the composition of output. The fifth section discusses the implications of the secular rise in the corporate profit share for public policy. The sixth and final section concludes.

I. Corporate Profits: Definition and Data Sources

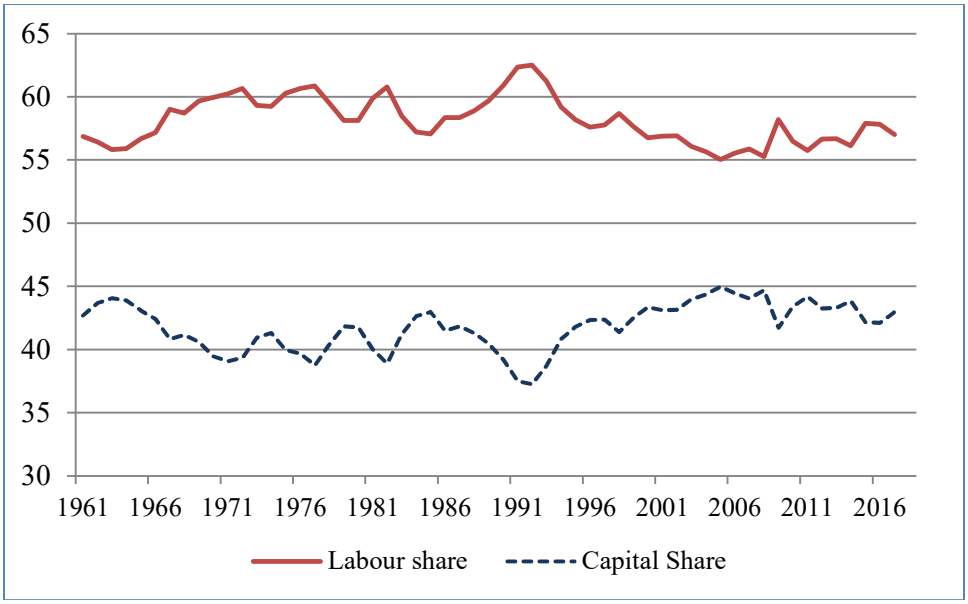
This section discusses the definitions and data sources related to the capital share of national income with a special focus on the corporate profit share. In the System of National Accounts, gross domestic product (GDP) is equivalent to gross domestic income (GDI), which is defined as the sum of the income payments incurred into the production of goods and services. This includes *compensation of employees + net indirect taxes + gross operating surplus + gross mixed income*.

[1] The report was written by CSLS economists Cristina Blanco Iglesias and Myeongwan Kim under the supervision of CSLS Executive Director Andrew Sharpe in response to a request from the Innovation, Science and Economic Development Canada (ISED). The Centre for the Study of Living Standards thanks ISED for financial support. We also thank Don Drummond, Bert Waslander, Jianmin Tang and Peter Nicholson for useful comments. Email: cblancoiglesias@gmail.com. A database on corporate profits was developed while working on the report: http://csls.ca/reports/csls2020-07-data.xlsx.

When expressed as shares of national income at factor cost (removing net indirect taxes from national income), each of these components corresponds to the labour share (*compensation of employees*) and the capital share (*gross operating surplus + gross mixed income*).[2]

Chart 1 depicts the evolution of the labour and the capital shares of national income in Canada since 1961. While the trends of the capital and labour shares between 1961 and 1992 fluctuated considerably, the decreasing trend of the labour share since 1993 is very distinctive. Since the capital share is the counterpart of the labour share once indirect taxes have been removed, the decreasing trend in the labour share that started in 1993 was accompanied with an equal rise in the capital share. Indeed, while the labour share decreased 2.4 percentage points between the 1961-1999 and 2000-2017 periods (from 58.9 per cent to 56.5 per cent), the capital share rose by 2.4 percentage points.

Chart 1: Labour and Capital Share of Nominal GDP at factor cost, Canada, 1961-2017, per cent



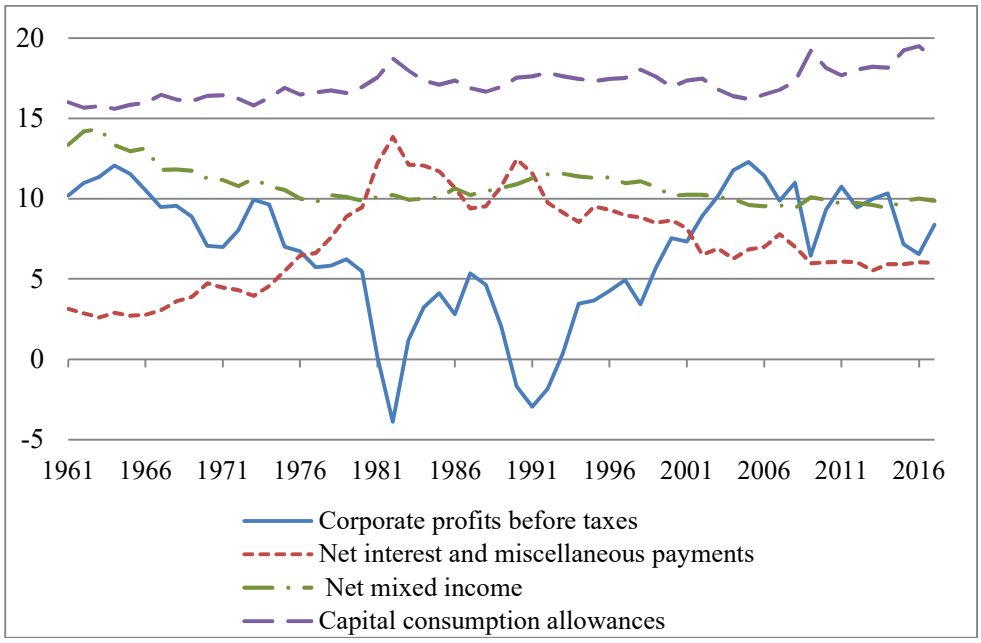
Source: National Accounts: GDP: CANSIM Table 380-0063

The capital share of income can be further broken down into net operating surplus and net mixed income (which includes **corporate profits before taxes**, interest and miscellaneous investment income, and net mixed income) and capital consumption allowances (CCA). Chart 2 depicts the evolution of the income shares of the three subcomponents of net operating surplus and net mixed income as well as the capital consumption allowances shares since 1961. Table 1 and

[2] In this report we do not adjust the estimates of the capital share to account for the two thirds of unincorporated business profits from unincorporated income that are often allocated to income instead of profit in the literature (Johnson (1954); Krueger (1999); Guscina (2006)).

Table 2 provide period and business cycle peaks figures for the breakdown of the components of the labour and capital shares from 1961 until 2017.[3]

Chart 2: Corporate Profit, Net Interest and Miscellaneous Payments, Net Mixed Income and Capital Consumption Allowances Shares of GDP at factor cost, Canada, 1961-2017, per cent



Source: GDP: CANSIM Table 380-0063; Corporate Profits: CANSIM 380-0078

The two main components of the capital share, net operating surplus and net mixed income and capital consumption allowances (CCA), have behaved differently since 1961. On the one hand, the capital consumption allowances share of national income has increased steadily through time, a phenomenon explained by the move to assets with shorter service lives. On the other hand, the net operating surplus and net mixed income share has fluctuated significantly, going up and down across different decades. If we compare the CCA and the net operating surplus and net mixed income shares between the 1961-1999 and 2000-2017 periods, however, we find that both shares of income increased over time (0.9 and 1.5 percentage points respectively).

The 1.5 percentage points rise in the net operating surplus ad net mixed income share of income can be explained by one of its three subcomponents: corporate profits before taxes. Between the 1961-1999 and 2000-2017 periods, the pre-tax corporate profits share increased 3.8 percentage points. More than half of that surge, however, was offset by the decrease in the other two subcomponents of net operating surplus and net mixed income: net interest paid, net other payments and inventory valuation adjustments and net mixed income (off by -0.9 and -1.4 percentage points between those periods respectively).

[3] A table containing percentage shares of gross domestic income at factor cost for decadal periods can be found I the Appendix I.

Table 1: Percentage Shares of Gross Domestic Income at factor cost, Canada, per cent

	1961-1999	2000-2017	Δ(2000-2017)-(1961-1999)
Gross domestic income (at factor cost)	100	100	
Compensation of employees, paid	58.9	56.5	-2.4
Net operating surplus and net mixed income	24.2	25.7	1.5
Net operating surplus: Corporations	13.0	15.9	2.9
Corporate profits before taxes	5.6	9.3	3.8
Net interest paid, net other payments and Inventory Valuation Adjustment (IVA)	7.4	6.5	-0.9
Net mixed income	11.2	9.8	-1.4
Consumption of fixed capital	16.8	17.8	0.9
Corporations	9.8	11.3	1.4
General governments and non-profit institutions serving households	3.5	3.4	-0.1
Unincorporated businesses	3.6	3.1	-0.4

Source: Statistics Canada: Corporate profits: Table 380-0078; GDP: 380-0063

Table 2: Percentage Shares of Gross Domestic Income at factor cost, Canada, business cycles peak years, per cent

	1961	1973	1981	1989	2000	2008	2017
Gross domestic income (at factor cost)	100	100	100	100	100	100	100
Compensation of employees, paid	56.9	59.3	59.9	59.7	56.7	55.3	57.0
Net operating surplus	26.7	25.1	22.5	23.5	26.4	27.4	24.3
Net operating surplus: Corporations	13.3	13.9	12.4	12.8	16.2	18.0	14.4
Corporate profits before taxes	10.2	9.9	0.1	2.0	7.5	11.0	8.4
Net interest paid, net other payments and Inventory Valuation Adjustment (IVA)	3.1	4.0	12.2	10.8	8.7	7.0	6.0
Net mixed income	13.4	11.3	10.1	10.7	10.2	9.4	9.9
Consumption of fixed capital	16.0	15.8	17.6	17.0	17.0	17.3	18.7
Corporations	8.9	8.6	10.8	10.4	10.9	11.1	11.8
General governments and non-profit institutions serving households	3.1	3.7	3.3	3.2	3.0	3.2	3.7
Unincorporated businesses	4.1	3.5	3.4	3.4	3.1	3.0	3.2

Source: Statistics Canada: Corporate profits: Table 380-0078; GDP: 380-0063

The focus of this report is on the corporate profit share, which exhibits an unmistakably increasing trend in the last three decades. While the corporate profit share is not the only component driving the rise in the capital share of income in recent decades, as the CCA share also contributed to this increase, it has definitely played the most important role in its development.

A. Data Sources for Corporate Profits

We begin by outlining the two different estimates of corporate profit produced by Statistics Canada: corporate profits as reported in the Quarterly Survey of Financial Statements (QSFS) and corporate profits calculated following national accounts (NA) guidelines. While the former, along with administrative tax data, is to a large extent the source for the national accounts estimates of corporate profit, there are significant accounting differences between the two estimates. The various ways in which business and national accounting differ will be explained. We then present our definition of the corporate profit share and the source of the data used in the sectoral analysis.[4]

In Canada, corporate profits are estimated based on the data published in the Quarterly Financial Statistics for Enterprises. This data source is derived from financial statements prepared by *incorporated* businesses to record their financial position and performance on a business accounting basis. Revenue and expense items are reported on a quarterly income statement.

Corporate profits based on a national accounting basis are also available from Statistics Canada. In the same way that business accountants follow business accounting guidelines, statistical agency compilers also follow national accounting guidelines. The United Nations System of National Accounts 2008 (UN, 2008) guidelines specify standard national accounting treatments in order to produce a descriptive set of internationally comparable macroeconomic accounts. They recommend a sequence of accounts, which begins with the production account. This account seeks to measure the value-added or GDP arising from the production of goods and services. This value-added or GDP is composed of wages and salaries, gross operating surplus, gross mixed income and indirect taxes less subsidies.

$$GDP\ (at\ market\ prices) = compensation\ of\ employees + gross\ operating\ surplus + gross\ mixed\ income + net\ indirect\ taxes$$

where

compensation of employees = wages and salaries + employers' social contributions

gross operating surplus = net operating surplus of corporations (**corporate profits** + net interest paid, net other payments and inventory valuation adjustments (IVA)) + consumption of fixed capital by corporations + consumption of fixed capital by general governments and non-profit institutions

gross mixed income = net mixed income + consumption of fixed capital by unincorporated businesses

net indirect taxes = taxes less subsidies on production + taxes less subsidies on products and imports

The production-based gross operating surplus represents the overall output of goods and services less intermediate inputs (purchased materials and services), wages and salaries, supplementary labour income and indirect taxes (e.g., sales tax) less subsidies. This estimate can then be transformed into an estimate of net operating surplus using financial and tax data, which

[4] An explanation for Data Sources for the US Data is available in Appendix I.

can, in turn, be converted into internationally comparable measures of corporate profits, net interest paid, net other payments and inventory valuation adjustment.

To a large extent, financial data from financial statements (QSFS) and administrative tax data are the source for the corporate profits estimates of national accounts. As such, this financial data must be adjusted with some line items or accounts being excluded to align with national accounting principles. Differences in the treatment of several items in business and national accounting are described in the table below.

Table 3: Accounting Differences for Financial and National Accounts Estimates of Corporate Profit Data

	Financial data (QSFS) CANSIM 187-0001	**National accounts data CANSIM 380-0078**
Item	**Business Accounting basis** (Not part of an integrated set of macroeconomic accounts)	**National accounting basis** (Part of an integrated set of macroeconomic accounts where income-based and expenditure-based GDP are coherent)
Depreciation	Varies, but is commonly a straight-line basis at original-cost.	A perpetual inventory model with depreciation rates by detailed asset is used to produce depreciation on a geometric replacement-cost basis
Inventory	Withdrawals are valued at various costs, including at acquisition cost and at current-replacement cost.	Withdrawals are valued at current replacement cost (to eliminate holding gains on inventory).
Depletion	Recognized as an current expense	Not recognized as an expense
Bad debts	Recognized as an current expense	Not recognized as an expense
Charitable donations	Recognized as an current expense	Not recognized as an expense
Dividends received by corporations	Recognized as a revenue.	Not recognized as a revenue
Capital gains/losses, impairments, write-offs, and revaluations	Exact treatment depends on accounting standard. Fair-value through profit or loss recognizes revaluations as current expenses above net income.	Not recognized as a revenue or an expense
Software and R&D	Varied treatment with option to charge as either current expenses or capitalize	All current expenses related to software and R&D are not recognized and are instead capitalized.

Source: Statistics Canada Table 187-0001 and 380-0078

As shown in Table 3, profits from QSFS follow business accounting principles and the definition of profit used by the survey program that collected the financial information. The concept of profits in the national accounts (NA), however, is very different. Corporate profits in

NA exclude dividend revenue, include expected premiums and claims for insurers, and treat software and R&D related expenses as investment outlays.

Table 4: Annual Accounting Adjustments for Corporate Profits Before Taxes, (million dollars)[5]

	2000	2017
Corporation profits before taxes (QSFS)	136,313	362,688
Minus: Accounting adjustments	63,028	203,198
Equals: Corporation profits before taxes (National Accounts)	73,285	159,490

Source: QSFS Profits: CANSIM Table 187-0001; NA Profits: CANSIM Table 380-0078

The discrepancy between the accounting treatment of certain items in QSFS and NA, among which the exclusion of dividend revenue in NA seems particularly relevant, explains part of the quantitative difference between the two sets of corporate profit estimates. Indeed, the NA adjustments to the QSFS estimates of corporation profits before taxes can be very large, resulting in the National Accounts estimates being significantly smaller than their QSFS counterpart. For example, in 2017 accounting adjustments totaled $203.2 billion dollars, transforming QSFS estimates of $362.7 billion dollars into NA estimates of $159.5 billion dollars.

Besides the accounting differences, there is another factor affecting the QSFS estimates of corporation profits before taxes and, in particular, the estimates for the finance and insurance sector. This has to do with how corporations report their financial statements and the double counting of items that reporting for shareholders might give rise to. Double counting of items across corporations can occur as corporations sometimes consolidate operating company results into their financial statements even though they only have a financial relationship of ownership with the operating company. The example below illustrates this problem.

Imagine a hypothetical model economy consisting of a mining company and a financial company that owns 30 per cent of the mining company. The financial company could say that it has a claim on 30 per cent of the net income of the mining company, but it may be hard for investors of the financial company to evaluate its prospects. Instead, the financial company shows 30 per cent of the mining company's operating revenue and expenses so that finance company investors can evaluate their indirect investment. This produces two financial statements that look structurally identical, just one is 30 per cent the size of the other. Furthermore, suppose the mine pays $100 in wages so the financial company reports $30 in wages (its 'share' of the $100 actually paid). At the total economy level, reported total wages were $130, but the administrative data on payrolls says that only $100 was actually paid. This duplication of reporting is particularly troubling for NA estimates since wages are a part of value-added and GDP is an unduplicated measure of economic activity. To ensure NA estimates of corporate profits do not include duplicate values the QSFS estimates are adjusted to remove what is considered duplicate revenues and expenses in the National Accounts.

Finally, it is important to note that although the corporate profit figures from the NA are estimated based on QSFS and tax data, they are conceptually different from the QSFS measures.

[5] A complete time series of these three estimates is found in the database compiled for this report.

While we can refer to the corporate profit share from NA as a subcomponent of the capital share of GDP, we cannot do the equivalent with the corporate profit share from QSFS.

Corporate profit share at factor cost

When comparing before-tax and after-tax corporate profit shares we use Gross Domestic Product at factor cost, which is GDP at market prices net of indirect taxes less subsidies. Since corporations can only retain revenues resulting from economic activities, taxes paid to the government and subsidies received by the government should be removed from value added.

Thus, corporate profit share at factor cost is the following:

$$corporate\ profit\ share = \frac{Corporate\ profit\ before\ tax}{GDP\ at\ market\ price - indirect\ taxes\ less\ subsidies}$$

For the sectoral analysis conducted in Section IV, industry profits are estimated using financial data from the Quarterly Financial Statistics for Enterprises as the QSFS is the most detailed source of profit data that differentiates across sectors. Input-output data were also available but do not contain estimates of the subcomponents of gross operating surplus.[6] While this approach approximates the growth in corporate profits within each industry, it also brings together two accounting items, sectoral profits from QSFS and sectoral GDP from NA, that are not directly comparable. In particular, the corporate profit share in the finance and insurance sector is bound to show an upward bias with respect to other sectors as the sector's revenue is dominated by items, such as investment income (interest, dividends and rents) and capital gains, that are not accounted for in the NA estimates of GDP. In the SNA, interest and dividends, for example, are not "produced" but considered a distribution of income from the user of capital to the owner of capital.

