

The Weakness of Corporate Investment in Canada, 2001–2021

Identification and Assessment



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Steven Globerman



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Executive Summary

Over the period from 2001 to 2021, gross fixed capital formation (GFCF), or gross fixed investment, as a share of gross domestic product (GDP) was higher in Canada than in the United States with the exception of a brief period from 2001 to 2006. This belies any notion that overall investment intensity in Canada has lagged that of the United States.

From 2001 to 2014, GFCF as a share of GDP in Canada equaled or exceeded the share in the United States. The opposite was the case from 2015 to 2021. Specifically, corporate gross investment as a share of GDP was about 2% higher in Canada than in the United States from 2001 to 2014, but it was 4.4% lower from 2015 to 2021. Hence, while corporate investment is relatively weaker in Canada than in the United States, this is a relatively modest and recent phenomenon.

The mix of corporate investment in the two countries tells a richer story. Canada's investment intensities in two asset categories, Information and Communications Technology (ICT) and Intellectual Property Products (IPP) are substantially weaker than comparable US investment intensities. Specifically, GFCF in ICT as a share of GDP was about 21% lower in Canada than in the United States from 2001 to 2014. It was about 30% lower from 2015 to 2021. GFCF in IPP as a share of GDP was almost 39% lower in Canada than in the United States from 2001 to 2014 and about 49% lower from 2015 to 2021. These two asset categories have been found to contribute more to productivity growth than do other asset categories, and corporations are the predominant investors in the two categories.

In the case of two other large asset categories, Dwellings and Other Structures, investment as a share of GDP is consistently higher in Canada than in the United States over the full period from 2001 to 2021, and Canada's high performance is particularly marked in the case of Dwellings post-2014. From 2015 to 2021, investment in Dwellings as a share of GDP in Canada was slightly more than double that of the United States. For Other Structures, Canada's share was almost 75% larger than the share in the United States. While households are the dominant investors in Dwellings, and while government is a prominent investor in Other Structures, it can be inferred from available data that corporations in Canada are substantial investors in those two asset categories as well, and more so in relative terms than corporations in the United States. Moreover, the implied investment in these two asset categories by Canadian corporations relative to GDP and relative to the implied investment by US corporations was greater from 2015 to 2021 compared to the 2001-to-2014 period.

Relative investment intensity in different asset categories, therefore, suggests that corporations in Canada found investing in Dwellings and Other Structures relatively more profitable compared to ICT and IPP than did corporations in the United States. Conversely, US corporations compared to Canadian corporations found investing in ICT and IPP assets relatively more profitable than investing in Dwellings and Other Structures. These relationships seem particularly strong in more recent years.

The rapid and dramatic increase in residential property values in Canada compared to the United States is a plausible, if partial, explanation for the apparent preference of Canadian investors, including corporate investors, to invest more intensively in this asset category than US investors. Evidence from stock-market returns indicates that investors earned lower returns from investing in publicly listed companies in Canada than in publicly listed companies in the United States over the sample period of the study. Given the prominence of the ICT and IPP asset categories in the overall asset holdings of public companies, a reasonable inference is that investments in ICT and IPP assets yield higher investment returns in the United States than in Canada.

The differences in the mix of assets in which Canadian and US companies invest arguably make an important contribution to Canada's lagging productivity performance compared to the United States. Specifically, the relative concentration of US corporate investment in productivity-linked assets as compared to Dwellings and Other Structures is a major contributor to that country's productivity performance. Improving Canada's productivity performance, therefore, requires policy initiatives that will encourage increased investment in ICT- and IPP-related assets. While the federal and provincial governments in Canada are promoting more investment in residential housing, the relevant initiatives might actually crowd out investments in ICT and IPP assets in the absence of policies that encourage the latter as well.

1. Introduction

There is growing recognition among government policy makers, Bank of Canada officials, and journalists that business investment in Canada is a problem. Specifically, weak corporate investment over the past 15 years or so has been linked to stagnant productivity growth and declining inflation-adjusted, per-capita incomes. For example, Janzen and Xu (2022) estimate that capital investment's percentage-point contribution to growth in output per hour worked in Canada decreased from 1.20 for the period from 2000 to 2009 to 0.4 for the period from 2010 to 2019. Williams (2022) cites the projection by the Organisation of Economic Co-operation and Development (OECD) that Canada will be the worst performing economy out of 38 advanced countries over the next two to three decades as measured by growth in real per-capita Gross Domestic Product (GDP). The principal reason for this lacklustre forecast is Canada's inability to generate meaningful gains in labour productivity (real output per hour worked) and an important contributor to the anticipated lagging productivity growth is declining investment per available worker.

The seriousness of weak business investment in Canada was highlighted in a recent speech by the senior deputy governor of the Bank of Canada, Carolyn Rogers. She pointed to sluggish business investment as contributing to an "economic emergency".¹ Rogers specifically identified low business investment in machinery, equipment, and intellectual property as a particular problem.

