

# Do Corporate Income Tax Rate Reductions Accelerate Growth?

Jordan Brennan





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# Summary

THIS PAPER EXPLORES the interplay between the Canadian corporate income tax (CIT) regime and multiple dimensions of economic growth. By plotting the empirical history of, and statistical association between, three CIT rates – the effective federal rate, the combined statutory rate, and the weighted average effective rate on the top 60 Canadian-based firms – and five growth variables – business investment in fixed assets, private sector employment, GDP per capita, labour compensation, and productivity – the paper concludes there is no empirical or statistically significant relationship between CIT regime and growth. Of the 52 tests of association, 38 (or three-quarters) are not statistically significant. In the roughly one-quarter of cases where there is a statistically significant result, the direction of the effect is more often positive than negative – the opposite of what neoclassical economic theory predicts.

When we exclude the most severe parts of the Great Depression, the level of business investment in Canada has oscillated around a historic low in the period since 1980 despite several rounds of cuts to corporate income taxes. Employment growth has been anemic among large firms and the business sector, and that includes the socially detrimental rise of precarious forms of work, which accounts for a heavy (and growing) proportion of Canada's sluggish job creation. Over the past three decades, GDP per capita has grown at its slowest rate since the Depression-laden 1930s. In short, the frenzy for CIT rate reductions happened alongside under-investment, a jobs crisis and deep stagnation.

CIT rate reductions not only failed to produce faster growth, there is evidence to suggest they contributed to slower growth. By reducing CIT rates, Canadian governments indirectly contributed to the increased income position of large firms. Rather than investing their enlarged earnings into growth-expanding industrial projects, Canada's corporate sector has increasingly stockpiled cash on its balance sheet. This "dead money" is one ingredient in the slower growth of recent times. Small and medium-sized firms are typically unable to hoard cash in a significant way, which means that *large* firms are the prime culprit in corporate Canada's tendency to hoard cash. The national income share of Canada's largest 60 firms is closely synchronized with the stockpiling of corporate cash over the past half-century. This suggests the growth of corporate power itself might be one determinant of cash stockpiling and hence of slower growth.

By leaving large firms with a greater share of pre-tax income, CIT rate reductions have facilitated the hoarding of cash. The growth of large firms is an independent factor, but insofar as CIT rate reductions have enabled greater cash hoarding, they have indirectly served to dampen growth. This set of truth claims was informally tested through the creation of a new metric to gauge corporate cash stockpiling: the national hoard-to-build index. Over the past half-century, this index (a proxy for corporate hoarding) moves in tandem with aggregate profit concentration (a proxy for the power of large firms). This suggests that, in sync with an increasingly top-heavy market structure, CIT rate reductions have been one ingredient in the anemic GDP growth of recent decades.

Despite being factually supported, this line of reasoning is entirely at odds with neoclassical doctrine. Nevertheless, the deep historical facts support these assertions, which should make them candidates for economic truth. If the findings contained in this paper are true, then corporate income tax cuts will go down as one of the great Canadian public policy blunders of recent times. Far from spawning higher levels of business investment and GDP growth, the government fixation with corporate income tax reform has indirectly fostered slower growth.

# Introduction

In scientific reasoning, theories are confronted with facts and one of the central conditions of scientific reasoning is that theories must be supported by facts.

— *Imre Lakatos (1978), Hungarian philosopher and mathematician*

AFTER A GENERATION of comparatively high corporate income tax (CIT) rates, in the late 1980s Canadian governments at the federal and provincial levels began a series of corporate income tax reforms. According to many mainstream (neoclassical) economists, reducing CIT rates was wise public policy. A reduced CIT rate would lower the cost of capital, inducing a greater supply of it. Because investment is a key driver of growth, reducing CIT rates would leave firms with a greater proportion of their profits, and thus with more resources to plough into growth-expanding industrial projects. Mainstream economists spoke and governments listened (after lots of behind-the-scenes lobbying by Canadian business): the statutory Canadian CIT rate has been halved since 1988. But has the significant reduction in CIT rates spurred higher levels of investment and more rapid employment and GDP growth?

This paper explores the interplay between the Canadian CIT regime and various dimensions of growth. Specifically, it examines three corporate income tax rates — the effective federal CIT rate (from 1926), the combined Canadian statutory CIT rate (from 1981), and the weighted average effective rate on the top 60 Canadian-based firms (from 1950) — and five growth

variables — investment in fixed assets, employment, GDP per capita, labour compensation, and productivity. Given the weight of academic opinion and the commitment of governments to CIT rate reductions, one would expect there to be a strongly inverse statistical relationship between the CIT regime and growth. The problem is the facts stubbornly refuse to support the notion that corporate tax cuts accelerate growth.

The core argument to be defended in this paper is that there is no empirical or statistically significant relationship between the CIT regime and growth. Business investment is a key determinant of GDP growth, employment and labour compensation, but over the long term, business investment is unresponsive to changes in the statutory or effective CIT rate. Canadian CIT rate reductions not only failed to lead to faster growth, there is evidence to suggest they slowed it down. By reducing CIT rates governments indirectly contributed to the increased income position of large firms. Rather than investing their enlarged earnings in growth-expanding industrial projects, Canada's corporate sector — especially its largest firms — have increasingly stockpiled cash on the balance sheet. This “dead money,” as former Bank of Canada governor Mark Carney put it, is one ingredient in the heightened stagnation of recent times.

This paper focuses on the domestic political economy; it will not try to differentiate domestic sources of investment and employment from foreign sources. The next section maps the long-term evolution of Canadian corporate income taxation, raising questions about what impact changes in the CIT regime have had on growth. The third section explores the deep history of Canadian investment, employment, and GDP growth to discern if, at a basic empirical level, the era of CIT rate reductions has corresponded with higher levels of investment and more rapid growth. The fourth section presents a statistical analysis of the relationship between the CIT regime and multiple dimensions of growth to discern if there is anything resembling causation. The fifth section builds an argument for why the relationship between large firms and growth is more complicated than conventional economic theory would suggest. In short, while it is undoubtedly true that business fears depression, rapid growth is also a threat to profitability, which is why a moderate degree of stagnation is “ideal” from a business standpoint. This section proceeds to turn conventional economic theory on its head by arguing that, far from enhancing growth, the fixation with CIT rate reductions has been a key ingredient, through corporate cash hoarding, of slower GDP growth. The sixth and final section summarizes these findings and articulates some policy implications.