B. *Before-Tax and After-Tax NA Profit*

The estimates of before-tax and after-tax corporate profit for Canada from the national accounts differ significantly due to differences in the definition of profits on a pre-tax and after-tax basis. The difference between the estimates reported for a given year is not simply taxes on income, as one would expect, but also the sum of two other significant adjustments. This is because the economic concept of corporation profits as defined by the National Income and Expenditure Accounts differs considerably from the accounting view of profits required for income tax purposes. Two major adjustments to corporation profits before taxes estimates are therefore necessary to produce figures to which the income tax can be applied. These adjustments are

[6] Input-output data provide estimates in current dollars of gross operating surplus and gross value added at the detailed industry level for the 1997-2014 period. At the highest level of aggregation estimates are available for 16 sectors. As gross operating surplus includes capital consumption allowances, the share of gross operating surplus in GDP (currently around 30 per cent at the aggregate level) is much higher than corporate profits as a share of GDP from the national accounts or financial statistics.

directly linked to the conceptual differences between gross domestic product (GDP) and gross national product (GNP).[7]

To reconcile "corporation profits before taxes" reported on a gross domestic product basis with the accounting view of profits required for income tax purposes it is necessary to add:

1. Interest and dividends received from non-residents by the corporate sector
2. Dividends and interest on consumer credit and government debt received by the corporate sector from residents

The first amount, representing the business share of total interest and dividends received from non-residents, needs to be added to the gross domestic basis estimate of corporation profits before-tax as it is included in the definition of corporate profits on a **gross national basis** but considered a transfer on a **gross domestic basis**. The second adjustment is needed to include dividends from residents, all interest on the public debt paid to corporations, and the transfer portion of interest on consumer debt paid to corporations into national income.

In the National Accounts, dividends are not explicitly identified as an income-based component appearing in the calculation of GDP. Instead, they are treated as a redistribution of income (corporation profits) to the shareholders of corporations. Nevertheless, they are taxed, and thus are added to the "corporation profits before tax" measure when applying the income tax.

The adjustment to incorporate interest on the public debt and on consumer credit also requires some explanation. The interest on the public debt originates as a transfer payment from the government sector to the corporate and government business enterprise sector. Since it is omitted when calculating the corporate profit on a domestic basic, as it is considered a transfer, it needs to be included before applying the income tax. The interest on consumer credit paid to the corporate sector can be divided into two parts: the "productive" and the "non-productive" portions.

The "productive" part of the interest on consumer credit is the cost of rendering services to borrowers. This portion is already included in the NA as personal expenditures on consumer services. The "non-productive" part of the interest on consumer debt is, however, considered a transfer payment between sectors in the NA and omitted when calculating corporate profit on a domestic basic. Since this transfer portion is income for the corporate sector it needs to be added to the gross domestic basis estimate of corporation profit in order to be taxed. [8]

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[7] **Gross Domestic Product (GDP)** is equal to the value of all goods and services produced inside the country and sold to final users in a year. GDP = Gross Domestic Income (GDI) = income payments incurred into the production of goods and services = *compensation of employees + net indirect taxes + gross operating surplus + gross mixed income*
Gross National Product (GNP): GDP + net income from non-residents.
Example: If a Canadian firm owns a factory in Spain and the factory earns $10 in profit which it pays in dividends to Canadian investors, Canadian GNP increases by $10, but GDP is unaffected.

[8] For example, suppose one pays $10 of interest expense on a $100 bank loan at a rate of 10 percent. One could have borrowed on financial markets the same $100 at a rate of 7 percent. The margin between the two would be 3 percent. This is the amount one was willing to pay to do business with a bank and consequently is what we term as the amount paid for the implicit financial intermediation services that the bank provided to me. The productive interest portion is the implicit portion of $3. The non-productive portion would be the remaining $7 that is merely debt servicing.

These two adjustments to the gross domestic basis estimate of corporation profit can be very large, resulting in corporate profits after taxes being larger than corporate profits before taxes. For example, in 2017 dividends and interest on consumer debt and government debt from residents totaled $171.0 billion dollars and interest and dividends received from non-residents totaled $47.3 billion, compared to only $159.5 billion for corporation profits before taxes. Even with corporate income taxes paid of $74.5 billion, after tax profits, $303.2 billion were almost twice as much as before tax profits. This difference is shown in Table 5.

Table 5: Break down of Before-tax and After-tax Corporation Profit, Canada, annual (million dollars)[9]

	2000	2017
Corporation profits before taxes (gross domestic product basis)	73,285	159,490
Plus: dividends and interest on consumer credit and government debt from residents	64,907[10]	170,993
Plus: interest and dividends received from non-residents	39,135	47,266
Less: taxes on income (corporate income tax)	21,163	74,507
Equals: corporation profits after taxes	111,161	303,242

Source: Canada: Corporate profits: CANSIM Table 380-0078

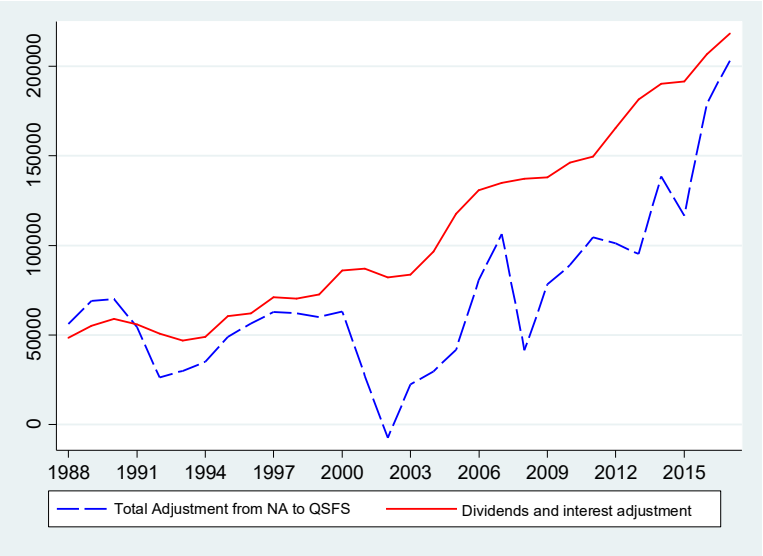
Furthermore, the two items added to the estimates of corporation profits before taxes provide some insights about the size of the dividends accounting adjustment performed when transforming financial corporate profits (QSFS) into a National Accounts estimate of corporate profits.

Chart 3 plots the evolution of the sum of "dividends and interest on consumer credit and government debt from residents" and "interest and dividends received from non-residents" and the accounting difference (in absolute terms) between corporate profits before taxes according to QSFS and NA over time. The sum of dividends and interest shows an unmistakably increasing trend over time, quadrupling in the last 20 years. The absolute value of the accounting adjustments performed to transform QSFS estimates of corporate profit into NA estimates also exhibits an increasing trend over time that converges towards the aggregate dividends and interest adjustment. Understanding the distribution of these dividends and interests across sectors will be pivotal to our analysis of the sectoral profit shares before tax later on.

[9] See Table 1 in the Appendix for a detailed evolution of these adjustments through time.

[10] These adjustments are not applied in the NIPA estimates of before and after tax corporate profits. Dividends received by corporations are not included in the NIPA corporate profits before taxes estimates and they are not added back before applying the income tax since they are not considered an element of income from current production.

Chart 3: Dividends and Interest Adjustment and Absolute Adjustment from NA to QSFS Estimates of Corporate Profit



Source: CANSIM Table 187-0001; CANSIM Table 380-0078

II. Trends in the Corporate Profit Share of GDP in Canada

This section discusses trends in the corporate profit share in Canada, at both the aggregate and sectoral levels. Sectoral profit shares, both in terms of their absolute levels and trends over time, will also be analyzed.

A. Aggregate Trends

It is well known that wage growth in Canada has lagged labour productivity growth. Indeed, median real hourly earnings advanced at only a 0.09 per cent average annual rate over the 1976-2014, compared to 1.12 per cent for labour productivity, a gap of 1.03 percentage points per year (Uguccioni, 2016).

This report is based on the methodology developed by the Centre for the Study of Living Standards (Sharpe, Arsenault, and Harrison, 2008) to decompose the sources of the divergence between median wages and productivity into several factors, namely changes in wage inequality, differences in the growth of the CPI and GDP deflator, and changes in the labour share. Uguccioni (2016) found that between 1976 and 2016, 0.31 percentage points or 30 per cent of the gap between median wage and labour productivity growth was due to the falling share of labour income in GDP. As he noted,

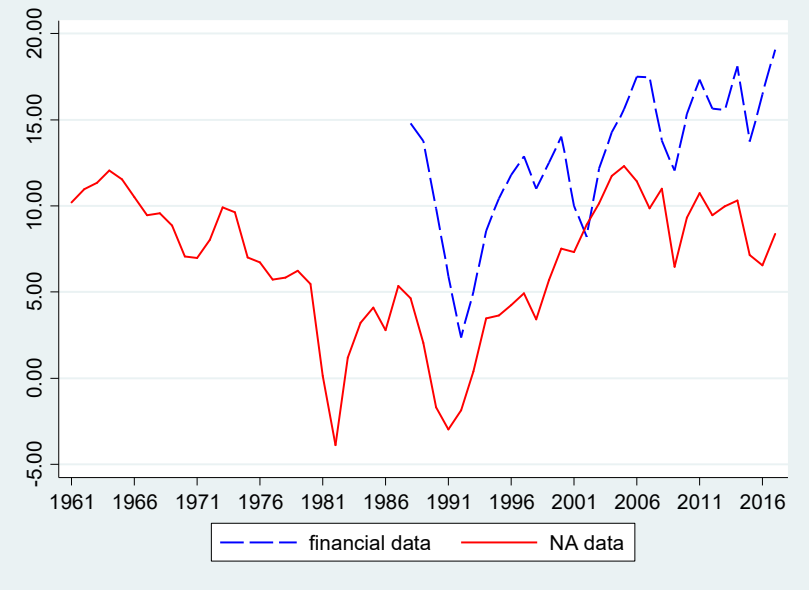
> "Labour's lost share of income is largely accounted for by an increase in the income share of gross operating surplus. From 1981 to 2014, the net operating surplus of corporations as a share of aggregate income in Canada increased from around 23.7 per cent to 27.5 per cent. Over the same period, labour's share of income fell by almost 4 percentage points. As net operating surplus reflects payments to capital net of depreciation, an increase in net operating surplus reflects increased profits." (Uguccioni, 2016:53).

In light of Uguccioni's findings, it is important to examine the evolution across time of the components of net operating surplus. While the corporate profit share was not the only component driving the rise in the capital share of income in recent decades, the CCA share also contributed to this increase, it was its principal driver. To better understand this surge, the following analysis examines the evolution of corporate profits before and after taxes from NA and QSFS between 1961 and 2017.[11]

i. National Accounts versus QSFS before-tax Corporate Profit Share

In Canada, the corporate profit share has been on a clear upward trend since 1991 after a downward trend between the 1960s and the 1980s. Chart 4 shows the time series for the corporate profit share in Canada based on national accounts and financial data. The corporate profit share is computed as the ratio of total corporation (both non-financial and financial corporations) profit to gross domestic output (income approach) at factor cost using annual data from Statistics Canada on a national accounts basis. After a sharp decline during the late 1980s and the early 1990s, the corporate profit share based on both QSFS and NA profits has been on a clear upward trend (starting 1991); peaking at 12.3 per cent in 2005 and then falling off to 8.4 per cent in 2017.

Chart 4: Corporate Profit Share (of nominal GDP at factor cost) before taxes, in Canada, based on QSFS and NA, per cent



Source: Source: GDP: CANSIM Table 380-0063; Profits: CANSIM 380-0078, CANSIM Table 187-0001

[11] Another source of data on gross operating surplus (GOS) are Input-Output Tables. A limited analysis of gross operating surplus (GOS) to gross value added (GVA) from I-O tables is included in Appendix I.

Table 6: Average Profit Share, National-Accounting Basis and QSFS, Canada, per cent

Business cycle	Profit Share before income tax (NA), %	Profit Share before income tax (QSFS), %	Profit Share after income tax (NA), %	Profit Share after income tax (QSFS), %
	A	B	C	D
1961-1973	9.7	-	10.1	-
1974-1981	5.8	-	9.5	-
1982-1989	2.4	-	9.3	-
1990-2000	2.4	9.5	7.5	5.9
2001-2008	10.3	13.6	15.3	9.7
2009-2017	8.7	15.5	15.4	12.2
Decadal period				
1961-1969	10.5	-	10.3	-
1970-1979	7.3	-	9.7	-
1980-1981	2.5	-	9.2	-
1990-1999	1.9	9.0	7.1	5.5
2000-2009	9.7	13.5	14.7	9.6
2010-2017	9.1	16.0	15.8	12.6

Note: The sample period is 1961 – 2017 for NA and 1988-2017 for QSFS estimates. The profit shares are computed by taking the ratio of profit to GDP at factor cost. Sources: Statistics Canada: CANSIM Table 187-8001 and Table 380-0063.

As explained in Section I, financial estimates of corporate profit before tax differ significantly from the National Accounts estimates due to definitional accounting discrepancies. Since a number of items, such as depreciation, inventory, depletion, bad debts, dividends, and capital gains and losses are accounted differently, financial estimates need to be adjusted to reflect the national accounting principles. As mentioned earlier, the main drivers of this difference are dividends, included in the financial data as revenue but considered a transfer in the national accounts estimates of corporate profits.

The QSFS corporate profit shares are, consequently, significantly higher than the estimates reported in Chart 4 using national accounts data (19.1 per cent versus 8.4 per cent of GDP in 2017, which equals the $203 billion difference reported in Table 4). Like NA, the QSFS before-tax corporate profit shares depicted in Chart 4 reflect a clear upward trend starting in 1993. This upward trend is consistent with the downward trend observed in the labour share of income since 1991 (Chart 1). Furthermore, this upward trend is also corroborated with the QSFS average corporate profit shares over the three past business cycles and decadal periods shown in Table 6.

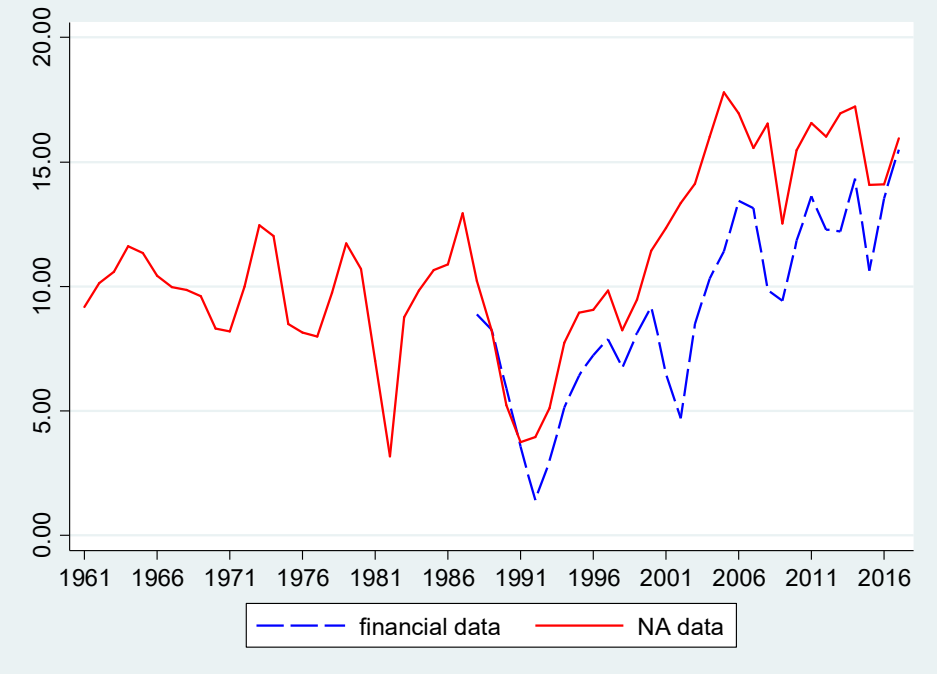
Since the 1991-1999 period, the before tax corporate profit shares have increased strikingly based on both QSFS and NA estimates. For the case of QSFS, the average corporate profit share during business cycles increased by 6 percentage points in the last two cycles, going from 9.5 per cent in 1990-1999 to 15.5 per cent in the 2010-2017 cycle. Indeed, the National Accounts corporate profit share estimate experienced a similar rise. Between the 1990-1999 and the 2010-2017 cycles, the national accounts corporate profit share before tax went up by 6.3 percentage points, increasing from 2.4 per cent in 1990-1999 to 8.7 per cent in the 2010-2017 cycle. The upward trend also holds for the average corporate profit share over the decadal periods. Note, however, that while both sets of corporate profit before-tax shares have experienced an increasing trend, their shares have also

diverged since 2002. This divergence can be explained by the impressive increase in total dividends over the last two decades (Chart 3).

ii. National Accounts versus QSFS after-tax Corporate Profit Share

Chart 5 depicts the corporate profit share of income for Canada after taxes based on QSFS and National Accounts during the 1961-2017 and 1988-2017 sample periods.[12] Despite the NA after-tax corporate profit shares being higher than the before-tax estimates, the upward trend persists in both the QSFS and the National Accounts after-tax corporate profit share. The gap between them, however, converges over the years. While the before tax difference between QSFS and NA corporate profits share for the 2010-2017 period was almost 7 percentage points (9.1 per cent and 16.0 per cent respectively), the after-tax difference for this period was only 3.2 percentage points (12.6 per cent and 15.8 per cent for QSFS and NA estimates respectively). Furthermore, in 2017 the difference between the after-tax corporate profit shares of both data sources was only 0.4 percentage points. This convergence can be explained by the fact that the dividends and interest accounting adjustments from before-tax to after-tax NA estimates have increased very significantly in the past decade.

Chart 5: Corporate Profit Share (of nominal GDP at factor cost) after taxes, in Canada, based on QSFS and NA, per cent



Source: Statistics Canada: GDP: CANSIM Table 380-0063; Profits: CANSIM 380-0078, CANSIM Table 187-8001

[12] Note that 1961 and 1988 are the first years for which NA and QSFS data on corporate profits are available.