A number of recent studies document the poor performance of corporate investment in Canada in the last several years. Globerman and Emes (2021) report that, as recently as the 2000-to-2010 period, overall capital investment in Canada grew substantially faster than in most other developed countries; however, from 2010 to 2021, the growth rate of capital investment in Canada dropped substantially below that of the United States and many other developed countries. The growth rate of corporate investment in Canada was especially weak over the post-2014 period. Moreover, the weakness was not confined to the oil and gas industry. In an earlier study, Globerman and Emes (2019) found that two thirds of their sample of 15 Canadian industries experienced a decline in investment in the post-2014 period.

Finlayson (2022) shows the gap between Canada and the United States in business investment per available worker becoming increasingly unfavourable to Canada after 2010, and especially after 2014. This finding is supported by Hill and Emes (2023), who report that in 2014 Canada invested about CA\$0.79 per worker for every dollar of non-residential business investment per

1 See Rendell, 2024 for a summary of Rogers' speech,

worker in the United States, whereas in 2021 investment in Canada was only CA\$0.55 per worker for every dollar invested in the United States. Similarly, Gu (2024) notes that gross investment per worker in Canada increased in the period ending in 2006. However, from 2006 to 2021, investment per worker declined by about 15% in the business sector with the decline accelerating after 2014.

While the precise dating of the decline in business investment varies somewhat from study to study, there is broad agreement in the literature that business investment in Canada has slowed substantially over the past one to two decades. There is less agreement about the causes of the slowdown. For example, Robson and Bafale (2022) cite a number of government policies, which they identify as beginning in 2015, as discouraging business investment.² Specifically, they mention government’s rising consumption of goods and services, including compensation of employees and transfers to households, as contributing to unprecedented increases in the share of consumption and housing in Canadian GDP, thereby reducing the resources available for non-residential investment. They also mention the onerous and uncertain regulatory environment and concerns about rising taxes and government debt as undermining investor confidence and making Canada less attractive to investors and corporations than it could be.

Gu (2024) offers a different explanation for the pattern of weak business investment. He provides data showing that investment declined after 2006 and especially after 2014.³ He argues that the decline is primarily attributable to two phenomena: a decline in the entry rate of new firms and a change in the mix of investment toward intangible capital. The decline in entry rate of new firms is taken to reflect a decrease in competitive pressure on incumbent firms to invest in order to increase productivity. The increased importance of intangible capital is relevant insofar as much of the investment in intangible assets is not recognized as investment in the aggregate statistics produced by national statistical agencies.⁴ Excluding intangible assets from conventional estimates of gross fixed capital formation results in an underestimation of total business investment. The decline in new firm entry rates and the shift in overall business non-residential investment toward intangible assets are negatively and significantly related to the decrease in corporate investment per worker in Gu’s (2024) sample of Canadian firms.

2 Robson and Bafale (2022) argue that prior to 2015, Canadian businesses had been closing a long-standing gap between investment per available worker in Canada compared to the United States and other OECD countries.

3 Gu (2024) estimates that investment per worker declined by 20% from 2006 to 2021.

4 Intangible assets that generally are not included in data reported by agencies such as the OECD include proprietary data and brand equity goodwill. Gu (2024) mitigates this problem by using firm-level data from the National Accounts Longitudinal Microdata File (NALMF). The NALMF captures all investments in tangible physical assets such as machinery and equipment, building construction by corporations, and investments in intangible assets related to patents, licences, and goodwill. Gu reports that the share of intangible assets in the balance sheets of Canadian firms increased from 6.3% to 17.3% from 2000 to 2021, with most of the increase occurring after 2006.

The purpose of this study is to compare the behaviour of business investment in Canada to that of the United States over the period from 2001 to 2021 to provide insight into the factors contributing to the decline of corporate investment in Canada since the mid-2010s. A comparison to the United States implicitly holds constant exogenous influences on business investment that are similarly relevant to both countries. For example, Gu (2024) points out that the average rate of new firm entries in Canada is similar to the rate in the United States over the period from 2006 to 2019. The shift in investment towards intangible assets also took place in both countries, although the shift apparently started earlier in the United States.

To be sure, influences on factors affecting business investment may be common to both countries while differing in magnitude.⁵ Hence, the study will explicitly consider a variety of factors for which data are available. Still, a comparison between Canada and the United States over time is valuable inasmuch as it indirectly holds constant differences between the two countries at the start of the time series that do not change over the sample period. As noted above, such an analysis also accounts for exogenous factors that have similar relative effects on corporate investment in the two countries.

The study proceeds as follows. Section 2 presents data on patterns of capital investment in Canada and the United States to provide context for our assessment of factors that might be contributing to the recent investment performance of Canada's business sector. Section 3 discusses and compares aspects of the environments for corporate investment in Canada and the United States that might have contributed to differences identified in the patterns of corporate investment in the two countries. Concluding comments are provided in section 4.