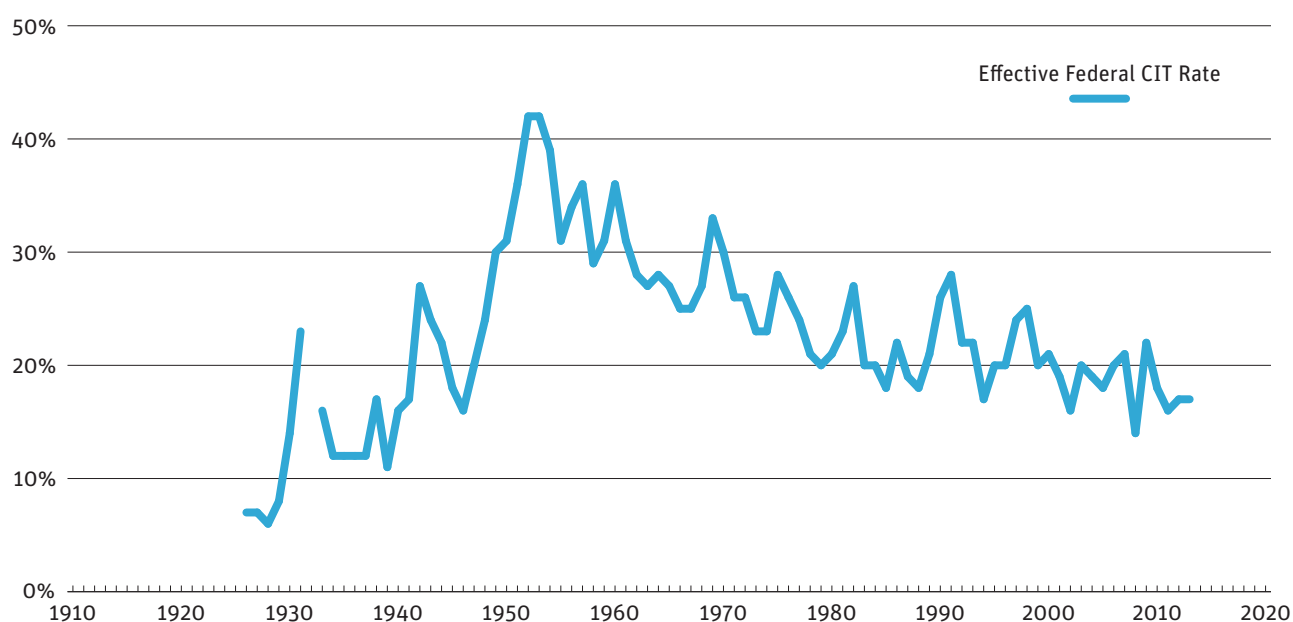


# The Evolution of Corporate Income Taxation

WE BEGIN BY reviewing the evolution of Canadian CIT rates. Though corporate taxes are levied at two levels of government (federal and provincial), records are not always easy to come by. The easiest place to begin to assess the long-term evolution of the CIT rate is at the federal level, where record keeping goes back to the 1920s. *Figure 1* plots the effective CIT rate at the federal level from 1926 through 2013 by dividing corporate income taxes (collected by the federal government) by current pre-tax corporate profit, both reported by Statistics Canada. The pattern is as clear as it is stark. In 1926, the effective federal CIT rate was just 7%. It rose to 11% on the eve of the Second World War before reaching a historic high of 42% in 1953. As of 2013, the effective federal CIT rate was 17%. It is clear the effective federal CIT rate has fallen in recent decades, but without including provincial CIT rates and the income taxes levied by foreign governments on Canadian multinationals the picture remains incomplete.

*Figure 2* remedies these shortcomings by presenting (i) the weighted average effective CIT rate on the largest 60 Canadian-based firms (ranked annually by equity market capitalization) from 1950 through 2013, measured as total reported income tax as a percentage of pre-tax income (data sources are explained in Appendix I), and (ii) the combined statutory CIT rate on

**FIGURE 1** Corporate Taxation at the Federal Level, 1926–2013



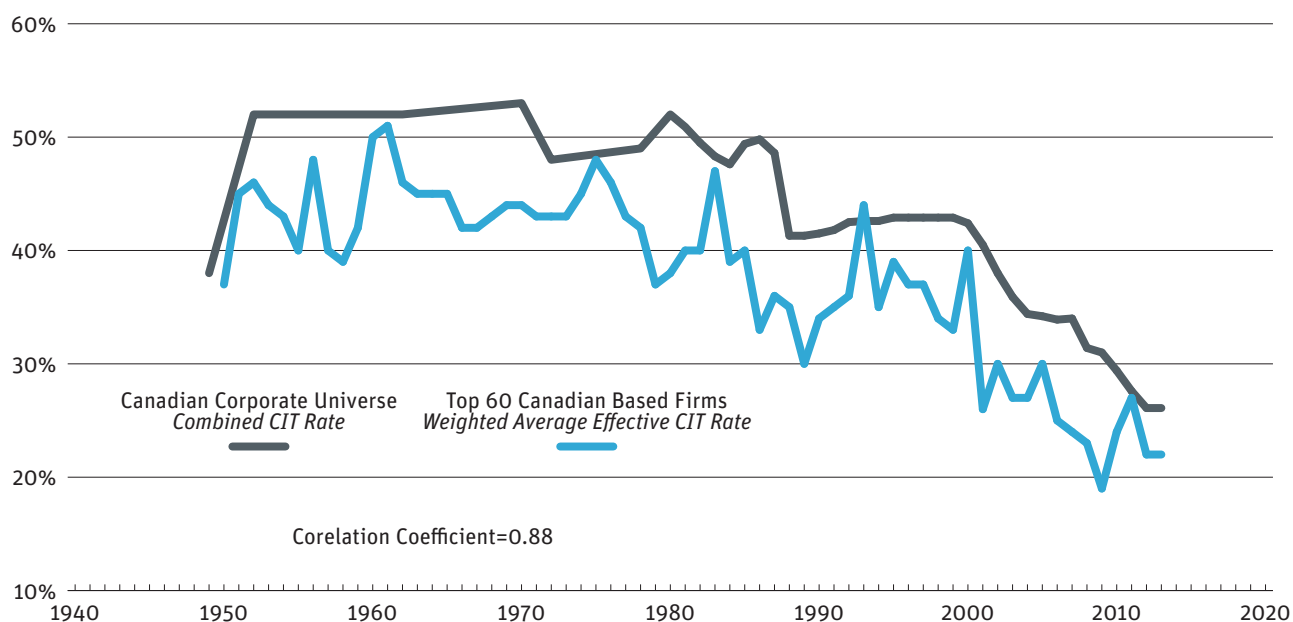
**Note** Statistics Canada recently revised its GDP measurements, including the accounting conventions around corporate profit. The new estimates apply to years 1981–2013 and are dramatically different from the original data set, which ran from 1961–2011. In order to maintain consistency I retained use of the original corporate profit data (which ran from 1961–2011) and estimated pre-tax corporate profit in 2012 and 2013 using the new data set, with proper rebasing so that the 2012–2013 years are consistent with the data from 1961–2011.

**Source** Corporate income tax revenue at the federal level from Historical Statistics of Canada, Series H2 (1926–1975) and the government of Canada’s Fiscal Reference Table 3 (1976–2013); pre-tax corporate profit from Historical Statistics of Canada, Series F3 (1926–1960), Cansim Tables 380-0029 (1961–2011) and 380-0063 (2012–2013).

the Canadian corporate universe from 1949 through 2013. Continuous data for this latter series is only available from 1981–2013 (from the OECD). The combined statutory CIT rate was estimated between 1949 and 1980 using the combined Ontario CIT rate. Data are plotted for 1949, 1952, 1960, 1962, 1970, 1972, 1978, and 1980 with a straight line connecting the values. The correlation between the effective CIT rate on the largest firms and the statutory Canadian CIT rate is 0.88 (very high), which signals that the statutory rate overwhelmingly explains the weighted average effective rate on large firms.

We must acknowledge that the effective CIT rate, both federally and on the largest 60 firms, has imperfections as a measure of the income tax situation faced by business. The heavily cyclical nature of the effective CIT rates in Figures 1 and 2 suggests that many factors, including measurement problems, drive the effective rate. For example, there may be a time lag in these variables such that what firms pay in the current year is determined by how much profit they generated in the previous year. Governments can change the statutory rate, but the effective CIT rate is affected by other vari-

**FIGURE 2** CIT Rates: Corporate Universe and Top 60 Firms, 1949–2013



**Note** A fuller explanation of the data pertaining to the top 60 firms is available in Appendix I.

**Source** Combined (federal and provincial) CIT rate for the Canadian corporate universe from the OECD, Tables II.1-II.4 from 1981–2013; combined Ontario CIT rate from Treff and Perry (2002), Table 4.4, p. 4:9 and Brown and Mintz (2012), Table 1.8, p. 1:28 from 1949–1980; reported income tax and pre-tax income on the top 60 firms from Canadian Financial Markets Research Centre and Compustat through WRDS (with gaps filled using Moody’s corporate manuals through Mergent Webreports and the Report on Business’s Top 1000 Companies).

ables including deductions, carried-forward losses, the pace of investment, business cycles, and more. For this and other reasons the effective CIT rate cannot be understood as a policy variable. Because it cannot be directly changed by government, we cannot interpret a decline in the effective CIT rate as evidence of a reduction in the statutory CIT rate.

The combined CIT rate on the Canadian corporate universe tells us how the two tiers of Canadian government actually set CIT rates. At the federal level, corporate income taxes were first instituted in 1917–18 (the same year personal income taxes came into being) as a revenue-generating tool to help Canada prosecute the First World War (the provinces began to collect corporate income taxes later). The combined statutory CIT rate reported in *Figure 2* is a weighted average of these two taxes. In the late 1940s, provincial CIT rates ranged from 5–7% and the federal rate stood at 33% for an average combined rate of 38%. By the early 1950s, the combined CIT rate climbed to 52%, which is (roughly) where it stood in the mid-1980s.