B. Sectoral Trends

In order to identify the main drivers behind the corporate profits share increase over the past two decades, we first need to understand how corporate profits have been distributed among sectors in the economy and how this distribution has changed over time. Table 7 contains total and sectoral profits and gross domestic product for 1997 and 2017 based on financial data as national accounts profit estimates are not available at the sectoral level.[13]

Table 7: Sectoral Profits Before Tax and GDP at Current Basic Prices[14], 1997 and 2017[15]

Sector	Profits before tax (millions of CAD$) 1997	Profits before tax (millions of CAD$) 2017	Δ Profit 1997-2017 (millions of CAD$)	Sector contribution to Δ Profit 1997-2017 (%)	Gross domestic product, 1997	Gross domestic product, 2017	Δ GDP 1997-2017 (millions of CAD$)	Sector contribution to Δ GDP 1997-2017 (%)
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Agriculture	1,735	7,121	5,386	2.0	17,347	35,291	17,944	1.6
Mining, quarrying and oil and gas extraction	10,011	4,227	-5,784	-2.1	32,930	94,777	61,847	5.7
Utilities	881	2,398	1,517	0.6	25,835	45,396	19,561	1.8
Manufacturing	37,011	68,529	31,518	11.5	145,510	206,378	60,868	5.6
Wholesale trade	4,296	29,923	25,627	9.3	45,220	104,374	59,154	5.4
Retail trade	2,951	21,108	18,157	6.6	40,871	99,729	58,858	5.4
Transportation and ware housing	4,251	18,368	14,117	5.1	40,336	91,028	50,692	4.6
Information and cultural industries	1,123	15,385	14,262	5.2	26,893	58,066	31,173	2.8
Finance and insurance	27,024	109,225	82,201	30.0	51,138	133,853	82,715	7.6
Real estate and rental and leasing	3,943	26,093	22,150	8.1	106,784	252,744	145,960	13.3
Professional, scientific, and technical services	2,626	18,143	15,517	5.7	35,929	114,118	78,189	7.1
Accommodation and food services	-446	3,217	3,663	1.3	19,146	43,478	24,332	2.2
Construction	3,366	20,030	16,664	6.1	45,688	150,241	104,553	9.6
Administrative and support	1,858	7,507	5,649	2.1	16,303	54,285	37,982	3.5
Arts and entertainment	21	1122	1,101	0.4	7,612	15,042	7,430	0.7

[13] 1997 is the first year for which data from QSFS are currently available on a sector basis.

[14] GDP at basic prices equals GDP at market prices minus taxes and subsidies on products. GDP at market prices corresponds to the gross value at market prices of all goods and services produced by the economy plus indirect taxes (taxes minus subsidies on products and imports and taxes minus subsidies on production).

[15] Since nominal GDP estimates at basic prices by sectors are only available between 1997 and 2015 we estimate the values for 2016 and 2017 using the annual real growth for those years as well as a constructed measure of the annual deflator growth. The latter is approximated by multiplying the total economy compound annual GDP deflator growth for the 2015-2017 period by the industry ratio of annual GDP deflator growth between 2008 and 2015 to the total economy annual GDP deflator growth between 2008 and 2015.

Educational, health care and social assistance services	513	20,451	19,938	7.3	99,482	250,887	151,405	13.8
Other services	612	3,137	2,525	0.9	17,312	38,465	21,153	1.9
Total economy	101,776	375,984	274,208	100	831,657	1,925,830	1,094,173	100.0

Source: Statistics Canada: GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017; Profits CANSIM Table 187-0001

The first two columns begin with the total economy profits in 1997 and 2017, at $101,776 and $375,984 million of real Canadian dollars respectively. The change in profits over the 20 years period, $274.2 billion for the total economy, follows in column 3. With an increase of $82,201 million between 1997 and 2017, finance and insurance was the sector with the highest rise in profits. This surge in absolute terms was more than twice the second highest increase in profits, which occurred in the manufacturing sector, and made finance and insurance the sector with the highest profits in 2017 by almost a factor of two. Furthermore, the spectacular rise in profits experienced by the finance sector was responsible for 30.0 per cent of the increase in the total economy profits between 1997 and 2017 (Column 4 in Table 7 and Chart 6).

The contribution of the finance profits to the increase in the total economy profits was close to three times higher than that of manufacturing and wholesale trade, the other two sectors with the second and third highest contributions to the increase in the total economy profits. Mining, quarrying and oil and gas extraction was the only sector that experienced a decrease in total profits between 1997 and 2017. Since the mining sector is very sensitive to changes in commodity prices, its profits fluctuate significantly over time.

Columns 5-7 in Table 7 report total and sectoral gross domestic product in nominal terms in 1997 and 2017 as well as the change between the two years. The sectors with the highest absolute increase in GDP between 1997 and 2017 were real estate and rental leasing, education, health care and social assistance services, and construction. Despite not making it into the top contributors to the economy's total change in profits, each of these sectors contributed 13.3 percent, 13.8 per cent and 9.6 per cent to the total economy increase in GDP (Column 8).

While finance and insurance experienced by far the highest growth in profits, with their total profits multiplying by more than three between 1997 and 2017, it did not fare as well in GDP. An increase of $83 billion between 1997 and 2017 only represents a 7.6 per cent contribution to the total economy increase in gross domestic product. Since the corporate profit share is the ratio of profits to gross domestic product, the relatively small increase in finance and insurance´s GDP implies a significant rise in the profit share.

To further understand the distribution of total economy profits across sectors Table 8 depicts each sector's share in the total economy profits in both 1997 and 2017, and the change in each sector's contribution between those years. The table reveals that the manufacturing and finance and insurance sectors were the main contributors to the total economy profits in both 1997 and 2017. Interestingly, they followed inverse paths. While in 1997 manufacturing was the main contributor to the total economy profits, with a share of 36.6 per cent, its relative share in total profits went down extensively in 2017 to 18.2 per cent, a catastrophic fall of 18.1 percentage points. In contrast, finance and insurance became the main contributor to total economy profits in 2017

by increasing its share of total economy profits between those two years by 2.5 percentage points, from 26.7 per cent in 1997 to 29.1 per cent in 2017.

The shift in profits from manufacturing to service-producing sectors like finance and insurance and educational services reflects the evolution of the economy since 1997 towards service-producing industries. Indeed, while goods-producing sectors represented 52.1 per cent of total profits in 1997 their share of profits plunged to 27.2 per cent in 2017. In contrast, the share of total profits of service-producing sectors increased from 47.9 per cent in 1997 to 72.8 per cent in 2017.

Table 8: Shares of Total Economy Profits, before tax based on QSFS, per cent

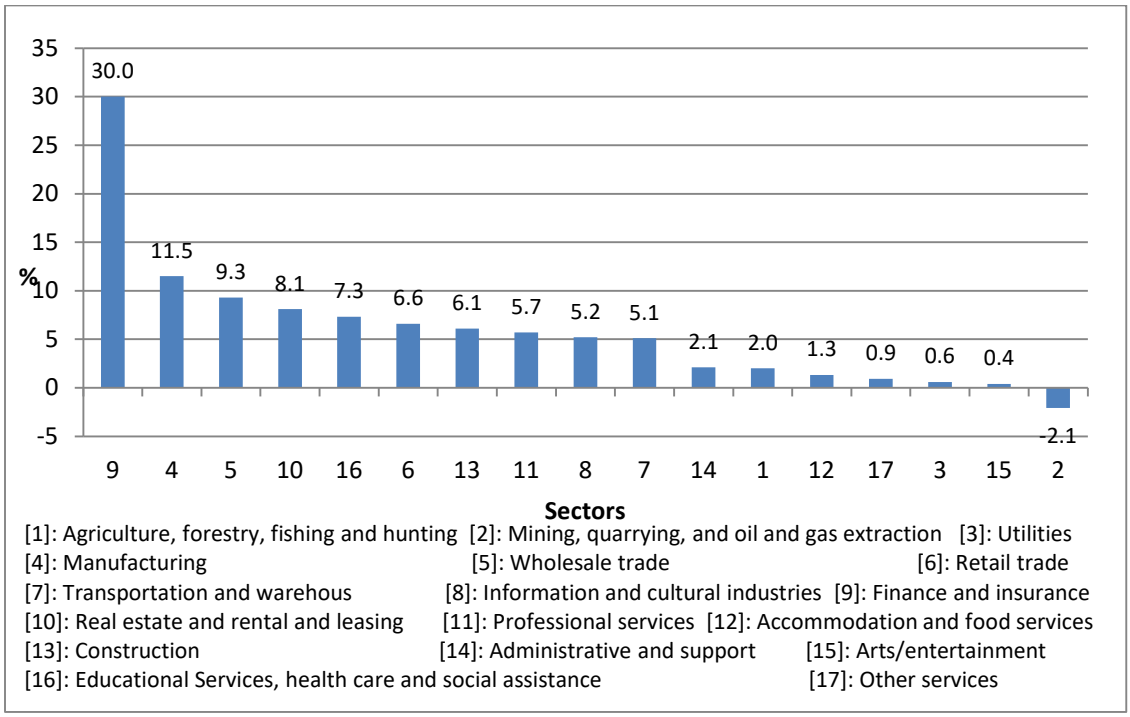
Sectors	Share of total profit 1997	Share of total profit 2017	Change
Agriculture	1.7	1.9	0.2
Mining	9.9	1.1	-8.7
Utilities	0.9	0.6	-0.2
Manufacturing	36.6	18.2	-18.1
Wholesale trade	4.2	8.0	3.7
Retail trade	2.9	5.6	2.7
Transportation	4.2	4.9	0.7
Information/culture	1.1	4.1	3.0
Finance/insurance	26.7	29.1	2.5
Real estate	3.9	6.9	3.1
Profes. Services	2.6	4.8	2.2
Accommodation/food	-0.4	0.9	1.3
Construction	3.3	5.3	2.0
Administrative/support	1.8	2.0	0.2
Arts/entert.	0.0	0.3	0.3
Educational, health care and social assist.	0.5	5.4	4.9
Other services	0.6	0.8	0.2
Overall economy	100	100	0
Goods-producing sectors	52.1	27.2	-24.9
Service-producing sectors	47.9	72.8	24.9

Source: QSFS Profits: CANSIM Table 187-0001

Chart 6 illustrates the percentage contribution by sector to the $274.2 billion absolute change in total profit between 1997 and 2017 (going up from $101.8 billion in 1997 to $376.0 billion in 2017) introduced in Table 8. In Section IV, we carry out a sectoral decomposition analysis of the variation of the aggregate profit share of income to better understand the sectoral contributions to the changes in the aggregate profit shares.

Table 9 displays the sectoral profit shares for the beginning and end of our sample period as well as the change between those periods. While Chart 7 ranks the sectoral profit shares in 2017 from highest to lowest, Chart 8 illustrates the change in the sectoral profit shares between 1997 and 2017. The aggregate profit share went up by 7.3 percentage points between 1997 and 2017, increasing from 12.2 per cent to 19.5 per cent. Note all sectors experienced an increase in the profit share over the period, except mining (Chart 8).

Chart 6: Contribution by Sector to the Absolute Change in Total Profit, 1997-2017, per cent



Source: QSFS Profits: CANSIM Table 187-0001

Interestingly, the finance and insurance sector not only had the highest profit share in both 1997 and 2017 but it also experienced the highest increase among all sectors between these years. The profit share in the finance and insurance sector went up by 28.8 percentage points over the sample period, 6.5 percentage points more than the sector with the second highest increase, information and cultural industries, which increased 22.3 percentage points. Mining, quarrying and oil and gas extraction was the only sector with a negative change in sectoral profit share over the sample period (-25.9 percentage points).

As mentioned earlier in the report, the remarkable difference between the finance and insurance profit share and the rest of the sectors is partly explained by the accounting differences between sectoral QSFS profits and NA measures of GDP. In particular, the finance and insurance revenue is dominated by items, such as investment income (interest, dividends and rents) and capital gains, that are not accounted for in the NA estimates of GDP, thus making the sector's profit shares of GDP much higher than its counterparts. While this bias limits our analysis of the sectoral profit shares, the change in each sector's profit share can still provide useful insights about the evolution of profits within each industry.

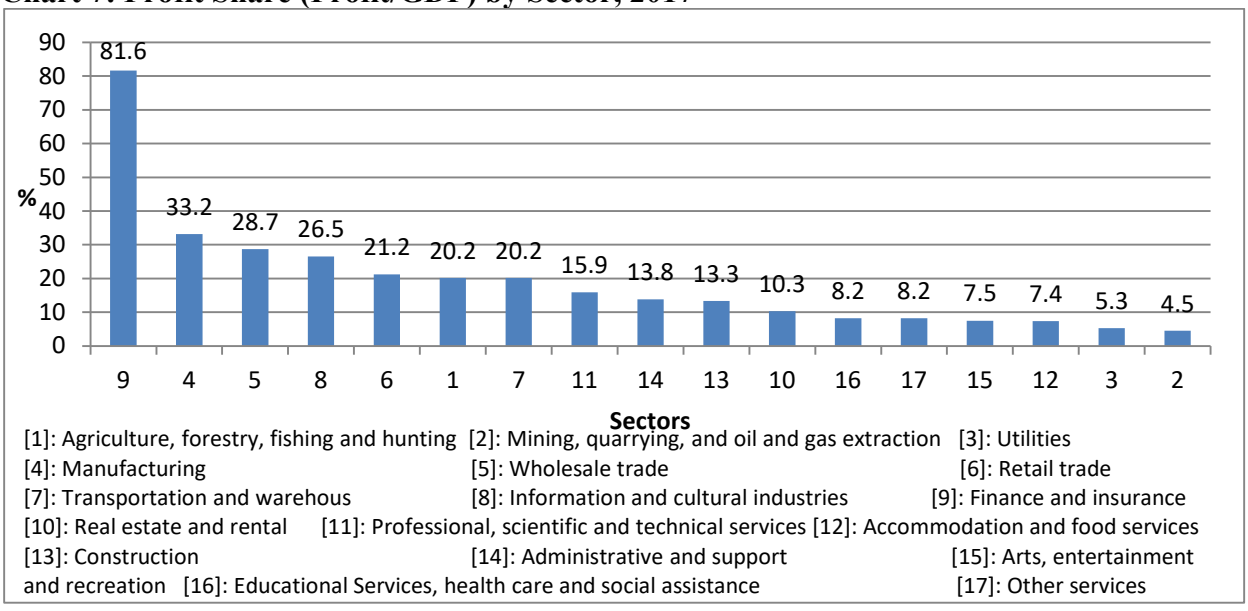
The panels in Chart 9 show the profit share evolution over time for selected sectors in Canada (as the ratio of sectoral profit to respective sectoral GDP at basic prices).

Table 9: Profit Shares before tax of current GDP at basic prices (industry profits/industry GDP), by sector, based on QSFS

	Profit Share 1997 (%)	Profit Share 2017 (%)	Δ Profit Share (% points)	Standard Deviation 1997-2017
Total economy	12.2	19.5	7.3	2.9
Agriculture	10.0	20.2	10.2	8.4
Mining, quarrying and oil and gas extraction	30.4	4.5	-25.9	22.1
Utilities	3.4	5.3	1.9	2.8
Manufacturing	25.4	33.2	7.8	5.7
Wholesale trade	9.5	28.7	19.2	5.3
Retail trade	7.2	21.2	13.9	3.5
Transportation and ware housing	10.5	20.2	9.6	5.4
Information and cultural industries	4.2	26.5	22.3	12.3
Finance and insurance	52.8	81.6	28.8	14.6
Real estate and rental and leasing	3.7	10.3	6.6	3.4
Professional, scientific, and technical services	7.3	15.9	8.6	7.6
Accommodation and food services	-2.3	7.4	9.7	3.3
Construction	7.4	13.3	6.0	2.9
Administrative and support	11.4	13.8	2.4	2.9
Arts and entertainment	0.3	7.5	7.2	2.6
Educational, health care and social assistance services	0.5	8.2	7.6	2.6
Other services	3.5	8.2	4.6	2.1

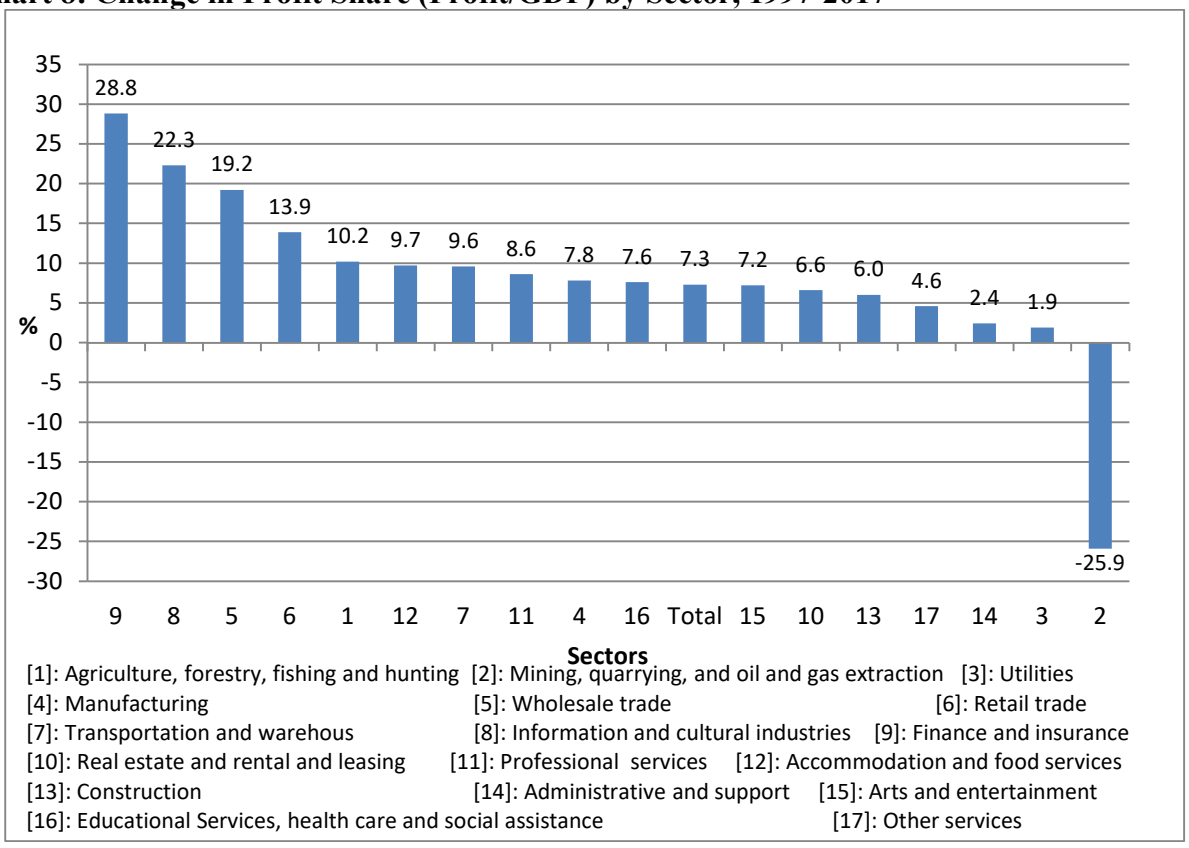
Source: Statistics Canada QSFS Profits: CANSIM Table 187-0001; NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017

Chart 7: Profit Share (Profit/GDP) by Sector, 2017



Source: Statistics Canada QSFS Profits: CANSIM Table 187-0001; NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017