5 Economic disruptions associated with the COVID-19 epidemic might be an example in this regard.

2. Patterns of Investment in Canada and the United States, 2001–2021

To the extent that a slowdown in business investment is accompanied by slowdowns in investment in other sectors of the economy, economy-wide policy initiatives to promote increased investment are likely to be more appropriate than policies specifically targeted at encouraging business investment. As suggested by **figure 1**, over the period from 2001 to 2021, Canada’s overall investment intensity exceeded that of the United States, especially during the years immediately following the “Great Financial Crisis” of 2007 to 2009.⁶ Specifically, over the period from 2001 to 2014, Gross Fixed Capital Formation (GFCF) as a percentage of Gross Domestic Product (GDP) averaged 22.5 annually for Canada, whereas it averaged 21.4 annually in the United States. Over the period from 2015 to 2021, the comparable average annual percentages were 23.2 for Canada and 20.9 for the United States. Other than for the relatively short period from 2001 to 2006, GFCF as a share of GDP was consistently higher in Canada than in the United States.⁷

Overall intensity of corporate investment

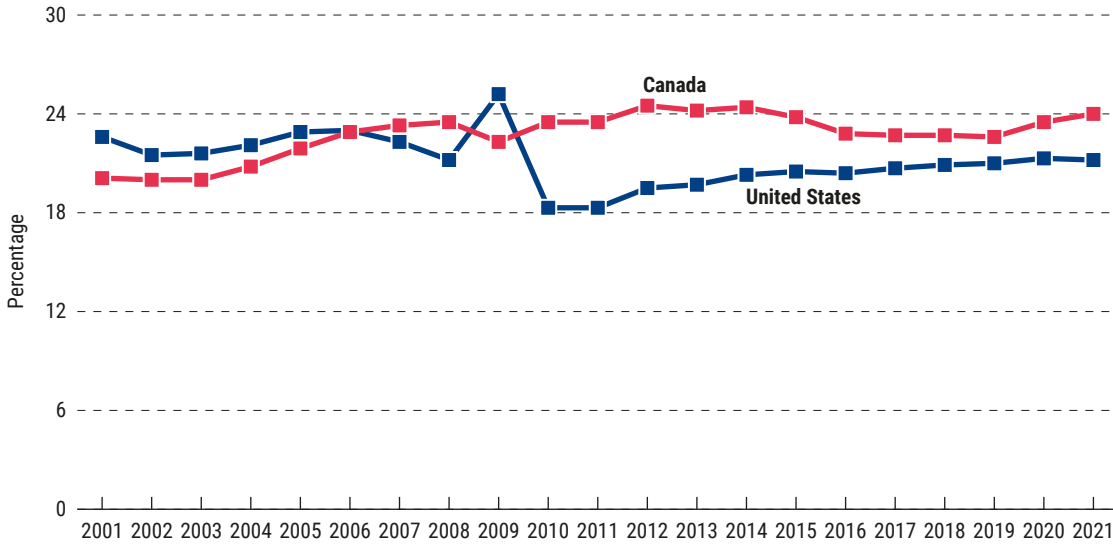
Figure 2 shows the behaviour of corporate GFCF as a share of GDP for Canada and the United States during the period from 2001 to 2021. The data in **figure 2** highlight differences in the period before 2014 and the post-2014 years. Specifically, from 2001 to 2014, corporate investment intensity—measured as corporate GFCF as a percentage of GDP—in Canada equaled or exceeded that of the United States. However, it fell short of US corporate investment intensity after 2014.

Canada’s relative corporate investment intensity can perhaps be seen most clearly by creating an index where the numerator of the index is corporate investment’s share of GDP in Canada, and the denominator is corporate investment’s share of GDP in the United States. The index value is

6 Overall investment intensity in the United States dropped dramatically in 2010.

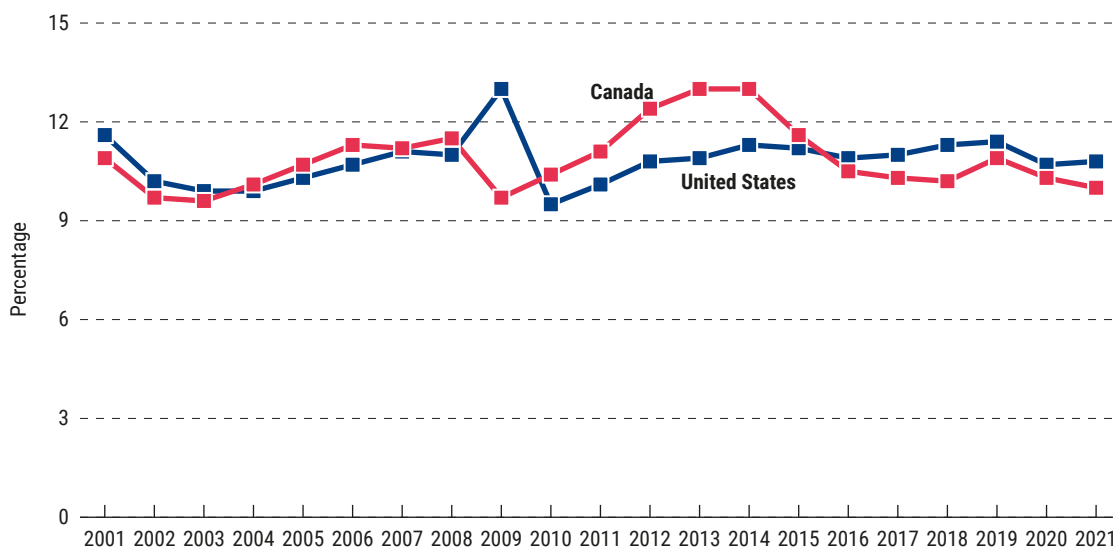
7 The data for GFCF as a percentage of GDP are from the World Bank Group, which defines GFCF as: “the acquisition of produced assets (including purchases of second-hand assets), including the production of such assets by producers for their own use, minus disposals. The relevant assets relate to assets that are intended for use in the production of other goods and services for a period of more than a year. The term “produced assets” means that only those assets that come into existence as a result of a production process are included. It therefore does not include, for example, the purchase of land and natural resources”.