The first significant corporate income tax reform came in 1988, spearheaded by the Progressive Conservative government of Brian Mulroney. Federal rates were reduced from 36% to 28%, a number of tax loopholes were closed, and the tax base was broadened. The second round of corporate income tax reforms in 2001, under the Liberal government of Jean Chrétien, saw the federal statutory rate reduced from 28% (in 2000) to 21% (by 2004). The main beneficiaries were businesses operating in the service sector, which had been taxed at a higher rate than manufacturing and resource-based firms. Most recently, the Conservative government of Stephen Harper announced in 2008 it would further reduce the statutory corporate income tax rate in five steps, from 21% in 2007 to 15% by 2012. Over the past three decades, the provinces have also reduced rates from an average of 14% in the late 1990s to 11% more recently.

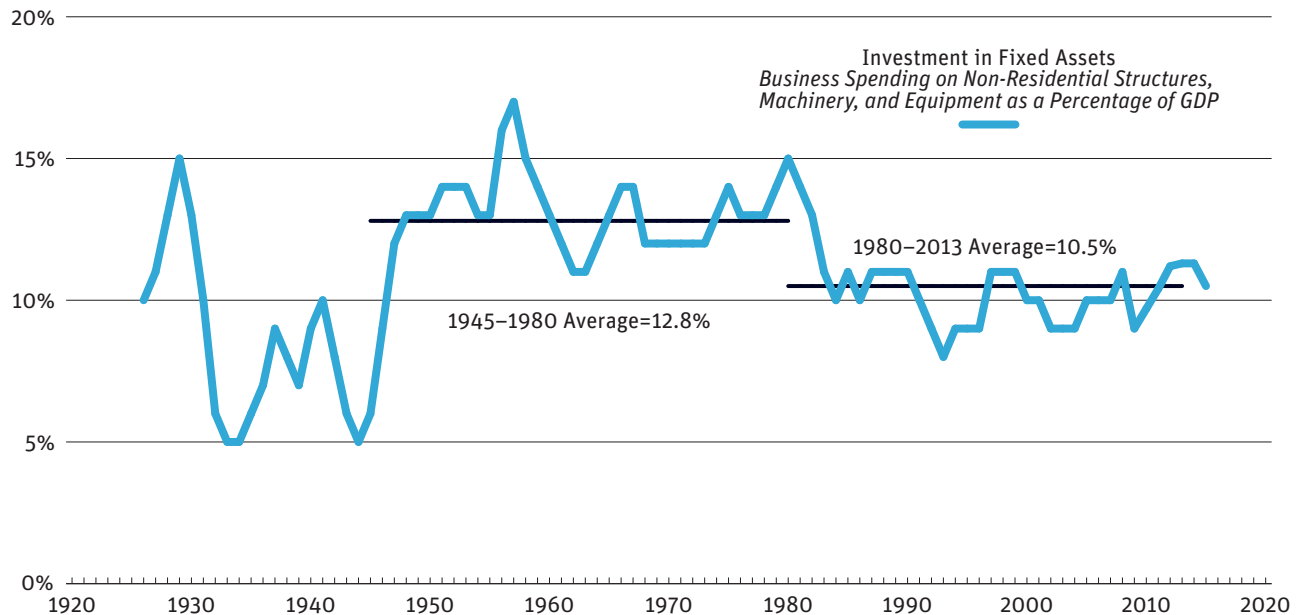
Both the weighted average effective CIT rate on the top 60 firms and the combined statutory CIT rate on the corporate universe were halved in the past three decades, with the bulk of the reduction coming since 2001. Why would Canadian governments do this when a reduction in the CIT rate has the potential to lessen tax revenue collected from the corporate sector? It is safe to assume that governments were *advised* to carry out these reforms. The question is, who pays for CIT rate reductions and who benefits?

# Investment and Growth in Deep Historical Perspective

IF MAINSTREAM ECONOMICS is correct in asserting a strong and negative relationship between the CIT regime and growth, then it follows that the radical reduction in Canadian CIT rates over the past generation should have led to higher levels of investment and more rapid employment and GDP growth. Before exploring that set of relationships in detail, we need to empirically assess some of the assumptions economists make about economic growth. Since Adam Smith's *Wealth of Nations* (1776), mainstream economists have told a story of economic development that puts the capitalist at the centre of economic progress. By converting savings into investment, and submitting to the discipline of intense price and product competition, capitalists simultaneously set the economic wheels in motion and ensure the efficient use of socioeconomic resources.

Historically speaking, there is a very close association between business investment and (i) the rate of growth of GDP, and (ii) labour compensation. In a recent CCPA report, I plotted the cyclically adjusted rate of change of business investment in fixed assets with the rate of change of GDP per capita. The correlation coefficient between these two variables from Confederation to the present was 0.76, or very high.<sup>1</sup> Likewise, plotting the cyclically adjusted rate of change of business investment in fixed assets against aver-

**FIGURE 3** Business Investment in Industrial Capacity, 1926–2013



**Source** Business spending on non-residential structures, machinery, and equipment from Historical Statistics of Canada, Series F23+24 (1926–1960) and Cansim Tables 380-0017 (1961–1980) and 384-0038 (1981–2013); GDP from Historical Statistics of Canada, Series F13 (1926–1960) and Cansim Tables 380-0016 (1961–1980) and 384-0037 (1981–2013).

age hourly earnings over the past century yields a correlation coefficient of 0.58, or strong. Incidentally, business investment is roughly as strong a determinant of average labour compensation as the power of trade unions.<sup>2</sup> So the theory that higher levels of investment are associated with more rapid wage and GDP growth is supported by the long-term historical facts. Given that CIT rates have been drastically reduced, how has investment changed in recent decades? *Figure 3* plots investment in industrial capacity from 1926–2013, measured as the proportional share of business spending on non-residential structures, machinery, and equipment in GDP.

The relative value of fixed asset investment sharply declined in 1929 and did not rebound in a significant way until the end of the Second World War. Despite the heavy cyclical, the first few decades of the postwar era experienced an upward trend in investment (even though the postwar peak was in 1957). Significantly (and ironically), not only has investment failed to increase in recent decades in tandem with CIT rate reductions, the pattern that investment takes *mirrors* the CIT rate. In other words, after climbing in the 1940s and early 1950s, business investment trended downward from

the 1960s onward. It was sharply reduced in the 1980s and has remained at a postwar low for three decades.

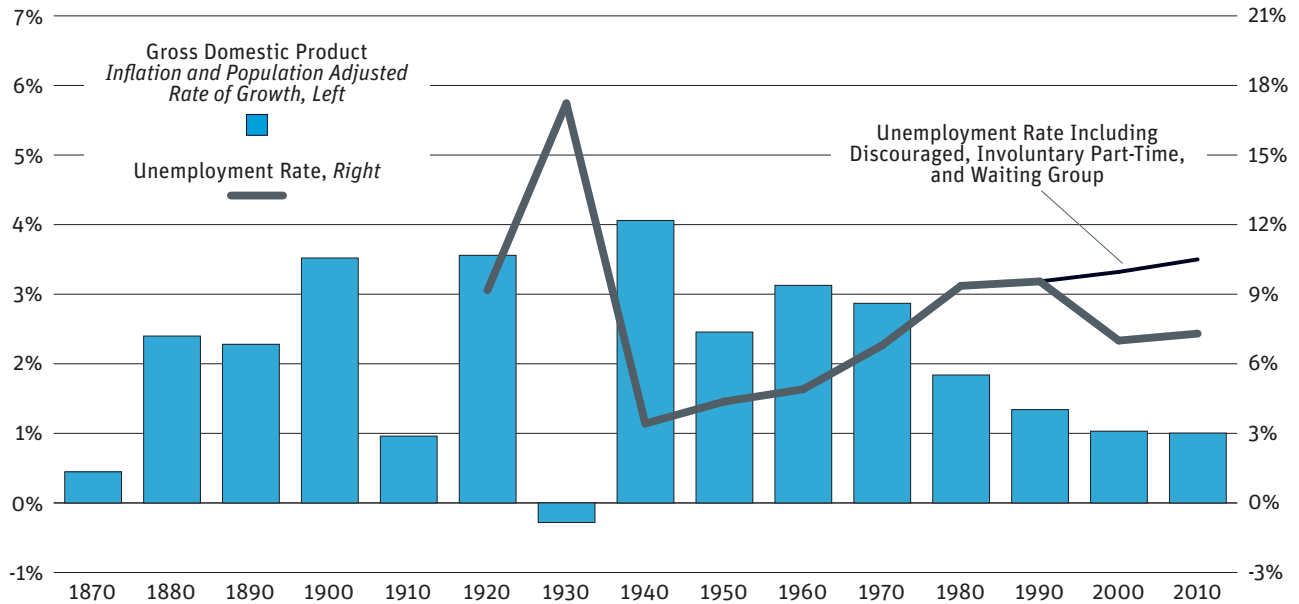
Note: this is the same pattern taken by the effective federal CIT rate in *Figure 1*, which implies that, far from the CIT regime and growth being strongly and inversely related, there appears to be a *positive association* between the two variables, such that CIT rate reductions are historically associated with *lower* levels of investment. Fixed asset investment averaged 12.8% of GDP in the postwar decades to 1980, but in the past three decades, while governments were obsessed with corporate tax cuts, business investment averaged just 10% of GDP. In sum, when we contrast the experience prior to the CIT rate reduction era (1945–1988) with the CIT rate reduction–obsessed era (1988–2013), we see a move from heightened industrial capacity expansion to capacity stagnation.