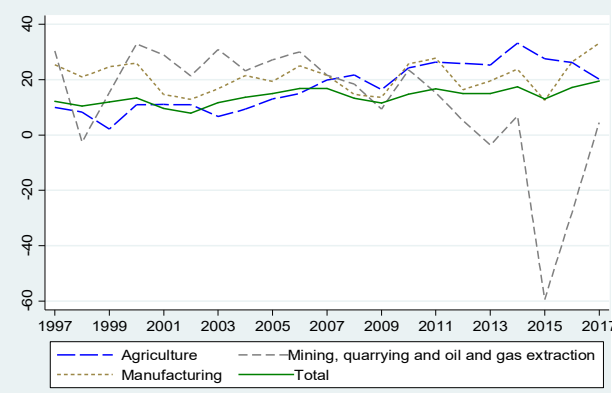
Chart 8: Change in Profit Share (Profit/GDP) by Sector, 1997-2017



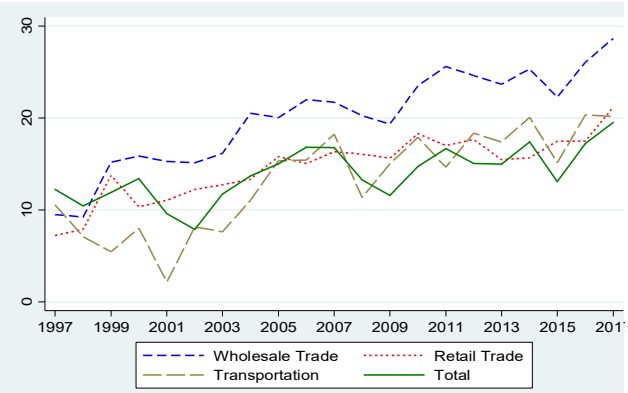
Source: Statistics Canada QSFS Profits: CANSIM Table 187-0001; NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017

Chart 9: Corporate Profit Share, before tax, QSFS, per cent of GDP at basic prices

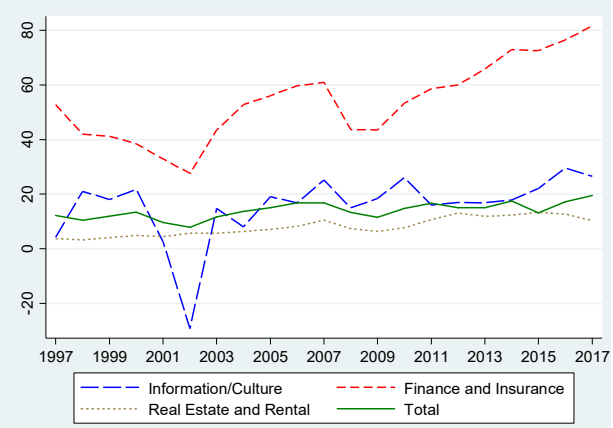
Panel A: Manufacturing, Mining and Agriculture



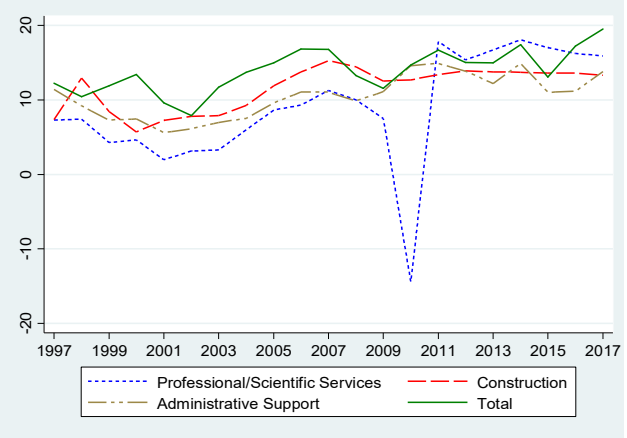
Panel B: Wholesale and Retail trade, and Transportation



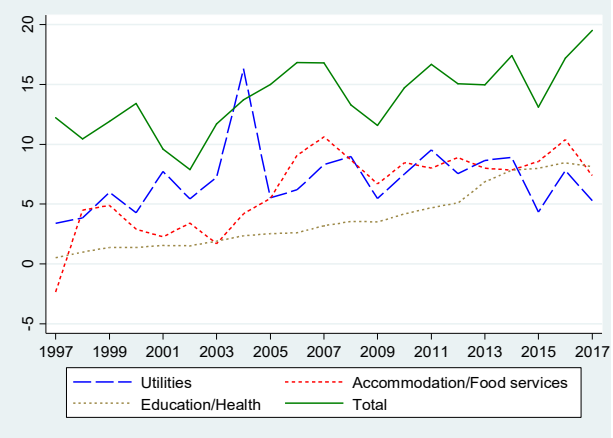
Panel C: Finance, Real estate and Information and culture



Panel D: Professional serv., Admin. serv., and construction



Panel E: Education, health care and social assistance



Source: QSFS Profits: CANSIM Table 187-0001; QSFS GDP: CANSIM Table 380-0063 The full time series of the sectoral profit shares can be found in the database produced with this report.

For all sectors, with the exception of mining, quarrying and oil and gas extraction, we observe an upward trend over time. For construction, wholesale trade, finance and insurance,

manufacturing, utilities and professional scientific and technical services, the upward trends remain significantly positive even after controlling for business cycles. Most notable is the finance and insurance sector whose profit share increased remarkably over this period.

i. Subsectoral Trends: Finance and Insurance

To better understand the 28.8 percentage points increase in the corporate profit share of the finance and insurance sector over the 1997-2017 period reported by the QSFS, we next examine the industry composition at the sub-sectoral level. Table 10 shows the corporate profit shares between 1997 and 2017 of the three sub industry groups embodied in the finance and insurance sector according to the North American Industry Classification (NAICS) for which data are available.[16] These are depositary credit intermediation, non-depositary credit intermediation and activities related to credit intermediation, and insurance carriers and related activities. Table 10 displays the share of total finance and insurance profits that each of these sub industry groups represents.

While two of the three subgroups have experienced a large increase in their profit share during the 1997-2017 period, the magnitude of this rise varies across them. The profit share of the depository credit intermediation subsector, an industry group comprising establishments primarily engaged in accepting deposits and lending funds such as banks and credit unions (where deposits are the main source of funds loaned), rise from 37.2 per cent in 1997 to 56.7 per cent in 2017. This increase is particularly significant for the finance and insurance sector as the depository credit intermediation subsector represented 38.1 per cent of the sector's total profits and around 50 per cent of the total sectoral income in 2017.

The rise of the non-depositary credit intermediation and activities related to credit intermediation's profit share was even more spectacular than that of the depositary credit intermediation subgroup. This subgroup comprises both establishments primarily engaged in credit provision through credit market borrowing such as credit card issuing and sales financing, and establishments specialized in providing services closely related to credit intermediation but who do not act as intermediaries (e.g. mortgage loan brokers). Although the corporate profit share in this subgroup went up astoundingly by 54.8 percentage points between 1997 and 2017, its relative importance in the total finance and insurance income is low, representing only 3.5 per cent and 5.9 per cent in 1997 and 2017 respectively. Nevertheless, it is worth mentioning that over the 1997-2017 period the share of the total finance and insurance profits corresponding to non-depositary credit intermediation and activities related to credit intermediation more than doubled, rising from 2.8 per cent in 1997 to 7.1 per cent in 2017 (Table 11).

[16] Unfortunately, GDP estimates of the finance and insurance subgroup "securities, commodity contracts and other financial investments and related activities [523]" are reported as the aggregate of 523 and 526. Since the portion of GDP corresponding to 523 cannot be separated, we cannot calculate the sector's profit share. According to the NAICS classification, this subsector comprises establishments "primarily engaged in putting capital at risk in the process of underwriting securities issues or in making markets for securities and commodities; acting as intermediaries between buyers and sellers of securities; providing securities and commodity exchange services (furnishing space, marketplaces, and often facilities for the purpose of facilitating the buying and selling of stocks, stock options, bonds or commodity contracts); facilitating the marketing of financial contracts; asset management (managing portfolios of securities); and providing investment advice, trust, fiduciary, custody and other investment services" (Statistics Canada, NAICS 2012). This subsector represented 42 per cent of the finance and industry profits in 2017 (CANSIM Table 187-0001).

Table 10: Finance and Insurance subgroups profit shares before income tax, by North American Industry Classification System, Canada, 1997-2017

	GDP, millions of CAD$, 1997	GDP, millions of CAD$, 2017	Total profit, millions of CAD$, 1997	Total profit, millions of CAD$, 2017	Profit share (%) 1997	Profit share (%) 2017
Total Finance and Insurance [52]	51,138	133,853	27,024	109,225	52.8	81.6
Depository credit intermediation [5221]	26,471	73,477	9,840	41,669	37.2	56.7
Non-depository credit intermediation and activities related to credit intermediation [522A]	1,765	7,956	754	7,761	42.7	97.5
Insurance carriers and related activities [524]	18,118	33,516	7,507	13,250	41.4	39.5
Securities, commodity contracts, and other financial investments and related activities [523]*	4,785*	18,819*	8,923	46,546	NA	NA

Source: Statistics Canada QSFS Profits: CANSIM Table 187-0001; NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017

Lastly, insurance carriers and related activities experienced a slight decrease in its profit share, going down 1.9 percentage points over the 1997-2017 period. Comprising establishments engaged in underwriting annuities and insurance policies, and providing insurance related services to policy holders, this subsector's profit share decreased from 41.4 per cent in 1997 to 39.5 per cent in 2017. Furthermore, the insurance subsector's shares of the finance and insurance total profits and income has gone down significantly between 1997 and 2017. While in 1997 insurance's profits and income accounted for 27.8 per cent and 35.4 per cent of the total sector's profits and income respectively, in 2017 they only represented 12.1 per cent and 25.0 per cent respectively. The decrease in the relative importance of insurance in the sector's total profits and output, indicates that banks (the depositary credit intermediation subsector), as well as securities, commodities contracts and other financial investments and related activities are the main drivers of the rise in profit shares experienced by the finance and insurance sector according to QSFS.

Furthermore, the spectacular profit share increase experienced by the finance and insurance sector and, specifically, the depositary credit intermediation subsector, goes in line with the striking rise of dividends and interest on consumer credit and government debt seen in the past two decades (Chart 3). Since the finance sector is the main provider of credit in the economy, an increase in the levels of interest on consumer credit and government debt, translates into higher profits for the sector.

Finally, when discussing the outstanding increase in the finance and insurance profit share in comparison with the rest of sectors in the economy it is important to acknowledge sectoral differences in the size of the items which are not recognized as current expenses (such as depletion, bad debts and charitable donations) in the financial data. According to Statistics Canada, these items are much lower as a proportion of profits for financial industries compared to other sectors. Furthermore, since firms in the financial sector do not need large amounts of physical capital to

operate, depreciation is lower for them, which reduces the error impact of producing a profits estimate based on geometric replacement-cost basis.

Table 11: Subgroup Shares of Finance and Insurance profit before income tax, by North American Industry Classification System, Canada, 1997-2017

	Total profit, millions of CAD$, 1997	Total profit, millions of CAD$, 2017	Share of total profit, 1997 %	Share of total profit, 2017 %	Change, pp
Depository credit intermediation [5221]	9,840	41,669	36.4	38.1	1.7
Non-depository credit intermediation and activities related to credit intermediation [522A]	754	7,761	2.8	7.1	4.3
Insurance carriers and related activities [524]	7,507	13,250	27.8	12.1	-15.6
Securities, commodity contracts, and other financial investments and related activities [523]	8,923	46,546	33.0	42.6	9.6
Finance and Insurance [52]	27,024	109,225	100.0	100.0	

Source: Statistics Canada: CANSIM Table 187-0001

III. Comparison Between Canada and the United States

A. Corporate Profit Share of GDP in Canada and the United States

The Canadian System of National Accounts (CSNA) corporate profits before taxes estimates cannot be directly compared to the US NIPA corporate profits before tax with inventory valuation and capital consumption adjustments. The main differences are that the Canadian version is missing interest on consumer credit and government debt and they have not been adjusted for inventory valuation differences. To make them more comparable, we add the interest on consumer credit and government debt and the inventory valuation adjustment to the CSMA corporate profits estimates as shown in Table 12.

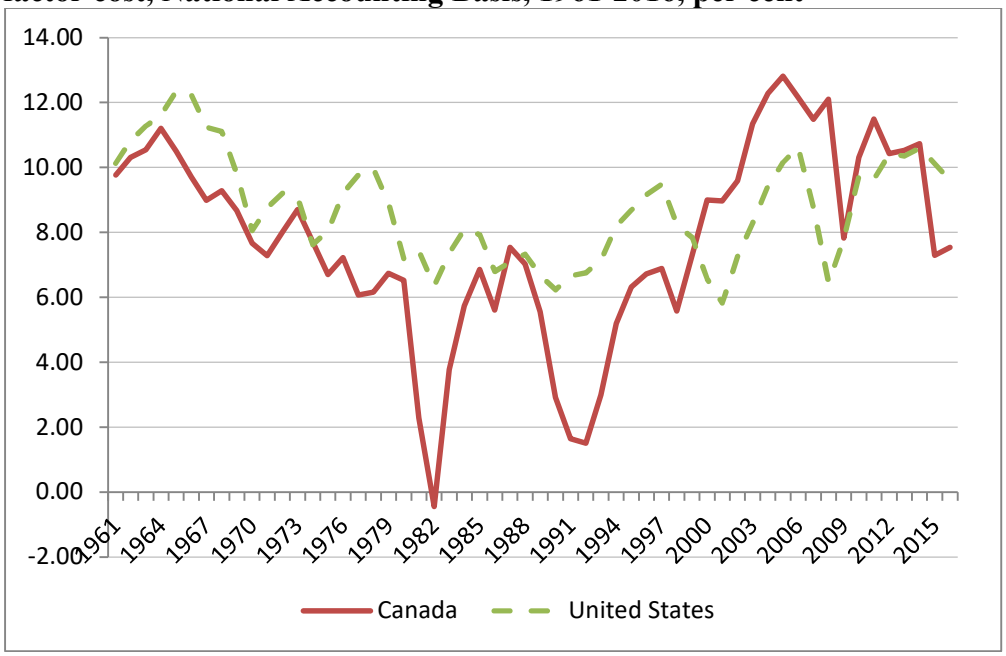
Table 12: Adjustments to SNA Corporate Profits Before Taxes SNA, Canada, 2016

	Estimates, millions of $CAD	2016
	Corporation profits before taxes (gross domestic product basis)	124,925
Add	Dividends and interest on consumer credit and government debt from residents	171,494
Subtract	Dividends received from residents	137,990
Add	Inventory valuation adjustment	-4,917
Equals	Canadian corporate profits before tax (**NIPA comparable**)	153,512
Deduct	Corporate income taxes	76,307
Equals	Canadian corporate profits after tax (**NIPA comparable**)	77,205

Source: CANSIM 36-10-0117-01 (formerly CANSIM 380-0078); Table: 36-10-0116-01 (formerly CANSIM 380-0076)

Chart 10 shows the time series for the before tax corporate profit share in Canada and the United States based on national accounts. The profit share is computed as the ratio of total corporation (both non-financial and financial corporations) profit to gross domestic output (income approach) at factor cost using annual data from Statistics Canada (adjusted) and BEA. In the chart we can see that the US corporate profit share is higher than the Canadian share for most of the 1961-1999 period, but lower for most of the post 2000 period.

Chart 10: Before Tax Corporate Profit Share (of nominal GDP) in Canada and the United States at factor cost, National Accounting Basis, 1961-2016, per cent



Source: Canada: CANSIM Table 380-0076-78, 380-0063; United States: BEA Table 1.11

Table 13: Average Profit Share, National Accounting Basis, Canada and the United States, per cent

	Canada (NA)	United States (NIPA)		Canada (NA)	United States (NIPA)	
	Profit share (before tax)	Profit share (before tax)	**Difference before tax**	Profit share (after tax)	Profit share (after tax)	**Difference after tax**
Business cycle						
1961-1973	10.5	10.4	-0.1	6.4	6.3	-0.1
1974-1981	6.9	8.5	1.6	2.8	4.9	2.1
1982-1989	5.8	7.2	1.4	2.5	4.6	2.1
1990-2000	5.8	7.7	1.9	2.5	4.9	2.4
2001-2008	12.8	8.4	-4.4	9.0	5.7	-3.3
2009-2016	10.7	9.8	-0.9	6.9	7.0	0.2
Decadal period						
1961-1969	11.2	11.2	0.0	7.0	6.8	-0.2
1970-1979	8.1	8.9	0.7	4.1	5.2	1.1
1980-1989	5.6	7.2	1.6	2.2	4.5	2.3
1990-1999	5.4	7.8	2.5	2.2	5.0	2.8
2000-2009	12.1	8.1	-4.0	8.2	5.5	-2.7
2010-2016	10.9	10.1	-0.9	7.1	7.0	-0.1

Note: The sample period is 1961 - 2016. The profit shares are computed by taking the ratio of profit to GDP at factor cost, income based approach. Sources: Canada: CANSIM Table 380-0078, 380-0078, 380-0063; United States: BEA Table 1.11.

Table 13 provides estimates for each of the last six business cycles and decadal periods for both countries since 1961. The trends apparent in Chart 10 can be corroborated with the average estimates over the decadal periods. While the corporate profit share in the US and Canada followed a similar decreasing trend in the beginning of the 1961-1973 business cycle, the two corporate profit shares began to differ significantly in 1975.

The corporate profit share in Canada continued the downward trend initiated in 1960 until 1980, then plunged with the 1981-82 recession, recovered significantly, and dropped exceedingly again between 1988 and 1991 due to another economic recession. In contrast, the corporate profit share in the United States fluctuated moderately within a range of 3.8 percentage points during the same period. While it also decreased in 1981 and 1988, the decline was much more modest.

From the 1990-1999 onwards, however, an upward trend is clear in both the United States and Canada. Since the 1990-1999 period, the profit share of the United States has risen 2.2 percentage points (increasing from 7.8 per cent in the 1990-1999 period to 10.1 in 2010-2016), while the corporate profit share in Canada recovered spectacularly from the low profit share observed in the three decades prior to 2000-2010. In fact, the Canadian profit share before tax went up by 5.5 points percentage points between 1991-1999 and 2010-2016.

When we examine the average corporate profit shares during business cycles, the story remains similar to that shown by the decadal periods. The before tax profit share of the United States was higher than Canada's in the three business cycles after 1961-1973 but lower in both 2001-2008 and 2009-2016. The largest gap between the two occurred in the 2001-2008 business cycle, when the before tax corporate profit share was 4.4 percentage points higher in Canada than in the United States.