Figure 1: Gross Fixed Capital Formation (GFCF) as a percentage of Gross Domestic Product (GDP), Canada and United States, 2001–2021



Source: World Bank Group, 2024.

Figure 2: Corporate Gross Fixed Capital Formation (GFCF) as a percentage of Gross Domestic Product (GDP), Canada and United States, 2001–2021

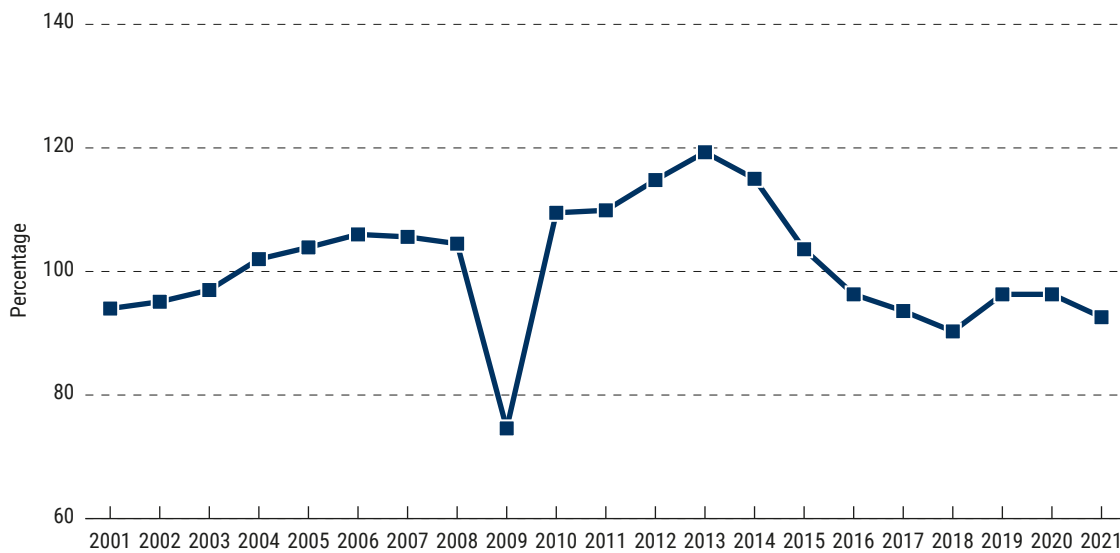


Source: OECD, 2022b.

then multiplied by 100, so that year-to-year changes in the index can be interpreted directly as percentage-point differences. Hence, an index value of 100 indicates that the share of corporate investment in GDP for Canada was identical to that for the United States. Index values above 100 indicate that Canada's share was greater than that for the United States, while values below 100 show a corporate investment deficit in Canada relative to the United States.

As seen in **figure 3**, other than the years 2001 to 2003, and 2009, the corporate-GFCF index exceeds 100 between 2001 and 2014.⁸ After 2014, the index exceeds 100 only in 2015. Over the entire period from 2001 to 2014, the average annual value for the index is 101.8, whereas the average annual value is 95.6 over the period from 2015 to 2021. Put differently, corporate investment as a share of GDP was around 2% higher in Canada than in the United States from 2001 to 2014. However, it was 4.4% lower from 2015 to 2021. Canada's relative corporate investment intensity was particularly strong over the period from 2010 to 2014, when the index value averaged 114.

Figure 3: Index (± 100) of Corporate Gross Fixed Capital Formation (GFCF) as a percentage of Gross Domestic Product (GDP), Canada and United States, 2001–2021



Source: Author's calculations from data reported in figure 2..

Hence, the year 2014 appears to be an inflection point in terms of overall corporate investment intensity in Canada relative to the United States and the post-2014 period is when overall corporate investment intensity in Canada declines noticeably relative to that in the United States. We next consider whether this pattern characterizes the various specific types of investment by asset category.

⁸ As shall be discussed later in the study, 2009 appears to be an anomalous year for different asset categories of corporate investment in Canada.

Investment intensities by asset type

The OECD provides data on six asset categories: Dwellings, Other Buildings and Structures, Transportation Equipment, Information and Communication Technology Equipment, Biological Resources, and Intellectual Property Products (OECD, 2022a). Unfortunately, the OECD does not provide cross-tabulations that allow identification of the shares of investment in each asset category that is accounted for by corporations.⁹ It is certainly possible that corporations invest in each of the asset categories, although as shall be detailed below, GFCF in three asset categories—Intellectual Property Products (IPP), Information and Communications Technology (ICT), and Transportation Equipment—accounts for somewhat over half of all corporate GFCF for Canada and for almost all corporate GFCF for the United States.