If the reduction in CIT rates failed to stimulate investment, what impact did it have on growth? *Figure 4* contrasts two series: the bars represent decade average rates of inflation-adjusted GDP per capita growth and the linear series captures the decade average unemployment rate, with additional data points to capture the rise of precarious employment (measured as the unemployment rate including discouraged, involuntary part-time workers and the waiting group). What do the facts tell us?

The depression-laden 1930s had the highest levels of unemployment on record. Unsurprisingly, it was the worst growth decade since Confederation. The 1940s were a sharp contrast, with unemployment falling to a historic low and GDP growth soaring to a historic high. By stripping proprietors of the power to enforce unemployment, and by putting Canadians back to work in unprecedented numbers to prosecute the Second World War, the Canadian state ushered in the most rapid growth decade in Canadian history. Not coincidentally, income inequality was halved in that decade. The 1950s, 1960s, and 1970s were all decades of relatively rapid growth and even though unemployment rates were rising they remained low by historical standards. The 1980s, 1990s, and 2000s all underperformed as growth decades, just as the fixation with CIT rate reductions began to take root.

Importantly, the decades when CIT rates were comparatively high (1950–1980) are associated with rapid GDP growth; in the decades when CIT rates were being rapidly reduced (1980–present), GDP grew at an anemic rate. The deeper the cuts to the CIT rate, the slower the growth of GDP. The relationship between the CIT regime and unemployment tells a similar story. What about employment growth?

**FIGURE 4** GDP Growth and Unemployment: Decade Averages, 1870–2014



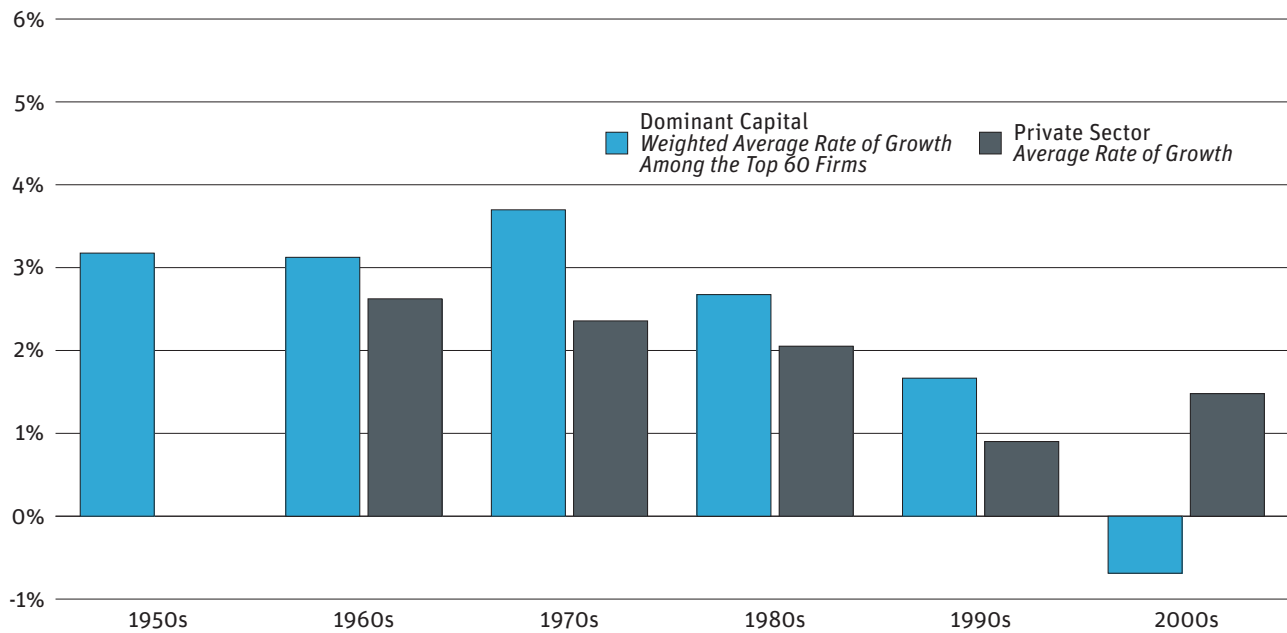
**Source** Inflation-adjusted GDP from Global Financial Data (1870–1925, code: GDPCAN) and Historical Statistics of Canada, Series F55 (1926–1960) and Cansim Tables 380-0017 (1961–1980) and 380-0106 (1981–2010); total Canadian population (code: POPCAN) from Global Financial Data (1870–1925), Historical Statistics of Canada, Series A1 (1926–1977) and Cansim Table 051-0042 (1978–2010); unemployment rate from Global Financial Data (1920–1975, code: UNCANM) and Cansim Table 282-0086 (1976–2010).

Figure 5 plots decade average rates of employment growth for the top 60 firms (from 1950) and for the private sector (from 1960). For the largest Canadian-based firms, employment growth was relatively high and climbing in the 1950s, 1960s, and 1970s – the decades when CIT rates were much higher. Beginning in the 1980s, employment growth among the largest firms began to trend sharply downward. Between 2000 and 2010, the statutory CIT rate was nearly halved and the average rate of growth of employment among the top 60 firms was -0.7%. The pattern is similar for the private sector as a whole, which saw rapid employment growth in the decades when CIT rates were high (1960s and 1970s) and weaker employment growth in the decades when CIT rates were low and falling (1980s to 2000s).

What’s going on here? Neoclassical economic theory contends that CIT rate reductions should incentivize business investment, which implies a more rapid rate of growth for both job creation and GDP. And mainstream economic opinion is that the theory is sound: higher CIT rates undermine growth and lower CIT rates enhance growth. But the deep historical facts appear to tell a different story. It is indeed the case that higher levels of investment are associated with higher rates of employment, wage and GDP



**FIGURE 5** Employment Growth: Decade Average, 1950–2010



**Note** A fuller explanation of the data pertaining to the top 60 firms is available in Appendix I. Private sector employment was estimated between 1960 and 1975 using an industrial composite employment index, with proper rebasing.

**Source** Employment for the top 60 firms from Canadian Financial Markets Research Centre and Compustat through WRDS (with gaps filled using Moody's corporate manuals through Mergent Webreports and the Report on Business's Top 1000 Companies); private sector employment from Historical Statistics of Canada, Series D528 (1960–1975) and Cansim Table 282-0012 (1976–2009).

growth, but investment levels have fallen in the decades when CIT rates have been reduced. Despite decades of frantic CIT rate reductions by Canadian governments, the Canadian political economy is mired in a multi-decade-long stagnation. If there is no *empirical* relationship between the CIT regime and growth, can we at least detect a *statistical* relationship?