The upward trend in the profit share following the 1990-2000 business cycle is steady in the United States, with average corporate profit share increasing in every cycle. In Canada, however, the upward trend since the 1990-2000 was bumpier. While the growth in the profit share was spectacularly high in the 2001-2008 business cycle, with corporate profit shares going up 7.0 percentage points between 1990-2000 and 2001-2008, the following business cycle saw a decrease in the profit share from the previous cycle of 2.1 percentage points, decreasing from its highest average profit share of 12.8 percentage points in 2001-2008 to 10.7 percentage points in the current business cycles. A corporate profit share of 10.7 percentage points, however, still represents an increase from the 1982-1989 and the 1990-2000 business cycles.

B. Trends in the Components of the Capital Share in Canada and the United States

While the focus of this report is on corporate profits, they were not the only factor contributing to the rise of the capital share of income in both Canada and the United States in recent decades. Given the well-documented upward trend in the capital share of income (or the global decline in the labour share), it then becomes important to analyze the progression of capital depreciation and the subcomponents of net operating surplus and net mixed income to gauge their contributions to the capital share.

Tables 14 and 15 show the evolution of the factor shares in Canada and the United States during the six decadal periods since 1961. Between the 1970-1979 and 2010-2016 periods, the two main components of the capital share, net operating surplus and net mixed income and capital depreciation, increased in both Canada and the United States. This increase, however, was more pronounced in the United States, where net operating surplus and net mixed income and capital depreciation (consumption of fixed capital) went up by 3.2 and 2.2 percentage points respectively (versus 1.1 and 1.8 percentage points in Canada).

The 2.1 percentage points difference in the change of net operating surplus and net mixed income between both countries was primarily driven by net mixed income. Between the 1970-1979 and 2010-2016 periods, net mixed income moved in opposite directions in Canada and the United States, decreasing by 0.7 percentage points in Canada and increasing by 2.1 percentage points in the United States. The corporate profits before taxes share of income, a subcomponent of net operating surplus and net mixed income, increased significantly more in Canada than in the United States (2.5 versus 1.2 percentage points respectively) between the 1970-1979 and 2010-2016 periods.

Table 14: Percentage Shares of Gross Domestic Income at market prices (NIPA comparable), Canada, per cent

	1961-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2016	Δ(2010-2016)-(1970-1979)
Gross domestic income	**100**	**100**	**100**	**100**	**100**	**100**	
Compensation of employees, paid	50.5	53.3	52.5	52.1	49.9	50.6	-2.6
Net indirect taxes	11.9	11.0	10.5	12.6	11.2	10.8	-0.2
Net operating surplus and net mixed income	23.4	21.0	21.4	19.9	23.7	22.1	1.1
Net operating surplus: Corporations	12.0	11.6	12.3	10.1	14.9	13.4	1.8
Corporate profits before taxes (NIPA comparable)	9.9	7.2	5.0	4.7	10.8	9.8	2.5
Net interest paid, net other payments and inventory valuation adjustment	2.1	4.4	7.2	5.4	4.2	3.6	-0.7
Net mixed income	11.4	9.4	9.1	9.8	8.8	8.7	-0.7
Consumption of fixed capital	14.1	14.6	15.5	15.4	15.2	16.4	1.8
Corporations	7.6	8.2	9.5	9.5	9.7	10.3	2.1
General governments and non-profit institutions serving households	3.1	3.3	3.0	2.9	2.7	3.3	0.0
Unincorporated businesses	3.3	3.2	3.0	3.1	2.7	2.8	-0.3

Source: Canada: CANSIM Table 380-0076-78, 380-0063

Table 15: Percentage Shares of Gross Domestic Income at Market Prices, United States, per cent

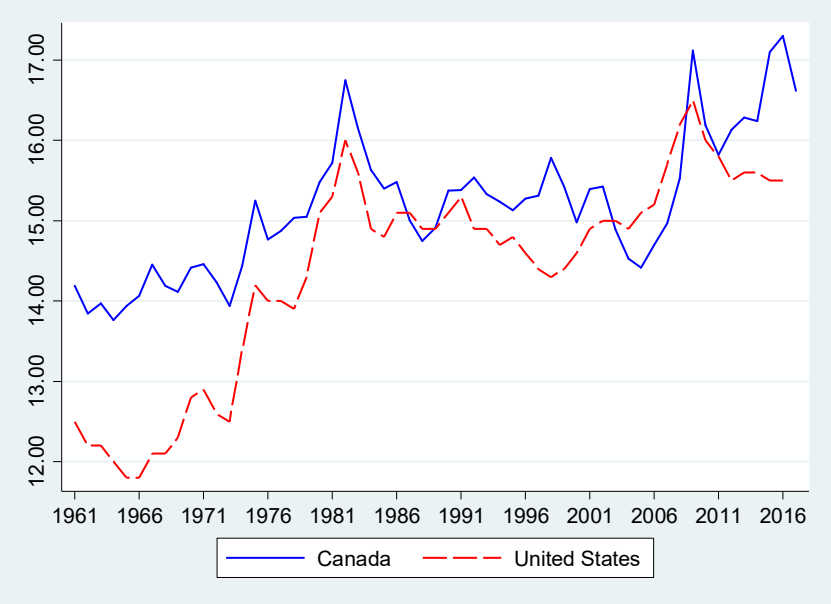
	1961-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2016	Δ(2010-2016)-(1970-1979)
Gross domestic income	**100**	**100**	**100**	**100**	**100**	**100**	
Compensation of employees, paid	**55.9**	**57.2**	**56.3**	**56.0**	**54.8**	**52.9**	-4.3
Net indirect taxes	**7.8**	**7.5**	**6.7**	**6.8**	**6.6**	**6.6**	-1.1
Net operating surplus and net mixed income	**24.1**	**21.6**	**21.9**	**22.5**	**23.2**	**25.0**	3.2
Private enterprises	24.1	21.8	21.9	22.3	23.2	25.1	3.1
Net interest and miscellaneous payments, domestic industries	2.8	4.9	8.3	6.1	5.3	4.1	-0.5
Business current transfer payments (net)	0.4	0.4	0.7	0.7	0.8	0.8	0.4
Proprietors' income with inventory valuation and capital consumption adjustments	8.4	7.1	5.7	6.6	7.4	7.4	0.1
Rental income of persons with capital consumption adjustment	2.5	1.2	0.6	1.6	2.0	3.4	2.0
Corporate profits with inventory valuation and capital consumption adjustments, domestic industries	10.0	8.1	6.6	7.3	7.8	9.4	**1.2**

Current surplus of government enterprises	0.0	-0.2	0.0	0.2	-0.1	-0.1	0.0
Consumption of fixed capital	**12.2**	**13.7**	**15.2**	**14.7**	**15.5**	**15.6**	2.2
Private	8.6	10.4	11.8	11.7	12.7	12.6	2.6
Government	3.6	3.3	3.3	3.1	2.8	2.9	-0.4

Source: BEA Table 1.11

Like the income share of corporate profits before taxes, the income share of capital depreciation also increased in both countries (Chart 11). In Canada, the income share of consumption of fixed capital has gone up by 1.8 percentage points since the 1970-1979 period, increasing from 14.6 per cent to 16.4 per cent in 2010-2016. This increase is mainly driven by the rise in the corporations' share of consumption of fixed capital, which grew by 2.1 percentage points during this period. In contrast, the consumption of capital by general governments and non-profit institutions experienced no change and the share consumed by unincorporated business, in fact, decreased 0.5 percentage points. Indeed, the corporations' share of capital consumption increased steadily every decade, going from 7.6 per cent in the 1961-1969 period to 10.3 per cent in the 2010-2016 period.

Chart 11: Depreciation Shares of GDP at market prices, United States and Canada, 1961-2016, per cent

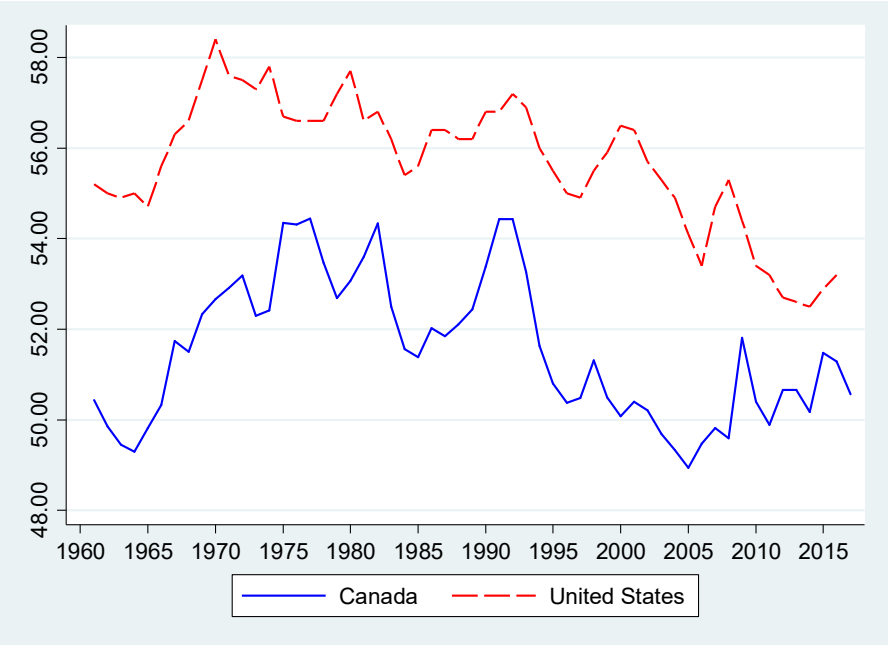


Source: Canada: CANSIM Table 380-0078, 380-0063; United States: BEA Table 1.11.

Similarly, the American economy has seen an increase of 2.2 percentage points in the income share of depreciation in the last five decades. The consumption of fixed capital has gone up from 13.7 per cent in the 1970-1979 period to 15.6 per cent in 2010-2016. Like in Canada, this increase was primarily driven by the private sector, where the consumption of fixed capital increased 2.6 percentage points, as the governments' depreciation share has, in fact, decreased 0.4 percentage points during the last five decades. As the US NIPA does not differentiate between consumption of fixed capital by corporations and unincorporated business we cannot know whether the latter share of capital consumption has increased or decreased.

To put the components of the capital share in the context of the factor shares of income, we next plot the labour share of income of both the United States and Canada over the 1961-2016 period. In line with the increase of the capital share of income in recent decades, of which the corporate profit share is a significant component, the labour share of income in both Canada and the United States has seen a downward trend since 1991. This shift in incomes, from workers to capital owners and claimants of profits (shareholders), has important consequences for income and wage inequality. As the share of gross national income going to capital owners and claimants of profits increases, the distribution of income between typical households (living on salary income) and wealthier households (which have other assets and investments) becomes more unequal.

Chart 12: Labour Share (of GDP) in Canada and the United States at market prices, national accounting basis, percent



Source: Canada: CANSIM Table 380-0078, 380-0063; United States: BEA Table 1.11.
Note: The higher labour share in the United States than in Canada is explained by the difference in the share of net indirect taxes, which is significantly higher in Canada than in the United States.

IV. The Factors Explaining the Rising Profit Share in Canada

We can attribute the upward trend in the corporate profit share to several structural and long-term factors in the Canadian economy. This development appears to be in line with other advanced economies due to factors like technological progress and globalization in trade and labour mobility (Ellis and Smith, 2007).[17] However, it is also likely that some of the factors underlying the development in the profit share in Canada are country-specific. This section analyzes the factors affecting the profit share in Canada including the structural change in the

[17] The ratio of gross operating surplus and gross value added has gone up in the majority of OECD countries between 1995 and 2010. The increase has been particularly noticeable in the United States, Germany and Austria. Denmark, Sweden and Finland, however, have experienced a decrease in the GOS/GVA ratio during the same period (OECD, STAN Database for Structural Analysis-2018). The actual change can be found in Table 3 of Appendix I of this report.

composition of output, globalization and openness to trade, technological progress, labour bargaining power, including both the union coverage rate and employment protection legislation, and the intensity of competition.

A. Sectoral Contribution to the Rise in the Corporate Profit Share

Structural change in the composition of sectoral output affect sectoral weights and can affect the aggregate profit share (de Serres, Scarpetta, and de la Maisonneuve, 2001). The rising corporate profit share is a function of both rising profits shares at the sectoral level and shifts in the composition of GDP towards sectors with above average profit shares. This section quantifies the relative contribution of these sectoral changes to the increase in the profit share by creating a fixed-weight measure of profit share and decomposing the change in the aggregate corporate profit share into the contribution of sectoral weight changes and into changes in sector-specific profit shares.

Over time, changing market conditions have resulted in changes in the compositional structure of the economy. For example, due to productivity improvements between 1987 and 2004, the Canadian agriculture and manufacturing sectors saw their share in total employment decreased without apparent changes in its nominal output share in the total economy (Morel, 2005). In contrast, the finance and insurance sector saw both its output and employment shares increased. Hence, it is possible that the aggregate capital share is affected by the fact that production in Canada has moved from labour intensive sectors to capital intensive sectors or traditionally labour-intensive sectors have become less so. We want to examine how these factors had contributed to the upward trend in the aggregate profit share from the 1990s.

As illustrated in the previous section, although all but one of the sectoral profit shares show increasing trends, the increase was much higher in some sectors than in others. The upward trend in the aggregate profit share may reflect a sectoral bias such that the trend is driven by a development occurring in a particular sector.

In order to measure the relative contribution of sectoral changes to the changes in the profit share over time, we carry out two different quantitative analyses. First, we create a fixed-weight measure of profit share (the nominal output share of each sector remaining constant over time) and compare it with the aggregate profit share over time. Then we decompose the change in the aggregate profit share into the contribution of sectoral changes in output share and into changes in sector-specific profit shares of income.

i. Fixed-Weight Aggregate Profit Share

By the first exercise, we compute a counterfactual aggregate profit share based on sector-specific fixed weights based on nominal output. By comparing the counterfactual with the actual profit share, we identify the extent of the contribution from the sectoral changes in the economy to the changing aggregate profit share.

$$Aggregate\ PSI_t = \frac{\sum_{i=1}^{I} profit_{i,t}}{\sum_{i=1}^{I} nominal\ GDP_{i,t}} = \sum_{i=1}^{I} Psi_{i,t} \times weight_{i,t} \qquad (3)$$

where $Psi_{i,t} = \frac{profit_{i,t}}{nominal\ GDP_{i,t}}$ (4)

and $weight_{i,t} = \frac{nominal\ GDP_{i,t}}{\sum_{i=1}^{I} nominal\ GDP_{i,t}}$ (5)

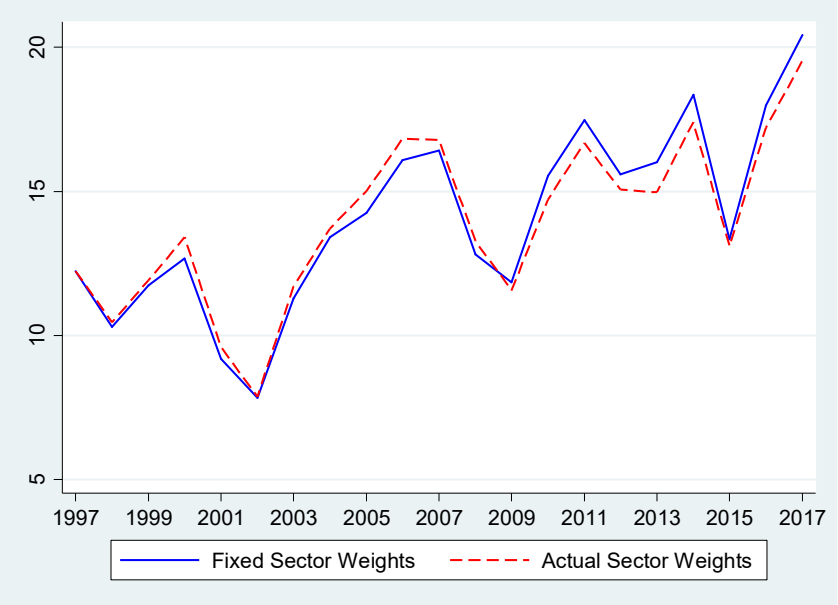
i denotes industries and $Aggregate\ PSI_t$ is the aggregate profit share of income in year t.

Following de Serres, Scarpetta, and de la Maisonneuve (2001), we use sector-specific weights from 1997 over the sample period as their fixed weight. Hence, a fixed-weight profit share can be obtained by the following:

$$Fixed\text{-}weight\ aggregate\ \ PSI_t = \sum_{i=1}^{I} Psi_{i,t} \times weight_{i,2000} \quad (6)$$

Chart 13 and Table 16 show the actual and the fixed-weight measure of the corporate profit share of income. Since the fixed-weight profit share does not stay significantly lower than the actual share, it is only slightly lower than the actual share between 1998 and 2008, the chart indicates that the rising profit share cannot be attributed to changes in the sectoral composition of the economy. We next perform the second exercise to understand how sectoral changes in profits might be potentially contributing to the upward trend observed in the corporate profit share since 1997.

Chart 13: Sectoral Aggregate Profit Share, Canada, 2000-2017, per cent



Source: Profits: CANSIM Table 187-0001; NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates (2016-2017)

Table 16: Aggregate Sectoral Profit Shares of Income, QSFS, Canada, per cent

Year	Fixed-weight share	Actual share	Δ Actual share – fixed-weight share
	(1)	(2)	(2-1)
1997	12.24	12.24	0.00
1998	10.29	10.46	0.17
1999	11.74	11.91	0.17
2000	12.68	13.41	0.73
2001	9.20	9.59	0.40
2002	7.83	7.88	0.05
2003	11.29	11.71	0.42
2004	13.41	13.72	0.31
2005	14.25	15.01	0.76
2006	16.09	16.83	0.74
2007	16.41	16.80	0.38
2008	12.81	13.28	0.47
2009	11.85	11.57	-0.28
2010	15.54	14.72	-0.82
2011	17.48	16.68	-0.80
2012	15.58	15.06	-0.53
2013	16.02	14.97	-1.05
2014	18.35	17.41	-0.94
2015	13.33	13.10	-0.24
2016	17.99	17.21	-0.77
2017	20.42	19.52	-0.90

Source: Profits QSFS: CANSIM Table 187-0001; NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017

ii. Sectoral Decomposition of the Upward Trend of the Aggregate Profit Share

In the second exercise, we decompose the change in the aggregate profit share between the years 1997 and 2017 ($t - s$ and t) into the following three components:

$$\triangle PSI_t = \sum_{i=1}^{I}\left(weight_{i,t-s}\Delta Psi_{i,t}\right) + \sum_{i=1}^{I}\left(Psi_{i,t-s}\Delta weight_{i,t}\right) + \sum_{i=1}^{I}\left(\Delta Psi_{i,t}\Delta weight_{i,t}\right) \quad (7)$$

where $\triangle X_t \equiv X_t - X_{t-s}$ (8)

The first component represents the change in the aggregate profit share attributable to variations in sectoral profit shares. The second term represents the change attributable to variations in sectoral weights expressed in terms of nominal GDP, so relative importance of the sectoral composition bias in the aggregate profit share. The last term is regarded as an unexplained residual.