Investments in IPP and ICT arguably make the greatest contributions to productivity growth. In this regard, the Conference Board of Canada (2024) examined the relationship between investment in machinery and equipment and labour productivity. It divided labour productivity into two categories: ICT equipment and non-ICT equipment. The former consists of telecommunications equipment, software, and computers and related equipment. It found that the gap between US and Canadian ICT investment accounts for the bulk of the labour productivity gap between the two countries.¹⁰ The importance of ICT's contribution to labour productivity growth is related to that asset category's link to the adoption and diffusion of new technology. In a separate study, Boldrin and Levine (2013) conclude that IPP investments facilitate the development of more complex and specialized products and services more quickly and efficiently. Such investments also allow for increased mechanization of production processes, which improves productivity growth. Given their prominent contribution to productivity growth, we focus particular attention on Canada's comparative investment performance in the ICT and IPP asset categories.¹¹

Figure 4 shows the annual values of GFCF for intellectual property products as a percentage of GDP for Canada and the United States. It is difficult to assign a precise year as an inflection point in the two series. Canadian investment in intellectual property products as a share of GDP declines consistently from 2005 to 2015. It then increases consistently from 2015 to 2020.¹²

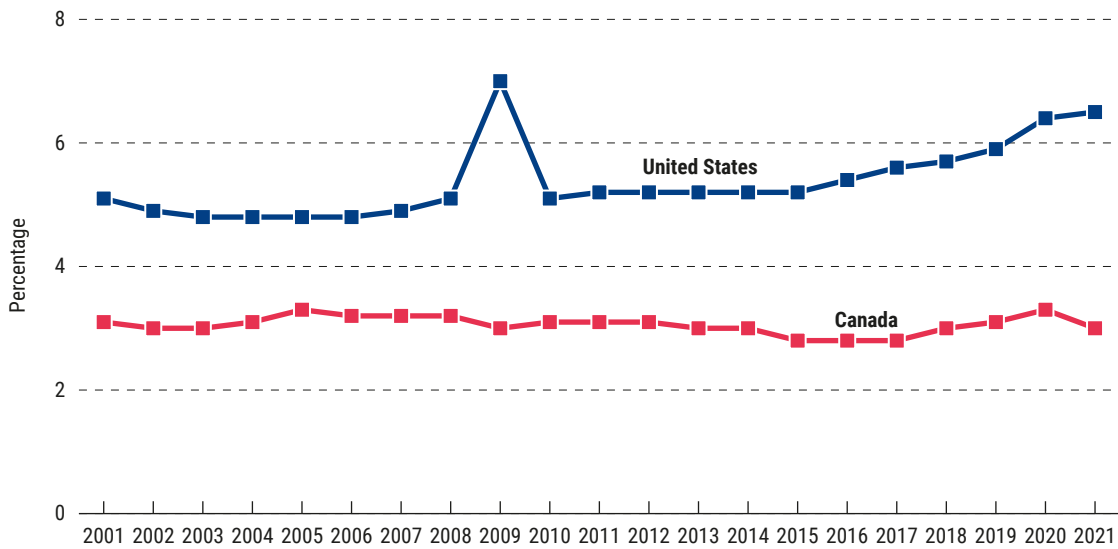
9 Nor is it possible to identify the shares of GFCF in each asset category accounted for by households and government.

10 In a much earlier study, De Long and Summers (1991) examine data for a sample of wealthy countries over the period from 1960 to 1985 and conclude that machinery and equipment investment has a strong association with real economic growth. The association is much stronger than that between growth and any other components of investment.

11 We ignore the very small relative share of investment in biological resources.

12 The start of the decline closely corresponds to Gu's (2024) dating of the start of the decline in Canada's relative share of corporate investment to 2006.

Figure 4: Intellectual Property Products (IPP) Gross Fixed Capital Formation (GFCF) as a percentage of Gross Domestic Product (GDP), Canada and United States, 2001–2021