# The Corporate Income Tax Regime and Growth

ORDINARILY ECONOMISTS WILL utilize various econometric strategies to discern if there is a causal relationship between the CIT regime and growth, but it is highly questionable if econometrics is capable of uncovering causation. When he probed the concept of causation, the Scottish Enlightenment philosopher David Hume found it to be a composite of three relations: contiguity, succession (or priority), and necessary connection.<sup>3</sup> Hume argued, to the shock of his modern readership, that despite the fact that all knowledge is the product of experience, the phenomenon of causation (seen through its constituent parts) is not disclosed to the senses, meaning it resides outside the experiential field. This implies that the establishment of causal force (in science or otherwise) will always have a speculative element to it.

Statistically speaking, correlation between two variables is a precondition for causation, it is not causation itself. However, in the absence of the former we don't need to press the latter. Recall that neoclassical economics would have us believe there is an inverse relationship between the CIT regime and all of investment, employment, GDP, and labour compensation, with higher CIT rates acting as a drag on growth and lower CIT rates enhancing it. *Table 1* plots Pearson correlation coefficients (which capture the strength and direction of a relationship between two variables) and two-tailed probability tests between three CIT rates and five growth variables (data sources are described in Appendix II).

**TABLE 1** Statistical Association Between the Corporate Income Tax Regime and Growth

Growth Variables	Year-Over-Year	Lagged One Year	3-Year Moving Average	10-Year Moving Average
<b>Effective Federal Corporate Income Tax Rate: 1926–2013</b>				
Investment in Fixed Assets†	-0.03	0.31***	-0.19*	0.46***
Private Sector Employment (1960–2013)	-0.15	0.34**	-0.11	-0.44***
GDP per Capita†	-0.08	0.13	-0.18*	0.04
Average Hourly Earnings†	0.03	-0.09	0.27**	0.28**
<b>Combined Canadian Corporate Income Tax Rate: 1981–2013</b>				
Investment in Fixed Assets†	-0.15	0.06	-0.08	-0.09
Private Sector Employment	-0.10	-0.12	-0.22	-0.19
GDP per Capita†	-0.13	-0.02	-0.06	-0.19
Average Hourly Earnings†	0.06	-0.04	0.03	0.67***
<b>Top 60 Firms – Effective Corporate Income Tax Rate: 1950–2013</b>				
Top 60 Firms: Investment in Fixed Assets (1960–2013)†	0.02	-0.19	-0.13	0.03
Top 60 Firms: Employment	-0.01	0.12	-0.03	0.22
Revenue per Employee ('Productivity')†	-0.03	-0.17	-0.13	-0.34**
GDP per Capita†	0.06	-0.25*	-0.14	0.19
Average Hourly Earnings†	0.16	0.34***	0.43***	0.57***
<b>Statistical Summary</b>				
<b>Four Categories of Negative Correlation Coefficients</b>				
Negative Correlations: 30/52	Strong (0.70–1.00): 0/30	Moderate (0.50–0.69): 0/30	Weak (0.30–0.49): 2/30	No Association (0.00–0.29): 28/30
<b>Statistical Significance: Two-Tailed Probability Test</b>				
	At the 1% level: (6 pos./1 neg.)	At the 5% level: (3 pos./1 neg.)	At the 10% level: (0 pos./3 neg.)	Not Significant: (38)

† Inflation-adjusted

\*\*\* Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

**Note** Correlations are between the absolute difference in the CIT rate and the rate of change of the growth variable. The CIT rate for the top 60 firms is a weighted average. Business investment includes spending on non-residential structures, machinery, and equipment. Private sector employment was estimated between 1960 and 1975 using an industrial composite employment index, with proper rebasing. Average hourly earnings are the Canadian industrial average. Source: See Appendix I for an explanation of data pertaining to the top 60 firms. See Appendix II for all other data sources pertaining to Table 1.

The upper two sections contrast the effective federal CIT rate (from 1926 to 2013) and the combined statutory rate (from 1981 to 2013) with (i) investment in fixed assets, (ii) private sector employment, (iii) GDP per capita and (iv) average hourly earnings, with the relevant variables adjusted for inflation. The third section contrasts the weighted average effective CIT rate on the top 60 Canadian-based firms (from 1950 to 2013) with investment, employment, and productivity (the latter measured as revenue per employee) for the top 60 firms, national GDP per capita, and average hourly earnings.

All three CIT rates are contrasted with the four/five growth metrics. In addition to straight year-over-year comparisons, additional columns are added which depict (i) a one-year lag, (ii) a three-year moving average, and (iii) a 10-year moving average. These modifications reflect that it may take time for firms to adjust to the new fiscal reality (hence the lagged measurements), and some relationships may only appear on a longer time scale (hence the three-year moving average). Also, because business behaviour and performance is highly cyclical, an additional column was plotted to capture the secular trend (the 10-year moving average). The bottom section summarizes the statistical results.

If there is a strong, sustained, and inverse statistical relationship between the CIT regime and growth, as neoclassical economics would have us believe, it should be observable in the 52 statistical tests contained in *Table 1*. One way of overcoming the limitations associated with correlation coefficients is to test for statistical significance. When we administer a two-tailed probability test at three levels of significance — 1%, 5%, and 10% — the results are heavily stacked against conventional neoclassical theory. Of the 52 tests of association, 38 are not statistically significant. That's nearly three-quarters of the tests. The CIT regime is found to be a statistically significant determinant of growth in just 14 instances. However, among the tests that do yield significant results, the positive associations outweigh the negative associations by nearly two to one. At the 1% level, six are positive and just one negative; at the 5% level, three are positive and one negative; and at the 10% level, zero are positive and three negative.

In sum, there is no evidence of a strongly inverse relationship between the CIT regime and growth. In the overwhelming majority of cases there is no statistically significant relationship between the CIT regime and multiple growth variables. In the roughly one-quarter of cases where there is a statistically significant result, the direction of the effect is more often positive than negative — the opposite of what neoclassical theory predicts.

Let's take stock. CIT rates have been rapidly and relentlessly reduced over the past generation. Far from seeing an increase in investment and a more rapid rate of employment, wage, and GDP growth, Canadians have been witness to lower levels of investment and anemic growth. The empirical and statistical facts stubbornly refuse to support mainstream economic thinking on this matter. In the few instances where we can detect a statistically significant relationship between the CIT regime and growth, the weight of the evidence suggests that relationship is positive, not negative. This implies that *higher* CIT rates may actually stimulate economic activity.

Despite the reduction in CIT rates, the empirical history tells us that investment is at a postwar low and the various dimensions of growth have decelerated. Why has Canadian GDP growth slowed in decades since 1980? And might it be the case that lower CIT rates, far from spurring growth, have been an ingredient in the heightened stagnation of recent decades?

# Corporate Income Tax Cuts and Secular Stagnation

AN UNCHALLENGEABLE ARTICLE of faith in contemporary Canada, held by politicians, policy-makers, pundits, economists, and the broader citizenry, says that business favours rapid and relentless growth (and the phenomena associated with growth, including full employment and full capacity utilization). After all, governments undertake all sorts of activities to “prime the capitalist pump” and create conditions favourable for growth. Over the past generation, multiple layers of the Canadian state have reduced regulations, signed trade and investment liberalization agreements, privatized state assets, curtailed budgetary deficits, and reduced CIT rates in the hope (officially, if not factually) that business will invest in expansionary industrial projects, hire Canadian workers, and consequently, growth will accelerate. But what if rapid growth is a threat to large firms?

A strand of economic thinking emerged over the past century that began to see a tension between the institutional requirements of large firms and the economic demands of the ordinary citizen. Thorstein Veblen’s examination of the corporate form led him to conclude that there is a disjuncture between the “material interests” of the “industrial community” (the citizenry) and the “vested interests” of the “absentee owners” (capitalists). The former are “best served by a smooth, uninterrupted interplay of the industrial pro-

cess” while the latter can enhance business gains through “large and frequent disturbances to the system,” namely unemployment and under-capacity utilization.<sup>4</sup> Ownership of industrial equipment confers the “legal right of sabotage,” as Veblen called it, and allows proprietors to control the volume of output in order to “bring the largest net returns in terms of price.”<sup>5</sup> For Veblen, then, a moderate degree of stagnation and unemployment is optimal from a business standpoint. Why?