We carry out the above decomposition for eighteen sectors between 1997 and 2017 and compare the changes in the sectoral profit shares to the changes in the aggregate profit share. The

ratio of the change in the sectoral profit share to the change in the aggregate profit share represents the contribution of that sector to the aggregate change.

Table 17 depicts the decomposition of the increase observed in the aggregate corporate profit share of income between 1997 and 2017, as described by equation 7. The plunge in the manufacturing share of total profits of the economy over the last two decades reported in Table 8 of Section II is related to the extensive decline of the relative importance of this sector in nominal output. The first two columns of the table reveal that the manufacturing weight in nominal production went down by 6.8 percentage points, from 17.5 per cent to 10.72 per cent, over the 1997-2017 period.

The massive fall in the manufacturing weight was offset by the rise of the share of sectoral output within total nominal output of other sectors. Indeed, Columns 1 and 2 also reveal that the relative importance of the finance and insurance sector in total nominal output went up from 6.1 per cent to 7.0 per cent between 1997 and 2017, an increase of 0.9 percentage points. So did construction (the sector with the highest increase in the share of sectoral output within total nominal output, 2.3 percentage points, going up from 5.5 per cent to 7.8 percent), professional, scientific and technical services, and education and health services. The last three sectors experienced increases of 1.1-1.6 percentage points, reaching nominal weights in the 6.0-13.0 per cent range.

The last row of Table 17 reveals the contribution of the sectoral shifts behavior to the rise in the aggregate profit share of income between 1997 and 2017. An increase in the manufacturing profit share of 7.8 percentage points (close to the overall economy increase of 7.3 percentage points; Column 6), did not offset the effect of the plunge in the relative importance of manufacturing in total production. The contribution of this sector to the variation of the aggregate profit share was, in fact, negative (-12.2 per cent). A spectacular rise in the finance and insurance profit share of 28.8 percentage points between 1997 and 2017, rising from 52.8 per cent to 81.6 percent, coupled with the increase in the sector's nominal weight, raised the finance and insurance contribution to the increase in the aggregate profit share to 33.2 per cent. From a sectoral perspective, this sector was by far the most significant driver of the rise in the aggregate profit share during this period.

The total sum of Column 10 in Table 17 displays the total increase in the aggregate corporate profit share. Over the 7.3 percentage points increase in the aggregate profit share during the 1997-2017 period, 8.2 percentage points could be attributable to variations in the sectoral profit shares. -0.67 percentage points could be attributable to sectoral shifts (driven mostly by the plunge in the relative importance of manufacturing in total production) and -0.23 to the unexplained residual. Since the explanatory power of the sectoral shift and the unexplained residual, is very low, the sectoral decomposition of the increase in the aggregate profit share points towards a clear driver: the increase in the profit share at the sectoral level, especially in the finance and insurance sector.

Table 17: Sectoral Decomposition of the Change of the Aggregate Profit Share of Income, 1997-2017

Sectors	$Y_{i,\ 1997}$	$Y_{i,\ 2017}$	$psi_{i,1997}$	$psi_{i,2017}$	Δ Y	Δ psi	$Y_{i,\ 1997}*\Delta psi$	$psi_{i,1997}*\Delta Y$	$\Delta Y*\Delta psi$	Sum	Contribution (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10) =7+8+9	(11)
Agriculture	2.09	1.83	0.10	0.20	-0.25	0.10	0.21	-0.03	-0.03	0.16	2.2
Mining	3.96	4.92	0.30	0.04	0.96	-0.26	-1.03	0.29	-0.25	-0.98	-13.5
Utilities	3.11	2.36	0.03	0.05	-0.75	0.02	0.06	-0.03	-0.01	0.02	0.3
Manufacturing	17.50	10.72	0.25	0.33	-6.78	0.08	1.36	-1.72	-0.53	-0.89	-12.2
Wholesale trade	5.44	5.42	0.10	0.29	-0.02	0.19	1.04	0.00	0.00	1.04	14.2
Retail trade	4.91	5.18	0.07	0.21	0.26	0.14	0.69	0.02	0.04	0.74	10.2
Transportation	4.85	4.73	0.11	0.20	-0.12	0.10	0.47	-0.01	-0.01	0.44	6.1
Information/culture	3.23	3.02	0.04	0.26	-0.22	0.22	0.72	-0.01	-0.05	0.66	9.1
Finance/insurance	6.15	6.95	0.53	0.82	0.80	0.29	1.77	0.42	0.23	2.42	33.2
Real estate	12.84	13.12	0.04	0.10	0.28	0.07	0.85	0.01	0.02	0.88	12.1
Profes. Services	4.32	5.93	0.07	0.16	1.61	0.09	0.37	0.12	0.14	0.63	8.6
Accommodation/food	2.30	2.26	-0.02	0.07	-0.04	0.10	0.22	0.00	0.00	0.22	3.0
Construction	5.49	7.80	0.07	0.13	2.31	0.06	0.33	0.17	0.14	0.64	8.7
Administrative/support	1.96	2.82	0.11	0.14	0.86	0.02	0.05	0.10	0.02	0.17	2.3
Arts/entert.	0.92	0.78	0.00	0.07	-0.13	0.07	0.07	0.00	-0.01	0.06	0.8
Education/Health	11.96	13.03	0.01	0.08	1.07	0.08	0.91	0.01	0.08	1.00	13.7
Other services	2.08	2.00	0.04	0.08	-0.08	0.05	0.10	0.00	0.00	0.09	1.2
Public administration	6.89	7.15	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.0
Overall economy	100	100	12.2	19.5	0.00	7.3	8.18	-0.67	-0.23	7.29	100.0

*The exact nomenclature of sectors is: agriculture, forestry, fishing and hunting, mining, quarrying, and oil and gas extraction, utilities, manufacturing, wholesale trade, retail trade, transportation and warehousing, information and cultural industries, finance and insurance, real estate and rental and leasing, professional, scientific and technical services, accommodation and food services, construction, administrative and support, waste management and remediation services, arts, entertainment and recreation, and educational, health care and social assistance services.

Y stands for weight in terms of nominal GDP (expressed in per cent) and *psi* stands for profit's share of income. The column Sum equals to (Y i, 1997*Δpsi + psi i,1997*ΔY + ΔY*Δpsi). The contribution for industry *i* to the aggregate change in the profit share of income is the ratio of the sum of industry *i* to the sum of the total economy's change.

Sources: NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017; sectoral profits QSFS: CANSIM Table 187-0001

B. Globalization and Openness to Trade

Previous research has studied whether trade openness is an important factor explaining fluctuations in the aggregate labour share of income (and hence, the corporate profit share). Importantly, the entry of China and other emerging economies in Asia into the global market economy has increased the global supply of not only labour intensive goods but also low-wage and low-skilled labour, without an equivalent stock of capital for this labour to work with (Phelps, 2006). This would lead to a reduction in the return to labour (or higher return to capital) in developed countries like Canada until the adequate level of capital is reached.

Despite the difficulty in disentangling the effects of globalization and technological progress, Elsby, Hobjin and Sahin (2013) present evidence indicating that the labour share declined the most in U.S. industries that were strongly affected by increasing imports (e.g., from China). Similarly, Autor, Dorn and Hanson (2016) as well as Pierce and Schott (2016) have documented employment losses in U.S industries more exposed to import competition from China. For the case of Canada, Murray (2017) and Kim (2018a, 2018b) estimate significant job losses from rising Chinese import competition over the 2001-2011 period, particularly in the manufacturing sector.

The negative effect of globalization on the labour share (or positive effect on the capital share of income, which includes the corporate profit share) in developed economies tends to be amplified as workers in industrialized economies moderate their wage claims due to fear of production being relocated to emerging economies. Ortega and Rodriguez (2002), Harrison (2002) and Jaumotte and Tytell (2007) argue that openness to trade negatively affects the bargaining power of labour relative to capital, reducing the labour's share within tasks that have not been offshored. This argument is supported by recent work from Kramarz (2016) linking financial integration and labour's bargaining position. As mobility of capital across countries is enhanced by financial integration, especially in the form of foreign direct investment, the subsequent relocation of production towards countries with cheaper inputs lowers the labour's bargaining position (and increases the capital owners' bargaining power) in the industrialized economies.

The implication from the Heckscher-Ohlin model is that an increase in trade openness leads to higher real returns for a country's relatively abundant factor of production. Since industrialized economies like Canada are capital-abundant, openness is likely to be associated with an increase in the capital share. As the capital share rises due to scarcity of capital compared with labour, the relative price of investment goods must rise. According to Ellis and Smith (2007), however, this has not been the case across developed countries. The inability of the Heckscher-Ohlin model to correctly predict movements across factor shares implies openness to trade in itself might not necessarily be the main nor the only driver of the rise in the capital share in developed economies.

A recent IMF study found that participation in global value chains (GVC), an important component of trade globalization, on the other hand, exerts a strong negative impact on the labour share of income in both advanced and emerging economies (Dao *et al.*, 2017). This finding supports the idea that low-skill and labour intensive tasks offshored from developed countries are, nevertheless, considered high-skill tasks when compared with existing tasks in the recipient emerging market economies. If the capital intensity of the tasks likely to be offshored differs

between the sending and the recipient economy, the capital shares of both countries participating in GVC could potentially increase (Feenstra and Hanson, 1997).

Indeed, the IMF's empirical analysis of the long-term changes in the aggregate labour share of income across a set of developed and emerging economies between 1991 and 2014 estimated that an increase in intermediate goods imports of 4 per cent of GDP (the median rise in GVC integration in their sample) is associated on average with a 1.6 per cent point decline (increase) in the aggregate labour share (capital share) (Dao *et al.*, 2017). The negative effect on the labour share of participating in GVC, however, was significantly larger in emerging markets than in advanced economies like Canada's. The smaller impact in developed economies may reveal the reallocation of displaced workers from manufacturing to low-skill (but labour intensive) service industries, which potentially rises the labour share and offsets the negative impact of GVC on the same.

Based on the IMF results and the fact that Canada's participation in global value chains is lower than most advanced economies and has increased very little compared to most OECD countries in recent decades (Criscuolo and Timmis, 2017),[18] participation in GVCs does not seem to be one of major drivers behind the rise in the Canadian capital share, and specifically, its corporate profit share.

C. Technological Progress

In general, the factor shares of income are affected by factor-biased technological progress (Bentolila and Saint-Paul, 2003; Young, 2004). If capital can easily substitute labour (i.e. elasticity of substitution is above one in absolute value), a capital-augmenting improvement in technology will increase the productivity of capital relative to labour. Technological progress and the decline in capital prices it brings about, induces firms to substitute capital for labour, a phenomenon known as capital deepening, shifting income shares from labour towards capital. Karabarbounis and Neiman (2014a) find, however, that making substitution of capital for labour more attractive to firms due to a decline in the user cost of capital is highly dependent on the elasticity of substitution of capital and labour.

In theory, the elasticity of substitution is not necessary stable over time and can vary across countries and industries. An example of this can be found in the transportation services industry, where the advent of global positioning technology led to a dramatic increase in the substitution of capital for labour. Furthermore, this substitution is bound to be exacerbated in the future with the rapid development of self-driving cars.

The elasticity of substitution can also depend on worker's skills: the higher the skill level the less replaceable for capital workers become (Krusell *et al*., 2000). Moreover, it can depend on the nature of tasks: routine and codifiable tasks are easier to substitute than more complex tasks and are therefore at a higher risk of being replaced by capital when the relative cost of capital falls

[18] Canada's total GVC participation, the sum of backwards and forwards participation, was 40 per cent of total gross exports in 2011compared to the OECD median of 52 per cent. It increased by only 7.5 per cent of GDP between 1995 and 2011 compared to the OECD median increase of 12.5 per cent (Criscuolo and Timmis, 2017).

(e.g clerical and assembly-line work are much more easily replaced by capital technology than tasks such as cutting hair or performing surgery).

Indeed, the growth in IT capital and the decline in ICT prices brought about by technological changes has led to labour displacement through the automation of routine tasks (Autor and Dorn, 2013; Goos, Manning, and Salomons, 2014; and IMF, 2017). Since routine task automation increases the rental rate of capital permanently, in the new equilibrium workers are marginally less productive after adjustment to the new capital and receive a smaller share of aggregate output. Abdih and Danninger (2017) find that the routinization intensity, the initial level of potentially "routinizable" occupations of an industry, is the main driver of the downward trend in the labour share, explaining 44 to 57 per cent of the *within industry* decline since 2001 in the United States. Similarly, Karabarbounis and Neiman (2014b) attribute half of the decline in labour shares globally to technological progress. Despite the lack of a similar study for Canada, it is likely that there is a comparable effect of routinization at play, especially since the IMF estimates that, on average, the elasticity of substitution of capital for labour is greater than 1 for advanced economies (Dao *et al.*, 2017).

The automation of routine tasks, however, is not affecting workers across the skill and income distribution in the same way, a phenomenon known as skill-biased technological advancement. Autor and Dorn (2013) and Goos, Manning, and Salomons (2014) provide evidence for a link between the adoption of information technology and the polarization of employment and wages in the United States and advanced European economies. They find that lower and middle skilled workers bore most of the fall in the labour share of income amid decreases in middle skill occupations as well as income losses.

Focusing on the profit share instead, Hornstein, Krusell, and Violante (2002, 2003) argue that the underlying upward trend in the share of profits could be a result of an increased rate of technological change affecting IT-related capital goods. Although it is true that IT goods are a small share of the capital stock, many non-IT goods contain IT components. If rapid technological innovation allows for a faster rate of improvement in productivity (albeit the cost of a higher rate of depreciation and obsolescence), then the profit share could rise at a faster rate.

The increase in the profit share, however, is dependent and exacerbated by the existence of search frictions in the labour market. As the faster rate of innovation makes new types of capital more attractive to firms relative to existing IT-embodied capital, firms want to change their capital and production more frequently than before. This also implies more frequent changes in their labour force to make the best use possible of the newly available technology. The resulting increase in employment churn (turnover) *ex ante* reduces the rate of matching between firms and workers, which in turn, endogenously enhances the firms' bargaining power and allows them to reap a larger share of the rents from the search frictions.[19]

Applying Hornstein, Krusell, and Violante (2002, 2003) model to a sectoral analysis of the United States, Ellis, Lucy and Smith (2007) find that the largest upwards trends in the profit shares occur in the industries that use IT capital more intensively in order to reduce inventory and other

[19]Bentolila and Saint-Paul (2003) argue that adjustment costs associated with a higher turnover in the workforce affect the labour share negatively by generating a wedge between the value of the marginal product of labour and actual wages since the labour cost to firms now includes hiring and firing costs.

costs, such as finance, wholesale and retail trade. In contrast, they find that labour intensive service industries or industries with a high unionization rate, such as manufacturing, seem to have experienced flat to falling profit shares. Given the spectacular increase in the sectoral profit share of the finance and insurance sector in Canada, the increase in firms bargaining power associated with rapid technological progress and the consequent decline in the price of IT capital might be driving some of this rise.

D. Labour Bargaining Power

The bargaining power of labour is directly affected by the institutions governing the employer-employee relationship. For example, Giammarioli *et al.* (2002) show that the shrinking labour share in Europe since the mid 1980s has been a result of labour market deregulation and a decline in union membership. Similarly, Caballero and Hammour (1998) argue that a wage increase initiated by organized labour unions can lead firms to substitute away from labour to capital. Most recently, Azar, Marinescu and Steinbaum (2017) find that labour markets concentration and the monopsony power of employers, where a lack of competition among employers allows them to significantly limit labour bargaining power, have a negative effect on the wage share. In other words, a lower bargaining power of labour is associated with a higher corporate profit share and vice versa.

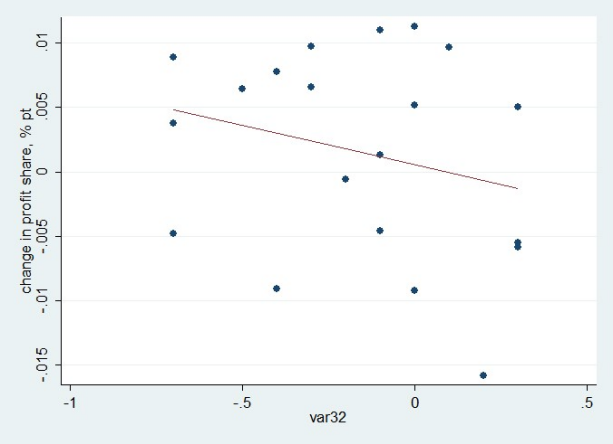
i. Union coverage rate

There is essentially no one comprehensive measure that captures all dimensions of labour bargaining power. We use union coverage rate as a very rough proxy by assuming that the ability to affect wages is a positive function of the share of organized workers in the industry (Macpherson and Stewart, 1990).[20] Chart 14 shows the relationship between annual changes in profit shares and union coverage rates in Canada. Panel A shows the relationship between the profit share of the total industries and the union coverage rate. At the aggregate level, we observe a clear negative relationship between change in corporate profit share and change in union coverage rate, which supports the findings of Giammarioli *et al.* (2002) and Caballero and Hammour (1998).

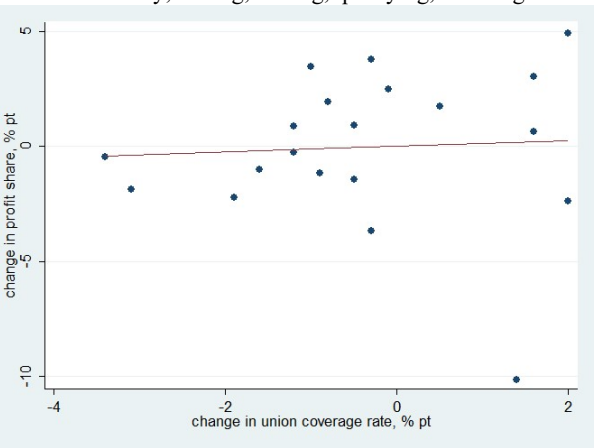
[20]The union coverage rate is the share of the employees who are members of a union and employees who are not union members but who are covered by a collective agreement or a union contract.