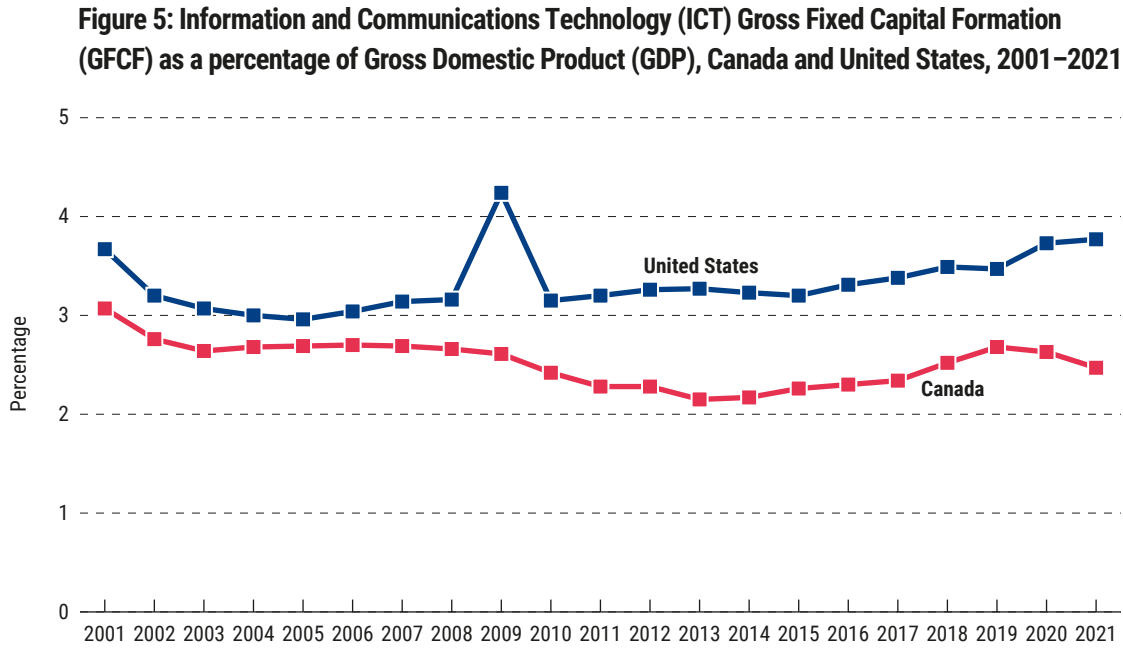
Source: OECD, 2022a.

Conversely, the percentage for the United States increases from 2006 to 2011. It decreases modestly through 2015 and then increases through the rest of the period. Hence, while Canada's share is lower than the US share in every year, the ratio of Canada's share to the US share declines substantially and almost perfectly consistently from 2005 through 2016. The ratio then increases modestly for two years (2017 and 2018), before again declining and reaching a two-decade low value in 2021.

Figure 5 shows the annual values of GFCF for Information and Communications Technology (ICT) as a percentage of GDP for Canada and the United States. In every year, Canada's percentage is lower than the corresponding US value. The ratio of Canada's share of GDP relative to the US share declines consistently from 2005 through 2013. The ratio then mostly increases through 2019 after which it declines sharply, although without reaching an all-time low value.

As a way of consolidating the information presented to this point, table 1 reports the index values for overall corporate GFCF, as well as for IPP and ICT GFCF, for specific sub-periods.¹³ For overall corporate GFCF, the index is positive for the sub-periods 2001–2008 and 2010–2014, which indicates that GFCF as a share of GDP in Canada was greater than the share for the United States over the pre-2014 sub-period. The index then falls below 100 in the 2015-to-2021 sub-period. For the IPP asset category, the index is below 100 in all sub-periods, with the

¹³ The year 2009 is excluded from the calculations given the anomalous values of the indices for that year.



Source: OECD, 2022b.

Table 1: Index values for corporate, IPP, and ICT Gross Fixed Capital Formation (× 100)

Time period	Corporate	IPP	ICT
2001–2008	101	64.1	86.7
2010–2014	113.7	59.1	70.2
2015–2021	95.6	51.2	70.7

Source: Author's estimates from data in figures 2 and 4.

index for the sub-period 2010–2014 below that of sub-period 2001–2008, and with the index for sub-period 2015–2021 below that of sub-period 2010–2014. For the ICT asset category, the index is below 100 in all three sub-periods. The index value for the 2010–2014 sub-period is substantially below that for the 2001–2008 sub-period and then remains essentially unchanged.

One obvious inference that can be drawn from table 1 is that Canada's relatively weak investment performance in the two asset categories most closely linked to productivity growth has persisted for at least two decades and has weakened even more in recent years. Again, it must be acknowledged that the available data do not allow identification of the share of investment in specific asset categories accounted for by corporations. However, it seems reasonable to assume that corporations account for a significantly larger share of GFCF in the ICT and IPP asset categories than does government and certainly than do households. There is some supporting evidence for this assumption. Specifically, the UN Agency for Digital Technologies (2020) estimates

that up until 2020 more than 90% of investment in ICT globally was made by private sector participants. It is very unlikely that households accounted for a significant share of this 90%. With regard to IPP, data from the US Bureau of Economic Analysis shows that the private sector accounted for about 75% of total investment in IPP in the United States in 2021 (BEA, 2022). Again, it is unlikely that households accounted for a significant share of this 75% private-sector allocation. In short, unless the distribution of investment in ICT and IPP by sector in Canada differs substantially from distributions in other developed countries, the under-performance of Canada's investment relative to the United States in ICT and IPP largely reflects differences in the relative investment performances of Canadian and US corporations.

A second inference that can be drawn is that the calculated index value(s) for one or more of the other asset categories (besides ICT and IPP) must be favourable for Canada given the relatively low calculated index values for IPP and ICT.¹⁴ A third inference is that, while the relative investment environments post-2010 changed compared to the pre-2010 period for both IPP and ICT, the continued weakening in IPP-GFCF intensity in Canada relative to the United States in the post-2014 period arguably reflects one or more factors that did not contribute to a relative weakening in ICT-GFCF intensity after 2014. These inferences will be explored further below.