Michal Kalecki argued that government spending, financed through government borrowing, had made full employment a realistic public policy goal by the 1930s and 1940s. However, he went on to contend that the business class would staunchly oppose the policy measures required to achieve full employment. Kalecki cited a variety of reasons, but one stands out: if, through deficit spending and associated public works programs, government could maintain full employment,

“the sack” would cease to play its role as a disciplinary measure. The social position of the boss would be undermined and the self-assurance and class consciousness of the working class would grow. Strikes for wage increases and improvements in conditions of work would create political tension...and [an increase] in wage rates [would result] from the stronger bargaining power of the workers.<sup>6</sup>

In the context of relatively high unemployment, the employed portion of the citizenry will be less likely to press for higher compensation and improved working conditions. Unemployment and idle capacity (or the threat thereof) reduces the bargaining power of workers. This reduction in bargaining power is one determinant of the earnings margins and ultimately the profitability of large firms. This implies that a moderate degree of stagnation and underemployment may be welcomed by business as a substitute for the full employment potential associated with the fiscal capabilities of the modern state. Given that unrestricted growth and excessive slack alike are detrimental to capitalist earnings, how does the CIT regime fit into this conceptual picture?<sup>7</sup>

Consider what Mark Carney, former governor of the Bank of Canada, said in a speech to the Canadian Auto Workers union in 2012. Carney chastised corporate Canada for holding large quantities of what he called “dead money,” rather than investing it in expansionary activities.<sup>8</sup> At the time of Carney’s statement, the non-financial corporate sector had stockpiled more than half a trillion dollars of cash on its balance sheet. Carney apparently

thought that corporate Canada was too motivated by the desire for liquidity to deploy its considerable resources on growth-enhancing activities.

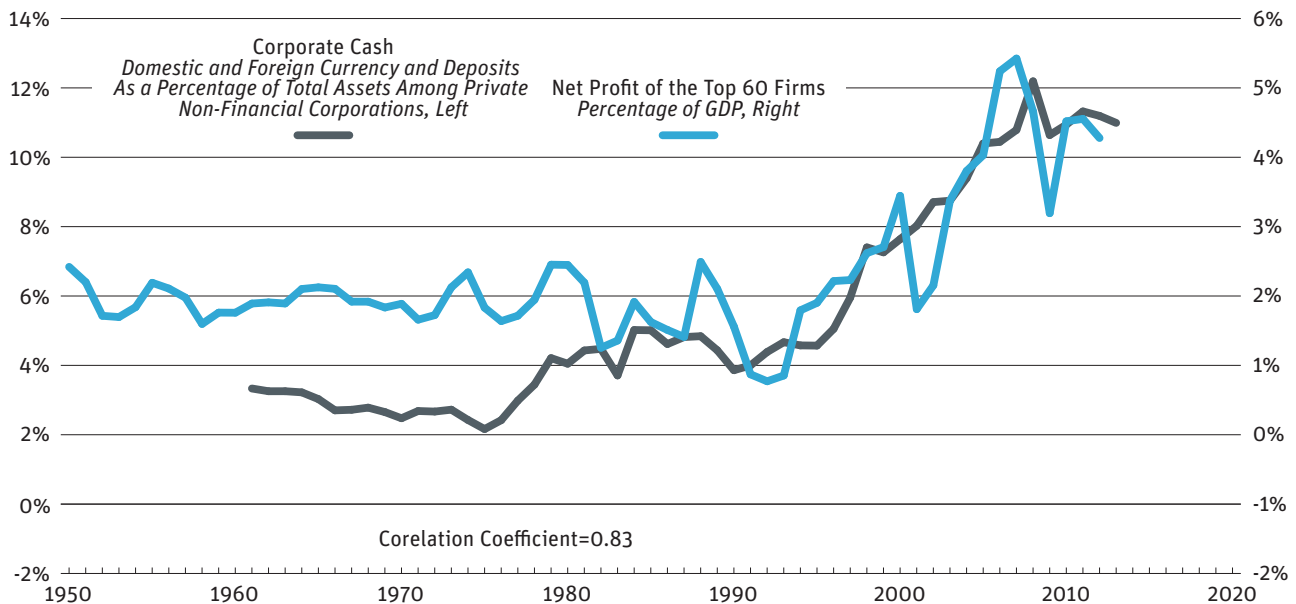
It seems plausible that as a small cluster of large firms increase in size and market power, they pull away from the rest of the corporate universe in terms of cohesiveness, business behaviour, political activities, etc. If this cluster manages to increase its income share through a deepening of earnings margins, then its constituent firms may obtain a larger proportion of the “funds available” to control investment. If these large firms stockpile a larger quantity of cash, it may be that the growth of large firms itself figures heavily in corporate hoarding, and exacerbated cash hoarding may be a key driver of stagnation.

Let’s explore this line of reasoning empirically. *Figure 6* contrasts the income position of the top 60 Canadian-based firms, measured as net profit divided by GDP, with corporate cash, measured as domestic and foreign currency and deposits as a percentage of the total assets among all private non-financial corporations. The two series are tightly intertwined over half a century. Between the early 1960s and the early 1990s, the stockpile of corporate cash averaged 4% and the band within which it varied was narrow, falling between 3% and 5%. This pattern broke down in the 1990s. Between 1990 and 2012 (the year of Carney’s speech), the stockpile of corporate cash nearly tripled from 4% to 11% of assets. This is a significant fact on its own, but it becomes more significant when we plot it against the income position of the largest firms. For the four decades between 1950 and 1990 the income share of the largest firms was effectively flat, averaging 2% and falling within a range of 1–3%. This pattern broke down after 1990 as well, and the income share of the top 60 firms more than doubled over the next two decades, reaching a historic extreme in 2007.

As the leading firms claim a larger share of national income through greater size and market power, their capacity to stockpile cash increases. By hoarding cash these firms stabilize dividend payments, thus reducing risk, and this leaves them with more liquidity for acquisition activities and to hedge against market downturn. One consequence of the stockpiling of cash, then, is that a smaller share of national income is deployed to expand employment and industrial capacity. And because the rapid growth associated with full capacity utilization and full employment will be feared by business (because of the downward pressure it puts on prices), conceptually and empirically there is nothing inherently incompatible with large firms improving their income position even though the hoarding of cash effectively restrains growth (whether the restraint is intentional or not). In this way the



**FIGURE 6** Income Share of Large Firms and Corporate Hoarding, 1950–2013



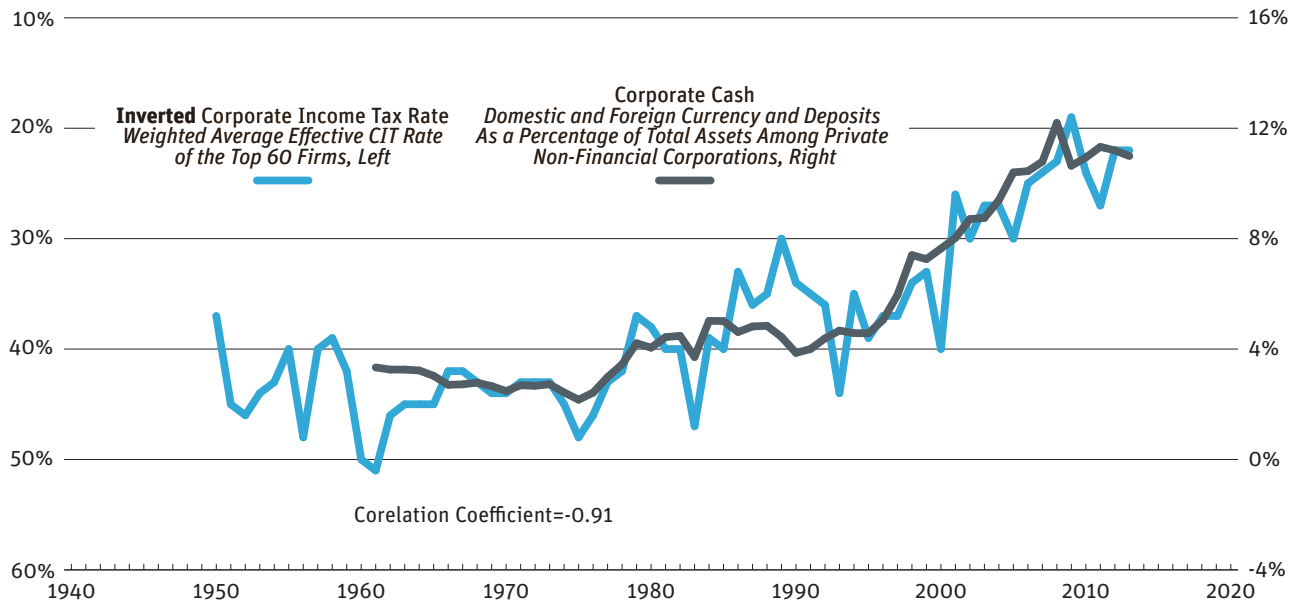
**Source** GDP from Historical Statistics of Canada, Series F13 (1950–1960) and Cansim Tables 380-0016 (1961–1980) and 384-0037 (1981–2012); common shares outstanding, closing share price and net profit from Compustat through WRDS; total corporate assets and corporate cash from Cansim Tables 378-0054 (1961–1989) and 378-0121 (1990–2013).

emergence of a top-heavy market structure may contribute to slower growth, making stagnation the “flip side” of increasing corporate concentration.