Chart 14: Annual Change in the Profit Share and the Union Coverage Rate, total and selected sectors, 1997-2017

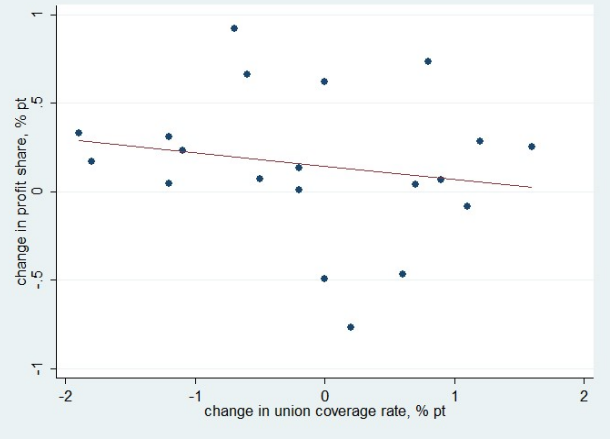
Panel A: Total Industries



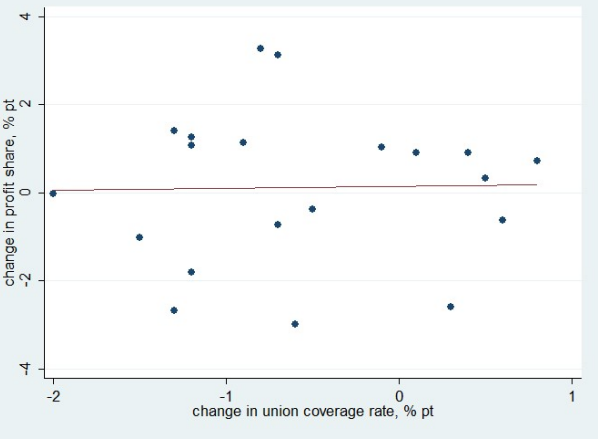
Panel B: Forestry, fishing, mining, quarrying, oil and gas



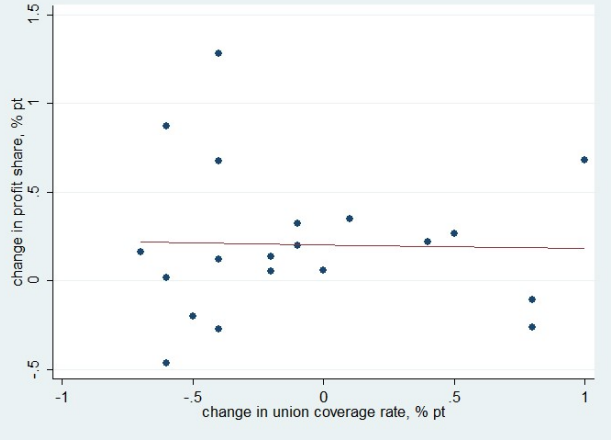
Panel C: Construction



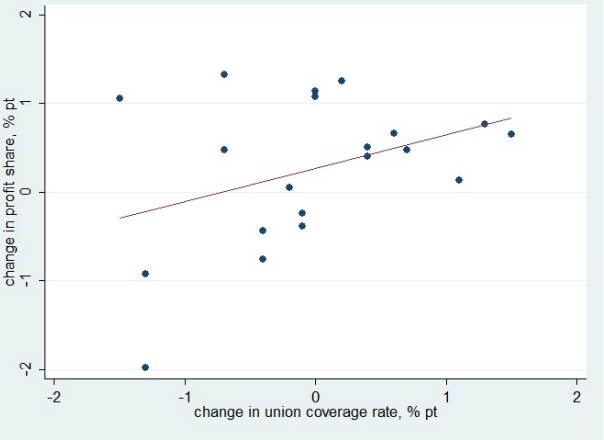
Panel D: Manufacturing



Panel E: Wholesale and retail trade



Panel F: Finance, insurance, real estate, rental and leasing

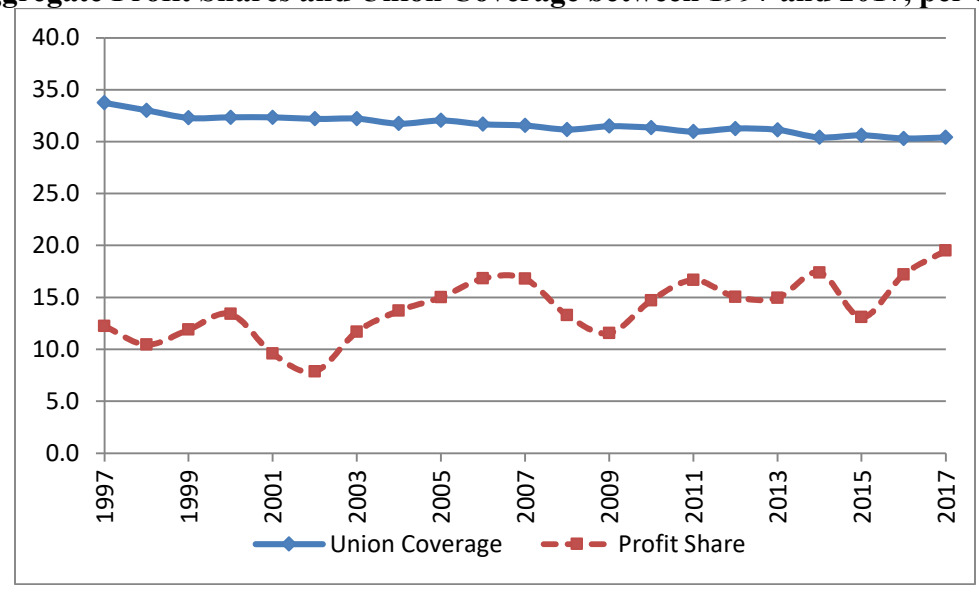


Note: For mining, quarrying, oil and gas (Panel B), the union coverage rate includes not only the mining, quarrying, oil and gas sector but also forestry, fishing, sector. Data is not available for the mining, quarrying, oil and gas sector alone.

Source: profits QSFS: CANSIM Table 187-0001, NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017, union rates CANSIM 282-0223

In general, from 1997 to 2017, there is a negative relationship between union coverage rate and the profit share in Canada by sector (Chart 16-17) [21] Over time, union coverage rates decrease steadily while profit shares increase. At the aggregate level, during the 1997-2017 period, the corporate profit share increased from 12.2 per cent to 19.5 per cent as union coverage decreased by 3.3 percentage points from 33.7 per cent to 30.4 percent. In addition, the highest profit share of the total sector occurs in 2017 while the highest union coverage was in 1997. Chart 15 shows profit shares and union coverage rates at the aggregate level.

Chart 15: Aggregate Profit Shares and Union Coverage between 1997 and 2017, per cent

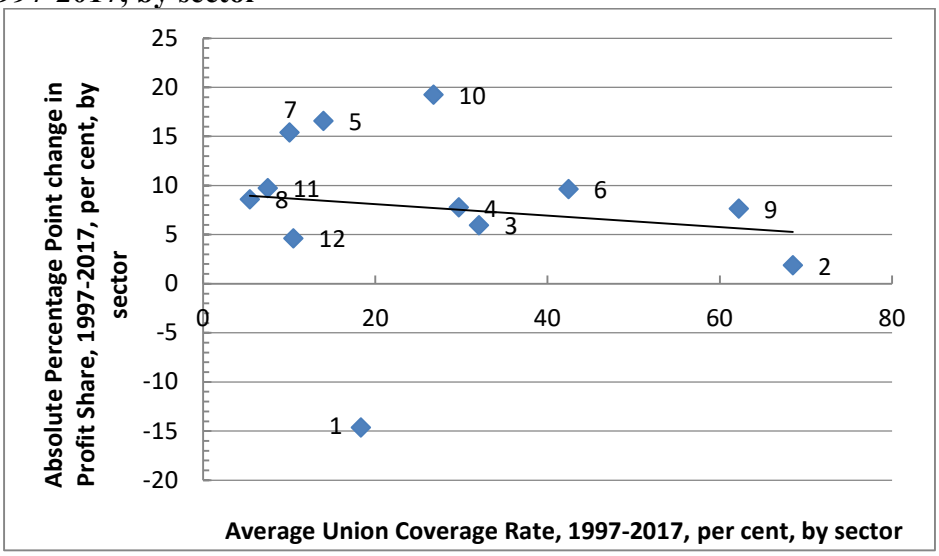


Source: Union rates: CANSIM Table 282-0078; Profits: Statistics Canada: CANSIM Table 187-0001; GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates: 2016-2017

Between 1997 and 2017, all sectors except agriculture, forestry, fishing, mining, quarrying, oil and gas have union coverage decreasing with increasing profit shares (Table 18). While this sector experienced a decline in union coverage (from 22.2 percentage points to 18.1 percentage points) like all other sectors, its profit share decreased from 23.4 percentage points to 8.7 percentage points.

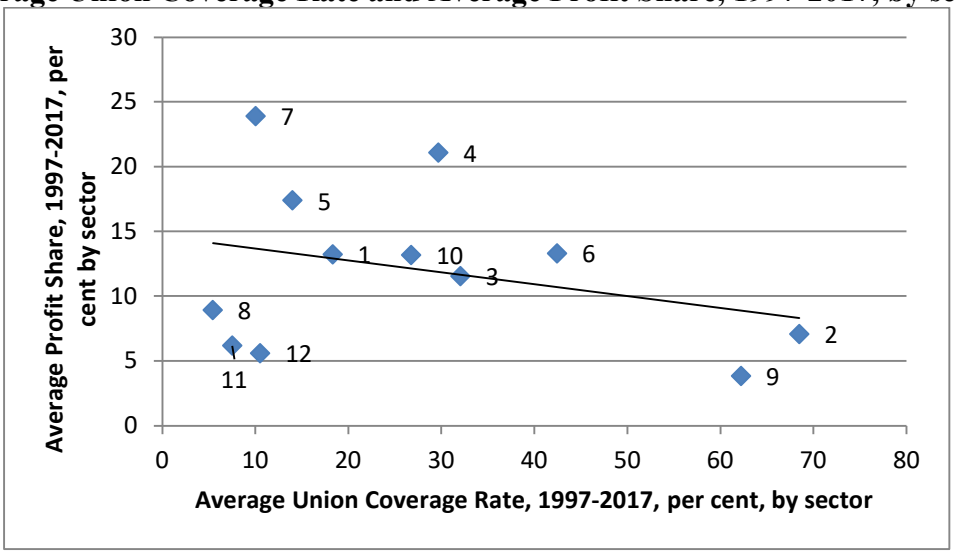
[21] The Pearson linear correlation coefficients between annual union coverage rates and annual profit shares are negative for nine out of ten sectors, including (2) utilities (-0.11), (3) construction (-0.65), (4) manufacturing (-0.28), (5) wholesale and retail trade (-0.62), (6) transportation and warehousing (-0.79), (7) finance, insurance, real estate, rental and leasing (-0.37), (8) professional, scientific and technical services (-0.43), (9) information, culture and recreation (-0.37) and (10) accommodation and food services (-0.6). The coefficient for the remaining sector (1) agriculture, forestry, fishing, mining, quarrying, oil and gas is 0.04. In terms of all industries, the linear correlation is negative (-0.79).

Chart 16: Average Union Coverage Rate and Absolute Percentage Point Change in the Profit Share, 1997-2017, by sector



Source: Union rates: CANSIM Table 282-0078; Profit estimates: Statistics Canada: CANSIM Table 187-8001; NA GDP: CANSIM Table 380-0029 (2007-2015) and CSLS estimates (2016-2017).
Note: 1: Agriculture, fishing, hunting, mining, quarrying, and oil and gas extraction; 2: Utilities; 3: Construction; 4: Manufacturing; 5: Wholesale and retail trade; 6: Transportation and warehousing; 7: Finance, insurance, real estate, rental and leasing; 8: Professional, scientific and technical services; 9: Educational Services, health care and social assistance; 10: Information, culture and recreation; 11: Accommodation and food services; 12: Other services (except public administration).

Chart 17: Average Union Coverage Rate and Average Profit Share, 1997-2017, by sector



Source: Union rates: CANSIM Table 282-0078; Profit estimates: Statistics Canada: CANSIM Table 187-8001; GDP estimates: Statistics Canada: CANSIM Table 379-0029
Note: 1: Agriculture, fishing, hunting, mining, quarrying, and oil and gas extraction; 2: Utilities; 3: Construction; 4: Manufacturing; 5: Wholesale and retail trade; 6: Transportation and warehousing; 7: Finance, insurance, real estate, rental and leasing; 8: Professional, scientific and technical services; 9: Educational Services, health care and social assistance; 10: Information, culture and recreation; 11: Accommodation and food services; 12: Other services (except public administration).

As for union coverage, the rates of all sectors have declined since 1997. Among all sectors, union coverage of manufacturing shrank the most from 1997 to 2017 (-11.3 percentage point) while finance, insurance, real estate, rental and leasing fell the least (-0.5 percentage point).

Table 18: Union Coverage Rates and Profit Shares

	Union Coverage			Profit Share		
Sectors	**1997**	**2017**	**Absolute Change**	**1997**	**2017**	**Absolute Change**
Aggregate	33.7	30.4	-3.3	12.2	19.5	7.3
Agriculture, Forestry, fishing, mining, quarrying, oil and gas	22.2	18.1	-4.1	23.4	8.7	-14.6
Utilities	72.2	63.5	-8.7	3.4	5.3	1.9
Construction	32.4	30.1	-2.3	7.4	13.3	6.0
Manufacturing	36.4	25.1	-11.3	25.4	33.2	7.8
Wholesale and retail trade	14.9	13.3	-1.6	8.4	25.0	16.6
Transportation and warehousing	45.4	39.7	-5.7	10.5	20.2	9.6
Finance, insurance, real estate, rental and leasing	10.4	9.9	-0.5	19.6	35.0	15.4
Professional, scientific and technical services	5.7	4.6	-1.2	7.3	15.9	8.6
Educational services, health care & social assistance	63.4	61.3	-2.1	0.5	8.2	7.6
Information, culture and recreation	30.3	23.8	-6.5	3.3	22.6	19.3
Accommodation and food services	8.7	6.9	-1.8	-2.3	7.4	9.7
Other Services (except public administration)	10.9	9.6	-1.3	3.5	8.2	4.6

Source: Union rates: CANSIM Table 282-0078; Profit estimates: Statistics Canada: CANSIM Table 187-0001; GDP estimates: Statistics Canada: CANSIM Table 379-0029

ii. Employment Protection Legislation

Firms operating in countries with less protected labour markets may respond to technological progress by decreasing wages while maintaining or increasing profit margins. Ellis and Smith (2007) show that labour market regulation is positively related to profit shares using variations in profit shares and employment protection regulation (EPL) across 20 developed countries.

The OECD produces EPL indicators. They are two synthetic indicators of the strictness of regulation on dismissals for regular and temporary contracts. They are compiled from 21 items covering three different aspects of employment protection regulations. For Canada, the index on strictness of employment protection for individual and collective dismissals for regular contracts

has been 0.92 (in scale from 0 (least restrictions) to 6 (most restrictions)), for every year for the period 1985-2013.[22] During the same period, the OECD average for regular contracts was 2.12 and the U.S. average was 0.26. For temporary contracts, the index for Canada remained at 0.25 for every year over the 1985-2013 period, the exact same level as the U.S over the sample period. Since there has been no movement in the degree of EPL in Canada, the effect proxied by EPL has not contributed to the upward trend in the profit share *within* Canada.[23]

E. Competition

i. Product Market Regulation

Stringent product market regulations (PMR) allow firms to maintain high margins for long enough resulting in a secular increase in the profit share. The OECD publishes economy-wide PMR indices as well as sector indices for oligopolistic sectors such as telecommunications, financial services, and transportation for different countries. They also develop indices related to sector regulators (regulatory management practice) and competition law and policy.

Table 19 shows both the economy-wide and sectoral PMR indices for Canada and the United States. Between 1998 and 2013, economy-wide product market regulations became less restrictive in both Canada and the U.S. The liberalization of product markets over that period, however, was more significant in Canada, where the economy-wide PMR index went down by 0.49 points (versus 0.04 points for the U.S). For the sector regulators, the PMR index in Canada went down in telecommunication and professional services in both countries between 1998 and 2013. Although product market regulations in the transportation sector also became less stringent in the U.S, the Canadian transportation sector experienced no change during that period. Interestingly, the only sector that experienced an increase in product market regulations in Canada between 1998 and 2013, was retail, going up by 0.15 points from 2.35 in 1998 to 2.50 in 2013. The economy-wide and sectoral decrease (with the exception of retail) in the PMR index experienced in Canada between 1998-2013 suggests changes in product market regulations were not directly responsible for the rise in the Canadian corporate profit share. Furthermore, this indicator does not support the view that there has been a decline in competitive intensity in the Canadian economy.

Table 19: OECD Product Market Regulation Index, economy-wide, by sector, Canada, U.S.

Panel A: Canada					
	Economy-wide	**Retail**	**Transportation**	**Telecommunication**	**Professional services**
1998	1.91	2.35	1.33	0.59	3.24
2003	1.64	2.50	1.33	0.51	3.15
2008	1.53	2.50	1.33	0.59	3.21
2013	1.42	2.50	1.33	0.52	3.08

[22] This index is based on version 1 of the OECD EPL indicator.

[23] However, the EPL data would be useful if we are looking to use cross-country variations as the EPL index varies across countries.

Panel B: U.S.					
	Economy-wide	**Retail**	**Transportation**	**Telecommunication**	**Professional services**
1998	1.63	-	2.17	0.66	-
2003	1.44	2.00	2.33	0.33	1.35
2008	1.59	1.76	1.58	0.60	1.12
2013	1.59	1.90	1.58	0.35	1.06

Source: OECD

ii. Market Power

Firm-level markups, the ratio of output prices to marginal costs, can have distributional implications. Firms that can charge a price significantly above marginal cost produce less output. This in turn negatively affects the demand for inputs such as labour. As markups increase and profits rise, the ratio of expenditure on labour over sales decreases, reducing the labour share. Recent research by De Loecker and Eeckhout (2017) documenting the rise in the average global markup, which increased from 1.1 in 1980 to 1.6 in 2016, suggests that markets are becoming more concentrated, especially within narrowly defined industries, with potential implications for the corporate profit and the labour share.

De Loecker and Eeckhout (2017) also found that markups rose more significantly in advanced economies in Europe and North America than in emerging markets. Building on De Loecker and Eeckhout's work, a recent IMF paper on global markups estimated the average increase in markups in advanced economies since 1980 to be 39 per cent (Díez *et al.*, 2018). Furthermore, the evolution of the estimated markups in Canada was found to be comparable to that of the United States, which at 42 per cent was slightly above the average for advanced economies. As the labour share has been decreasing steadily since 1980, the increase in market concentration facilitated by higher marks ups must have played a role in the rise of the corporate profit share in Canada.