Some insight into possible factors influencing the behaviour of corporate investment in IPP and ICT in Canada compared to the United States is provided by data reported in **table 2**. The table reports calculated index values for the other main asset categories contributing to overall GFCF: Dwellings, Other Structures, and Transportation Equipment. What stands out particularly from the reported data is the dramatic increase in GFCF for both Dwellings and Other Structures as a share of GDP in Canada compared to the United States after 2010. The increase in the index for Dwellings is especially striking. Contributing to the increase in the index for Dwellings in the period from 2010 to 2014 is the sub-prime mortgage crisis in the United States that devastated the market for residential housing. By comparison, the Canadian residential housing market fared relatively well. Hence, the index increased during the 2010–2014 period both because of an increase in GFCF as a share of GDP in Canada as well as a substantial decrease in GFCF as a share of GDP in the United States. The shares for both countries increased during the 2015–2021 period. Still, GFCF as a share of GDP for Dwellings is more than twice as high in Canada as in the United States during this latter period, while GFCF as a share of GDP for Other Structures is almost 75% higher in Canada than in the United States.¹⁵

14 This follows from the fact that the index value for overall GFCF as a share of GDP for Canada was higher, on average, than for the United States over the full sample period.

15 In 2021, corporate GFCF as a share of GDP was approximately 10% in Canada, whereas it was 10.8% in the United States. Hence, it can be inferred that differences between the two countries in corporate GFCF are substantially more marked for certain asset types than for overall corporate investment intensity.

Table 2: Index values for Dwellings, Other Structures, and Transportation Equipment Gross Fixed Capital Formation ($\times 100$)

Time period	Dwellings	Other Structures	Transportation Equipment
2001–2008	101	64.1	86.7
2010–2014	113.7	59.1	70.2
2015–2021	95.6	51.2	70.7

Source: Author's estimates from OECD, 2022a.

In summary, the main development in corporate investment in Canada compared to the United States is the measurable and implied changes in corporate investment patterns in the two countries after 2010. GFCF as a share of GDP in Dwellings and Other Structures increased in Canada relative to the United States, while GFCF as a share of GDP in IPP, ICT, and Transportation Equipment declined in Canada relative to the United States.¹⁶ If one assumes that corporations are responsible for essentially all GFCF in the ICT and IPP categories as suggested by earlier references, available data indicate that GFCF in IPP and ICT accounts for approximately 57% of corporate GFCF in Canada over the period from 2001 to 2010 and around 53% over the period from 2014 to 2021. For comparable periods, the US estimates are 81% and 85%.¹⁷

The inference one might draw is that corporate investors in Canada found it relatively more attractive to invest in Dwellings and Other Structures than did corporate investors in the United States, particularly after 2014. To be sure, households presumably account for the largest share of GFCF in dwellings, while governments presumably account for a significant share of GFCF in other structures.¹⁸ However, it seems reasonable to draw the conclusions that, in recent years, Canadian corporations found investing in Dwellings and Other Structures to be increasingly attractive financially compared to investing in IPP and ICT, whereas the opposite seems to be the case for US corporations, and that Canadian companies, compared to their US counterparts, have found ICT and IPP to be consistently relatively less attractive investment categories. To the extent these conclusions are valid, the obvious question is what explains the apparent differences in the investment behaviour of Canadian and US corporations. The next section of the study provides a preliminary examination of this issue.¹⁹

16 While not explicitly discussed to this point, the Canada-US index value for Transportation Equipment is consistently below 100 for the period from 2001 to 2021, with a marked decline in the 2010–2014 sub-period (see table 2).

17 These estimates were obtained by adding the ratios of IPP GFCF as a share of GDP and ICT GFCF as a share of GDP and dividing the sum by the ratio of corporate GFCF as a share of GDP and averaging the quotient for the two sub-periods.

18 Canadian census data show that the majority of Canadians live in owner-occupied dwellings. The percentage reached a post-2000 high of 69.5% in 2014 and was down to 65.5% in 2021. See Davies, 2024.

19 A more intensive evaluation of changes in the post-2010 corporate investment environments in Canada and the United States is a subject for future research.

3. The Environment for Corporate Investing

In broad terms, it is unsurprising that GFCF in dwellings as an asset class has historically been a more attractive investment category in Canada than in the United States for investors generally, including corporate investors. While it would be preferable to compare overall net rates of return to comparable categories of residential real estate in the two countries, such data are unavailable. However, property price indices make a compelling case that residential real estate assets have appreciated in Canada at a significantly faster rate than in the United States, which arguably has encouraged relatively more investment in that asset category in Canada.