Another aspect to this story bears investigation. The income share of the largest firms captured in *Figure 6* is net of corporate income taxes. This means the effects of changes in the CIT regime are built into the picture. If the hoarding of cash by large firms is an ingredient in slower growth, what is the relationship between the CIT regime and corporate hoarding?

*Figure 7* contrasts the level of corporate cash with the weighted average effective CIT rate on the top 60 firms. Note the CIT rate is positioned on an inverted scale to facilitate its comparison with the level of cash. There is an incredibly tight, persistent and negative relationship between the level of corporate cash and the CIT rate. With every reduction in the CIT rate, corporate Canada stockpiled an ever-greater proportion of cash on its balance sheet rather than investing its enlarged earnings into expansionary industrial projects. Counter-intuitively, this means the government frenzy for CIT rate reductions has exacerbated corporate cash hoarding, thereby depressing growth.

**FIGURE 7** Corporate Income Taxation and Corporate Hoarding, 1950–2013

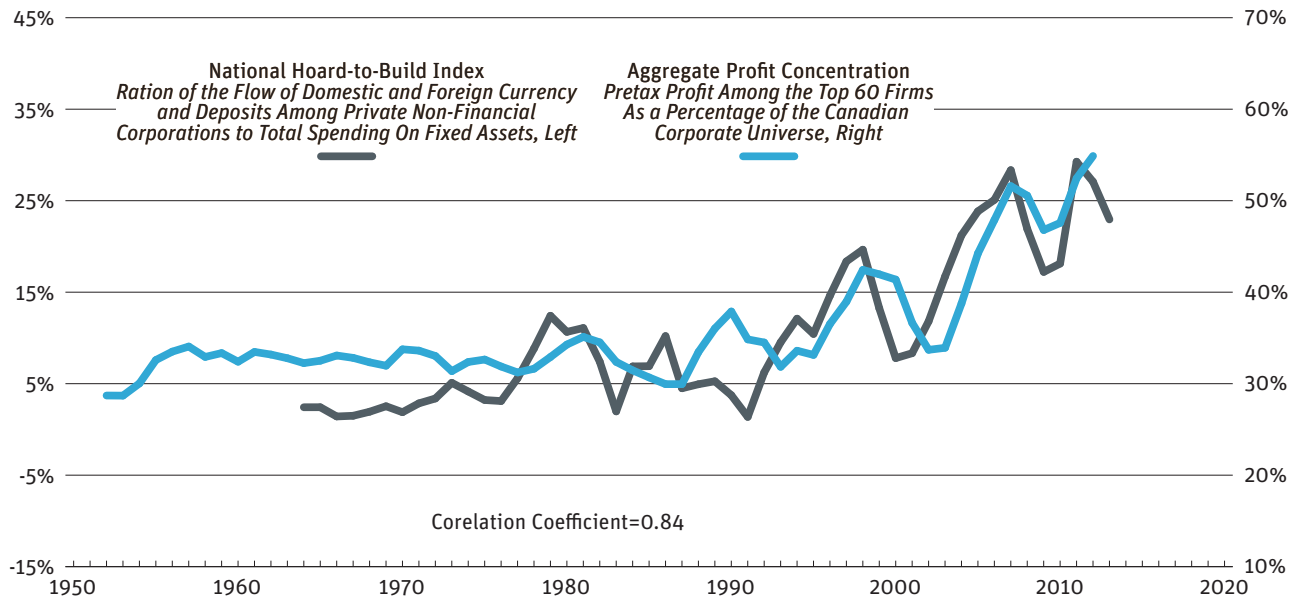


**Source** Common shares outstanding, closing share price, pre-tax income and income taxes paid from Compustat through WRDS; total corporate assets and corporate cash from Cansim Tables 378-0054 (1961–1989) and 378-0121 (1990–2013).

But how do we know that it is *large* firms that are driving this process rather than the business sector as a whole? In other words, is the stockpiling of corporate cash and the sluggish growth that accompanies it a product of greater corporate power? It is difficult to provide a definitive answer to this question, but if it could be demonstrated that the concentration of corporate power moves in sync with the stockpiling of cash, we would have some evidence for the assertion that corporate power is a causal element in secular stagnation.

By measuring the relative position of large firms in the political economy, aggregate concentration is one way of quantifying corporate power. *Figure 8* plots the proportional share of the pre-tax income of the top 60 Canadian-based firms in the corporate universe. When this metric rises, large firms are claiming a greater share of corporate income (and vice versa). The other series in *Figure 8* captures a new way to measure the hoarding of corporate cash. In accounting terms, because cash is a stock and investment is a flow they are not easily compared. By plotting a ratio of the year-over-year difference in corporate cash (converting it a flow) to business spending on fixed assets, we capture the national propensity of Canadian business to hoard cash. When this metric declines, business spends relatively

**FIGURE 8** Corporate Power and Corporate Hoarding, 1952–2013



**Note** Both series are smoothed as three-year moving averages.

**Source** Canadian Financial Markets Research Centre and Compustat through WRDS for common shares outstanding, closing share price and pre-tax profit; national pre-tax profit from Historical Statistics of Canada, Series F3 (1950–1960) and Cansim Table 380-0016 (1961–2012); total business spending on fixed assets from Cansim Tables 380-0017 (1961–1980) and 384-0038 (1981–2013); total corporate cash from Cansim Tables 378-0054 (1961–2011) and 378-0121 (2012–2013).

more on (growth-enhancing) industrial projects; when it increases, business stockpiles a greater share of its available funds, which puts downward pressure on growth.

Over the past half-century, the concentration of corporate power (aggregate profit concentration) is tightly intertwined with corporate hoarding (hoard-to-build index). Importantly, in the period between 1950 and 1990, both series moved horizontally, which is to say corporate power did not significantly increase and corporate cash hoarding was stable. In the decades after 1990, just as the frenzy for CIT rate reductions set in, corporate concentration roughly doubled and corporate hoarding soared, reaching a half-century high. The facts suggest that elevated levels of corporate cash hoarding are closely associated with increasing corporate power.

The casual sequence, then, looks like this: corporate amalgamation (mergers and acquisitions) fuels the expansion of large firms; as the largest firms grow in relative size, the corporate universe concentrates; greater concentration means less competitive pressure and enhanced market power. For the largest firms, these processes mean an enlarged share of corporate and national income. Here is where the CIT regime comes into play. By re-

ducing the tax burden across the corporate universe, large firms retain an even greater share of their pre-tax income. The collective choice not to invest this income in growth-expanding industrial projects, while instead stockpiling it the balance sheet, has a depressing effect on growth. This does not matter for large firms, however, because they are not motivated by national growth, but by increased earnings margins and a deepening of their income share. Slower growth translates into labour market precarity, which tempers the demands and bargaining power of the workforce, further elevating earnings margins and profitability.

We can therefore say with confidence that the CIT regime is one element of the twin processes of heightened corporate concentration and slower rates of growth. It does not need to be stressed that this set of claims goes against orthodox economic thinking. Nevertheless, the facts support these assertions, which should make them candidates for economic truth.