V. Policy Implications

The rise in the capital share, towards which the increase in the corporate profit share has contributed significantly, is the counterpart of the fall in the labour share. This phenomenon has been well studied and has been linked to globalization, technological change, and more recently, market power, and the resultant weakened bargaining power of labour. These economy-wide developments appear to have been at play in Canada, as evidenced by the decline in union coverage.

This shift in incomes, from workers to capital owners and claimants of profits (shareholders), has important consequences for income inequality. As the share of gross national income going to capital owners and claimants of profits increases, the distribution of income between typical households (living on salary income) and wealthier households (which have other assets and investments on top of their salary incomes) becomes more unequal (Dao et al., 2017). Furthermore, recent studies on the tax heavens wealth indicate that wealth inequality worldwide

has been significantly underestimated because a large proportion of it, and profits specifically,[24] is put in overseas tax heavens (Alstadsæter *et al.*, 2018; Tørsløv *et al.*, 2018).

A lower level of competitive intensity can lead to rising profit shares. However, the decline in the OECD Index of Product Market Regulation for Canada, seen by many as an indicator of the degree of competition in a country, would appear to suggest that the competitive intensity has not fallen in this country, at least at the aggregate level. This does not imply that the same applies at the sector level. The large rise in the corporate profit share on finance and insurance may well reflect a decrease in competition linked to significant market concentration and entry barriers, such as the 10 per cent maximum ownership restriction for Schedule 1 banks. Furthermore, the increase in the profit share in the finance and insurance could also be linked to increasing markups.

From a public policy perspective, two implications arise from the findings of this report. First, inclusive growth may be impeded by the rising profit share given that income from capital in the form of dividend and capital gains is highly unevenly distributed. Second, the rise of 28.8 percentage points in the corporate profit share of the financial sector between 1997 and 2017 suggests that the government should investigate whether this situation is healthy for the overall economy and to what degree it reflects increased concentration and limited competition. Policies that promote greater competition in the sector, such as measures that promote fin tech innovations to intensify competition for the traditional players, should be encouraged.

VI. Conclusion

The key finding of this report is the increase of the corporate profit share in the Canadian economy between 1997 and 2017 according to both national accounts and financial data. This development was widespread, with the profit share increasing in all sectors except mining, quarrying and oil and gas. It was also concentrated. One sector, the financial sector, which accounts for less than one tenth of GDP, was responsible for 33 per cent of the increase in the profit share.

There was very wide variation in the profit share among sectors in Canada around the average share of 19.5 per cent in 2017, ranging from a high of 81.6 per cent in finance and insurance to a low of 4.5 per cent in mining, quarrying and oil and gas extraction. Manufacturing had the second highest profit share at 33.2 per cent and wholesale trade the third at 28.7 per cent.

Based on national accounts, and the Quarterly Survey of Financial Statistics (QSFS), there has been a significant upward trend in the aggregate corporate profit share (corporate profits/GDP) in the Canadian economy since the later 1990s or early 2000s. The before-tax corporate profit share on a national accounts basis in Canada rose 3.8 percentage points between the 1961-1999 and 2000-2017 periods from 5.6 per cent to 9.3 per cent. Similarly, the aggregate profit share based on QSFS data rose 7.3 percentage points from 12.3 per cent in 1997 (the first-year sectoral data are available) to 19.5 per cent in 2017.

The upward trend in the profit share is broadly based as it has been experienced by 16 of 17 sectors. The only sector with a fall in their profit share between 1997 and 2017 was mining, quarrying and oil and gas extraction, reflecting a recent decrease in commodity prices. The sector

[24] Tørsløv *et al.* (2018) estimate that 40 per cent of multinational profits are shifted to tax havens globally each year.

enjoying the largest increases in profit share between 1997 and 2017 was finance and insurance, up 28.8 points. The second largest was information and cultural industries, up 22.3 points. In 2017, finance and insurance accounted for 29.1 per cent of total profits in the Canadian economy, up from 26.7 per cent in 1997. Manufacturing fell from 36.6 per cent to 18.2 per cent of total profits over the period.

In terms of the 7.3 percentage point increase in the aggregate profit share between 1997 and 2017, finance and insurance contributed 33.0 percent, with four fifths of this contribution from the large increase in the average profit share in the sector and one fifth from the sector's rising share of GDP.

Seven sectors each accounted for around one tenth of the rise in the profit share: wholesale trade; retail trade; real estate; information and cultural services; professional services; construction; and education and health services. On the other hand, developments in mining and manufacturing both reduced the aggregate profit share.

There appears to be two underlying forces driving the upward trend in the aggregate profit share in Canada. First, general, economy-wide factors such as globalization, technological change and declining union density have reduced labour's bargaining power and hence labour's income share, with a corresponding rise in the corporate profit share and the capital share. Second, factors specific to the financial and insurance sector, such as limited competition, have boasted profits substantially in that sector.

Perhaps surprisingly, economic rents in the natural resource sector have not been substantial over the 1997-2017 periods and on average have not boasted profits in the mining, quarrying and oil and gas extraction. Periods of high commodity prices such as the second half of the 2000s (except 2009) and early 2010s have been more offset by periods of weak commodity prices, resulting in an average profit share in the sector over the 1997-2017 period of only 9.2 per cent, below the aggregate 13.8 per cent.

Based on comparable national accounts definitions, the pre-tax profit share in Canada has been below that in the United States in every business cycle between the 1974-1981 and 1990-2000 periods, but above the United States' profit share since the 2000s. To the degree that competitive intensity is a factor affecting the profit share, this may suggest that competition in Canada may be slightly weaker than in the United States. The after-tax profit share in Canada has followed a very similar pattern that the pre-tax share. It was below that of the United States in every business cycle between the 1974-1981 and 1990-2000 periods, but higher in the 2001-2008 period. In recent years, however, the after-tax corporate profit share has been the same in Canada and the US (6.9 and 7.0 per cent respectively in the 2009-2016 period).

A research priority is a better understanding of the reasons for both the high profit share in finance and insurance and the large absolute increase in this share. Other research priorities include the assessment of the impact of automation, increasing markups and market concentration on the profit share.

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Appendix Tables

Table 1: Percentage Shares of Gross Domestic Income at factor prices, Canada, decadal periods, per cent

Canada	1961-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2016	2010-2017
Gross domestic income	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Compensation of employees, paid	**57.4**	**59.9**	**58.7**	**59.6**	**56.2**	**56.8**	**56.8**
Net operating surplus	**26.5**	**23.6**	**23.9**	**22.8**	**26.7**	**24.8**	**24.70**
Net operating surplus: Corporations	13.6	13.0	13.7	11.6	16.8	15.0	14.94
Corporate profits before taxes	10.5	7.3	2.5	1.9	9.7	9.1	8.99
Interest and miscellaneous investment income	3.1	5.7	11.2	9.7	7.1	5.9	5.95
Net mixed income	13.0	10.6	10.2	11.2	9.9	9.7	9.76
Consumption of fixed capital	**16.0**	**16.5**	**17.4**	**17.6**	**17.1**	**18.4**	**18.47**
Corporations	8.6	9.2	10.6	10.8	11.0	11.6	11.58
General governments and non-profit institutions serving households	3.5	3.7	3.3	3.3	3.0	3.7	3.70
Unincorporated businesses	3.8	3.6	3.4	3.5	3.1	3.2	3.19

Source: Statistics Canada: Corporate profits: Table 380-0078; GDP: 380-0063

Table 2: Decomposition of before-tax and after-tax corporation profit, Canada, annual (million dollars)

Year	**Corporation profits before taxes (gross domestic product basis)**	Plus: dividends and interest on consumer credit and government debt from residents	Plus: interest and dividends received from non-residents	Less: taxes on income (corporate income tax)	**Equals: corporation profits after taxes**
	A	B	C	D	E = A+B+C-D
1988	25,591	34,544	13,920	17,586	56,469
1989	12,015	42,335	12,680	18,566	48,464
1990	-10,304	44,869	14,045	16,834	31,776
1991	-18,071	43,048	12,925	15,015	22,887
1992	-11,559	39,822	10,880	14,517	24,626
1993	2,543	35,102	11,761	16,263	33,143
1994	23,855	35,119	13,703	19,342	53,335
1995	26,449	42,594	17,905	22,138	64,810
1996	31,921	43,684	18,503	26,239	67,869
1997	39,003	48,944	22,092	32,251	77,788
1998	28,019	49,636	20,667	30,801	67,521
1999	50,061	54,062	18,631	39,403	83,351
2000	73,285	64,907	21,163	48,194	111,161
2001	73,999	71,308	15,778	36,338	124,747
2002	93,577	67,373	14,797	35,743	140,004
2003	112,537	71,067	12,705	39,906	156,403
2004	138,782	82,054	14,428	46,242	189,022
2005	154,903	96,004	21,791	48,687	224,011
2006	151,787	98,523	32,205	57,177	225,338
2007	138,469	100,323	34,700	55,284	218,208
2008	163,001	104,278	32,970	54,760	245,489
2009	90,054	114,899	23,106	53,319	174,740
2010	138,267	120,651	25,553	55,163	229,308
2011	170,244	123,512	26,219	57,374	262,601
2012	154,037	138,458	27,053	58,683	260,865
2013	169,060	151,816	29,602	62,813	287,665
2014	183,611	157,089	33,232	67,613	306,319
2015	126,918	156,031	35,539	68,741	249,747
2016	118,290	167,599	39,135	70,547	254,477
2017	159,490	170,993	47,266	74,507	303,242

Source: Statistics Canada: [A] CANSIM Table 380-0063, seasonnally adjusted at annual rates; [B-E]: CANSIM Table 380-0078

Table 3: Change in the Ratio of Gross Operating Surplus and Value Added between Beginning and Ending Period Years, current prices

	1995-2010	1995-2000	2000-2010	2000-2008	2008-2010
Country					
Denmark	-4.5566	-1.2556	-3.301	-4.2038	0.9027
Netherlands	0.2028	0.3991	-0.1963	0.9145	-1.1108
Korea	1.6985	3.7054	-2.007	-3.9635	1.9565
Belgium	1.0471	-0.2836	1.3307	0.9639	0.3669
Slovenia	2.8677	3.2871	-0.4194	2.0518	-2.4712
Norway	2.3592	4.3572	-1.998	2.1325	-4.1306
Sweden	-5.6635	-5.9331	0.2696	-0.7872	1.0568
Austria	4.9595	2.6458	2.3137	3.4431	-1.1295
Hungary	3.3031	1.6251	1.6779	-0.9134	2.5913
Italy	-3.3238	-0.4926	-2.8312	-2.3327	-0.4985
Germany	3.2278	-0.1958	3.4236	4.61	-1.1864
Finland	-3.0782	1.6993	-4.7775	-2.0861	-2.6914
Czech Republic	-0.8872	0.9982	-1.8854	-2.1032	0.2178

Source: STAN Database for Structural Analysis: 'GOPS Gross operating surplus and mixed income' /'VALU Value added, current prices'

Appendix I

i. Data Sources for the United States

The Bureau of Economic Analysis' procedure for estimating National Income and Product Accounts (NIPAs) corporate profits is largely based on tax return information (Petrick, 2002). Since annual tax return information is only available with a 2-year lag, they need to use more timely data from financial accounting measures (such as financial data from the Census Bureau) to interpolate and extrapolate the tax-return-based NIPA profits.

Importantly, BEA supplements the corporate profit estimates with two main adjustments: the inventory valuation adjustment (IVA) and the capital consumption adjustment (CCAdj). Additionally, NIPA profits, as in Canada, exclude dividend incomes and bad debts (as these are not costs of current production) to ensure that profits reflect receipts and expenses that result only from *current* production.

In the NIPAs, corporate profits from current production are a measure of the net income of corporations before deducting income taxes that is consistent with the value of goods and services measured in GDP. The IVA and CCAdj are adjustments that convert inventory withdrawals and depreciation of fixed assets reported on a tax-return, historical-cost basis to the current-cost economic measures used in the national income and product accounts.

Profits for domestic industries reflect profits for all corporations located within the geographic borders of the United States. In the NIPA, factor incomes are reported as components of gross domestic income following equation (2) where

$$GDI = compensation\ of\ employees + net\ indirect\ taxes + net\ operating\ surplus + consumption\ of\ fixed\ capital$$

with net operating surplus being the sum of net interest and miscellaneous payments (domestic industries), net business current transfer payments, rental income of persons with capital consumption adjustment, and corporate profits with inventory valuation and capital consumption adjustments (domestic industries).

When comparing U.S and Canada's before-tax corporate profit shares we use Gross Domestic Product at factor prices, which is GDP at market prices net of indirect taxes less subsidies. Since net indirect taxes are much more significant as a share of GDP in Canada than in the U.S (10.8 per cent and 6.6 per cent respectively in the 2010-2016 period), using GDP at market prices would introduce an upward bias to the U.S corporate profit share. Thus, we always use GDP at factor prices when comparing trends in the corporate profit shares across countries.

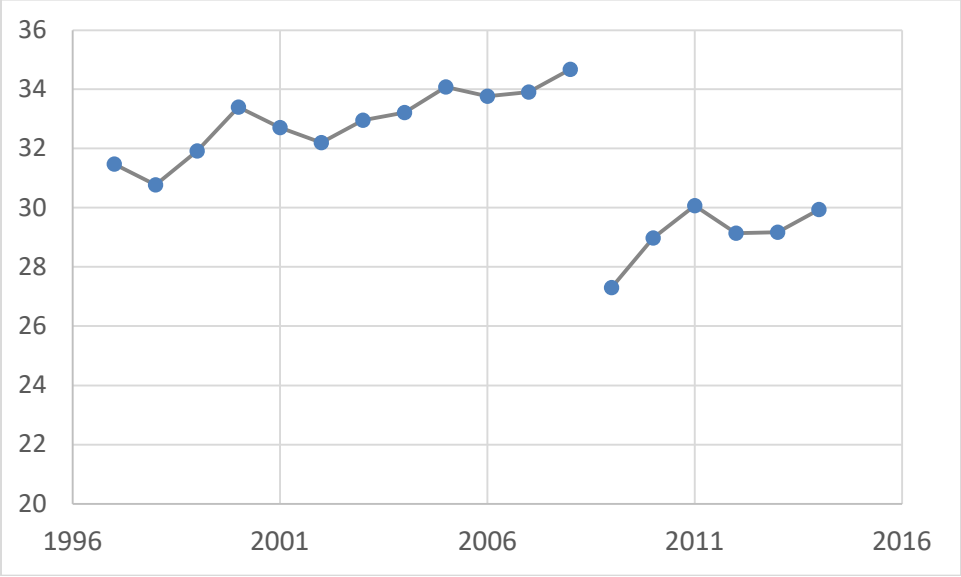
ii. Input-Output Data Trends

Since gross operating surplus reported in the Input and Output tables is used to estimate national accounts measures of corporate profits in Canada with the help of financial and tax data, it is also relevant to look at the evolution of this aggregate measure over time. Chart 9 shows the trend of the ratio of gross operating surplus to gross value added between 1997 and 2014, the years for which data are publicly available. As corporate profits are a subcomponent of gross operating surplus the two measures are not directly comparable. Indeed, the ratio of gross operating surplus to GVA is much higher than the corporate profit share, so it should be thought of as an approximation of the capital share.

A historical revision to the Canadian system of National Accounts (CSNA) in 2012 resulted in substantial changes in the Input-Output tables published by Statistics Canada. Thus we should look at the pre and post 2009 trends separately.[25] In doing so we find that, like the corporate profit share, the ratio of gross operating surplus to gross value added increased between 1997 and 2008 as well as between 2009 and 2014.

[25] Beginning with reference year 2009, the Input-Output (IO) tables incorporated new classifications to improve their contemporary relevance, conceptual revisions to better align them with international standard (United Nations, 2008), and some time series breaks from previous estimates due to improvements in estimation methods and to revisions in source data (Statistics Canada, 2012).

Chart 1: Ratio of Gross Operating Surplus to Gross Value Added (I-O Data), Canada, 1997-2014



Source: NA: CANSIM Table 380-0078, 380-0063; I-O data: 1997 and 2009 - input-output tables published by Statistics Canada (Catalogue 15F0041X); 2010-2014 - CANSIM Table 381-0033**.** The I-O tables data from 1997-2008 and 2009-2014 should be compared with caution as there was a series break in 2009.

Unfortunately, the lack of data from the production accounts for previous years makes it difficult to extrapolate the overall trend of the GOS to GVA over the last fifty years. Nevertheless, the periods previous and post the financial crisis (namely 1997-2008 and 2009-2014) exhibit an unmistakably increasing trend.

iii. Short Term Effects: Business Cycle

It appears that the short-term movement in the corporate profit share in Canada is largely driven by business cycles. Pro-cyclicality in the profit share occurs if strong demand allows firms to raise margins or if labour market institutions result in labour hoarding during a recession (see Giammarioli *et al.*, 2002).

To see if the trends reflect something more than a cyclical development in Canada, we conduct a simple regression in which we control for quarterly GDP growth and use a dummy variable for the pre-1993Q1 period. Table 14 shows the results of regressing the aggregate profit share (both before-tax and after-tax based on both national accounts and QSFS corporate profit estimate) on GDP growth and pre- and post-1993Q1 trend.

Despite the regression being rather crude, we can at least see that the pre- and post-1993Q1 trends are significant even after controlling for the business cycle. For NA data the pre-1993Q1 trend is negative while the post-1993Q1 trend is positive with both being statistically significant at the 5 per cent significance level. Note that the profit share is indeed pro-cyclical (the coefficient for GDP growth is positive and statistically significant).

Table 14 also shows the regression results using the data based on the Quarterly Survey of Financial Statements (QSFS).[26] Similar to the previous results, we can see that the upward trend after 1993Q1 is statistically significant. Hence, the long-term upward trend after the 1990s has persisted for too long to simply be a cyclical development.

Table 4: Simple OLS Regression, NA 1961-2017, QSFS 1988-2017

	Nat. Acct Profit share (before tax)	Nat. Acct Profit share (after tax)	QSFS Profit share (before tax)	QSFS Profit share (after tax)
GDP growth	0.80***	0.74***	0.15**	0.14**
	(0.134)	(0.126)	(0.070)	(0.057)
Pre-1993 trend	-0.079***	-0.011**	-	-
	(0.00558)	(0.00525)		
Post-1993trend	0.04***	0.07***	0.07***	0.08***
	(0.008)	(0.007)	(0.010)	(0.008)
Constant	-0.90	-2.21*	-0.67	-4.92***
	(1.412)	(1.327)	(1.762)	(1.434)
Observations	225	225	117	117
R-squared	0.62	0.58	0.35	0.55

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Sources: CANSIM Table 187-8001, 380-0078, 380-0063

[26]Note that profit based on QSFS are conceptually different from that based on national accounting basis. Nevertheless, a similar upward trend during the post-1993Q1 period is observed.