# Conclusions and Policy Implications

THE HALVING OF corporate income tax rates over the past generation has not had a detectable empirical or statistical effect on investment or growth. When we exclude the most severe parts of the Great Depression, the level of business investment since 1980 has oscillated around a historic low. Employment growth has been anemic among both large firms and the business sector, and that includes the socially detrimental rise of precarious forms of work, which account for a heavy (and growing) proportion of the sluggish job creation. Over the past three decades, GDP per capita has grown at its slowest rate since the Depression-laden 1930s.

In short, the frenzy for CIT rate reductions has unfolded alongside underinvestment, a jobs crisis and deep stagnation. At a statistical level there is no evidence of a strong, sustained and inverse relationship between the CIT regime and growth. In the few instances (roughly one-quarter) where a statistically significant relationship is detectable, the direction of the result is more often positive than negative — the opposite of what neoclassical theory predicts.

Having found no statistically significant relationship between the CIT regime and growth, this paper built a conceptually grounded, factually supported argument for why a moderate degree of stagnation is desirable from a business standpoint. It went on to discover that the hoarding of corporate cash, which is generally recognized as having a depressing effect on

growth, is closely associated with the increased corporate and national income share of large firms.

One growth pathway for large firms is through mergers and acquisitions. Larger relative firm size translates into corporate concentration, which inflates earnings margins and enlarges the profit share of national income. Small and medium-sized firms are typically unable to hoard cash in a significant way, which means that large firms are the prime culprit in the excessive cash hoarding of recent decades. That Canada's largest corporations have doubled their income share in the past two decades in tandem with excessive cash hoarding indicates the growth of corporate power itself might be one determinant of cash stockpiling, and hence of slower growth. The growth of large firms is an independent factor, but insofar as CIT rate reductions have enabled greater cash hoarding they have indirectly served to dampen growth.

This set of truth claims was informally tested through the creation of a new metric to gauge corporate cash stockpiling: the national hoard-to-build index. Over the past half-century, this index (a proxy for corporate hoarding) moves in tandem with aggregate profit concentration (a proxy for the power of large firms). This suggests that, in sync with an increasingly top-heavy market structure, CIT rate reductions have been one ingredient in the stagnant growth of recent decades. Despite being factually supported, this line of reasoning is entirely at odds with neoclassical doctrine. If the findings contained in this paper are true, then CIT rate reductions will go down as one of the great public policy blunders of the past generation. Far from spawning higher levels of investment and growth, the government fixation with corporate tax cuts has indirectly fostered slower growth.

# Appendix I

## Data on the Top 60 Firms

DATA PERTAINING TO the top 60 Canadian-based firms comes from a variety of sources and are computed in a series of steps. The bulk of the data are drawn from Canadian Financial Markets Research Centre and Compustat, the latter accessed through Wharton Research Data Services. The two data sets were blended together to include as many firms in the sample as possible. The first step was to rank the firms by equity market capitalization (common shares outstanding multiplied by closing share price). The second step was to remove the foreign-based firms (mainly U.S.-based) from the list. The resulting list of the top 60 firms had numerous data gaps, most of which were filled using Moody's corporate manuals through Mergent Webreports and the *Report on Business's* list of the top 1,000 companies (Top 1000). The resulting list had a few remaining data gaps, but it was sufficiently complete to give us the deep historical impression we are after. Many Canadian-based firms reported their financial statements in U.S. dollars, so the third step was to convert the relevant data to Canadian dollars using Global Financial Data's Canada–U.S. exchange rate (code: CADUSA).

The effective CIT rate on the top 60 firms was computed as a weighted average of reported income tax as a percentage of pre-tax income. Many large firms have international operations, but this information is not broken out for all firms over the long term. To simplify the analysis, the operations of the top 60 firms were assumed to be wholly domestic (even though some of

the profit and income tax was generated and paid in foreign jurisdictions). Data on foreign corporate income and foreign corporate income taxation are available from 1969 and 1984 respectively. However, both are less complete the further we go back in time, which is why they were omitted. Between 1969 and 2013, foreign income tax as a percentage of total reported income tax averaged just 8% (though the top Canadian-based firms have become increasingly internationalized over time). In 2013, for example, the average pre-tax foreign profit of the top 60 firms was \$235 million on a total pre-tax profit of \$1.67 billion, which made foreign profit less than 15% of total profit. Foreign income tax as a percentage of total reported income tax was also roughly 15%. Because foreign income and foreign taxation are so low, we can safely omit them.



# Appendix II

## Data Sources for Table 1

THE **EFFECTIVE FEDERAL CIT rate** was computed as the proportional share of federal corporate income tax revenue in total pre-tax Canadian corporate profit. Federal corporate income tax revenue from Historical Statistics of Canada, Series H2 (1926–1975) and the government of Canada’s Fiscal Reference *Table 3* (1976–2013). Pre-tax corporate profit from Historical Statistics of Canada, Series F3 (1926–1960), Cansim Tables 380-0029 (1961–2011) and 380-0063 (2012–2013). Combined (federal and provincial) **CIT rate for the Canadian corporate universe** from the OECD, Tables II.1-II.4 (1981–2013) and the combined Ontario CIT rate from Treff and Perry (2002), *Table 4.4*, p. 4:9 and Brown and Mintz (2012), *Table 1.8*, p. 1:28 from 1949–1980. The **effective CIT rate on the top 60 firms** was computed as a weighted average of reported income tax as a percentage of pre-tax income. Reported income tax and pre-tax income on the top 60 firms from Canadian Financial Markets Research Centre and Compustat through WRDS (with gaps filled using Moody’s corporate manuals through Mergent WebReports and the *Report on Business’s* Top 1000). **Business investment** is comprised of spending on non-residential structures, machinery and equipment and it is drawn from Historical Statistics of Canada, Series F23+24 (1926–1960) and Cansim Tables 380-0017 (1961–1980) and 384-0038 (1981–2013). **Private sector employment** was estimated between 1960 and 1975 using an industrial composite employment index, with proper rebasing. Data was drawn from

Historical Statistics of Canada, Series D528 (1960–1975) and Cansim *Table* 282-0012 (1976–2013). **Nominal GDP** from Historical Statistics of Canada, Series F13 (1926–1960) and Cansim Tables 380-0016 (1961–1980) and 384-0037 (1981–2013). **Consumer price index** and total **Canadian population** from Global Financial Data (code: CPCANM and POPCAN). **Average hourly earnings** from Historical Statistics of Canada, Series E198 (1926–1948) and the IMF through Global Insight (1949–2013).

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# Notes

- 1** See Figure 5 in Jordan Brennan, “Ascent of Giants: NAFTA, Corporate Power and the Growing Income Gap,” Canadian Centre for Policy Alternatives, Ottawa: 2015.
- 2** See Figure 3 in Jordan Brennan, “The Creation of a Shared Prosperity in Canada: Unions, Corporations and Countervailing Power,” Canadian Centre for Policy Alternatives, Ottawa: 2014.
- 3** David Hume. 1739–40. [2003]. *A Treatise of Human Nature*. Mineola, New York: Dover Publications. Pg. 53–56.
- 4** Thorstein Veblen. 1904. [2005]. *The Theory of Business Enterprise*. New York: Cosimo Classics. Pg. 19, 24.
- 5** Thorstein Veblen. 1923. [2004]. *Absentee Ownership. Business Enterprise in Recent Times: The Case of America*. New Brunswick and London: Transaction Publishers. Pg. 66–67.
- 6** Michal Kalecki. 1943. [1971]. “Political Aspects of Full Employment,” in *Selected Essays on the Dynamics of the Capitalist Economy, 1933–1970*. Cambridge: Cambridge University Press. Pg. 140–141.
- 7** See Nitzan and Bichler (2009), pp. 227–239 for an imaginative exploration of the relationship between growth and capitalist earnings, which partly informs this reading of Veblen and Kalecki.
- 8** Kevin Carmichael, Richard Blackwell and Greg Keenan. “Free up ‘dead money,’ Carney exhorts corporate Canada,” *Globe and Mail* (Toronto), August 22, 2012. Last accessed October 30, 2015: <http://www.theglobeandmail.com/report-on-business/economy/free-up-dead-money-carney-exhorts-corporate-canada/article4493091/>.





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