Table 3 reports index values for residential property prices in Canada and the United States for various sub-periods. To be sure, investors make their decisions based on expected rates of return, including expected asset price appreciation. In this regard, it is not unreasonable to speculate that expectations about future increases in residential property prices are conditioned by increases in the relatively recent past. The continued “outperformance” of residential real estate in Canada compared to the United States from a price appreciation standpoint, as identified in table 3, is consistent with GFCF for dwellings as a share of GDP being consistently higher in Canada than in the United States.²⁰

Table 3: Annual percentage increase in residential property prices (index 2010 = 100)

Time period	Canada	United States
2001–2008	10.2	–0.04
2010–2014	5.2	3.6
2015–2021	12.3	5.8

Sources: Federal Reserve Bank of St. Louis, 2024a, 2024b; author's calculations.

A fuller assessment of the preference of Canadian investors for the Dwelling asset category compared to the preferences of US investors is a subject for future study. One obvious possible contributor to increased demand for dwellings in both countries is population growth. **Table 4**

²⁰ There is likely simultaneity between expected returns and investment flows. Higher expected returns should encourage increased investment flows, which should result in higher actual returns, other things constant. If investor expectations are adaptive, i.e., returns in the relatively recent past condition expected future returns, increased investment will indirectly raise expected returns and thereby encourage still more increased investment.

Table 4: Percentage change in population growth

Time period	Canada	United States
2001–2008	8.4	8.2
2010–2014	4.1	4.3
2015–2021	7.2	2.9

Sources: Census Bureau International Programs Center, n.d.; author's calculations.

reports the percentage growth of the populations of Canada and the United States for time periods closely corresponding to those for which comparative data on GFCF in dwellings as a share of GDP were reported. For the period from 2001 to 2015, the percentage growth in population for the two countries is quite comparable. It is during the period from 2015 to 2021 that Canada's population grew at a significantly faster rate than in the United States. Hence, differences in population growth rates cannot explain the consistently greater increase in residential property prices in Canada compared to prices in the United States over the full period from 2001 to 2021, although they may be implicated in the faster relative appreciation in Canada in recent years.

Even holding population growth constant, it is possible that dwellings were (and perhaps remain) a more attractive asset for investing in Canada than in the United States because the opportunity cost of investing in dwellings was consistently lower in Canada. Some indirect evidence in support of this possibility is provided by **table 5**, which reports the average annual returns to an investment of \$1,000 CAD in the S&P TSX and the S&P 500. The former is a broad index of Canadian publicly traded companies and the latter is a broad index of publicly traded US companies. Investing in publicly traded companies is effectively investing in the productive assets of those companies, including IPP and ICT.²¹ Hence, lower returns to the S&P TSX compared to the S&P 500 might be taken to reflect lower returns to corporate investments in assets such as ICT and IPP by Canadian investors, including corporate investors, compared to similar investments by large publicly traded US companies over the period from 2013 to 2023.²²

Obviously, the data reported in **table 5** do not directly show that expected returns to investing in specific asset categories such as IPP and ICT were consistently lower in Canada than in the United States over the relevant time periods, although they are consistent with that interpretation.

21 TaxTips.ca, the data source for **table 5**, only reports returns over the decade from 2003 to 2010 and the full two decades from 2003 to 2023. The returns to the S&P 500 are in Canadian dollars to account for exchange rate changes. Provisus (2015) reports average annual returns to the S&P TSX and the S&P 500 for the period from 2010 to 2015. In Canadian dollar terms, they are 6.1% and 21.9%, respectively.

22 The implicit assumption here is that investments in IPP and ICT are principal drivers of corporate efficiency gains, which, in turn, primarily drive improvements in profitability and equity returns. It should also be recalled that GFCF in ICT and IPP account for the majority of corporate GFCF in both countries.

Table 5: Before-tax returns (%) on CA\$1,000 in stock markets (average annual return)

Time period	S&P TSX	S&P 500
December 2003–December 2023	7.80%	9.40%
December 2013–December 2023	7.50%	14.50%

Source: TaxTips.ca, 2024.

However, the data in table 5 are not consistent with a finding that GFCF as a share of GDP for the Other Structures asset category increased at a faster rate in Canada than in the United States. The question that should be addressed is why Other Structures might have had a higher expected return to investors in Canada than those in the United States, while the opposite was true for investments in the IPP and ICT asset categories.

To the extent that GFCF in the Other Structures category is associated with infrastructure investments, the larger share of Canada's economy accounted for by the mining, energy, and utilities sectors would be consistent with GFCF in Other Structures as a share of Canada's GDP being greater than its share of US GDP.²³ Table 6 reports the shares of GDP accounted for by the mining, quarrying, and oil and gas extraction industry plus the utilities industry in Canada²⁴ For comparison, it was possible to estimate the share of GDP for those industries in the United States for 2023.

Table 6: Share of Gross Domestic Product Accounted for by Mining + Oil and Gas Extraction + Utilities

Time period	Canada	United States
January 2010	7.00%	n.a.
January 2015	7.50%	n.a.
January 2022	7.20%	4.3%*

Note: US figure is for 2023.

Source: Statista, 2024 ; Statistics Canada, 2024 (table 36-10-0434-02).

As expected, the combined output of the three sectors as a share of GDP is substantially higher in Canada than in the United States. Moreover, the sharp increase in the share of GFCF accounted for by Other Structures is consistent with the growth in demand (as proxied by output) for energy,

23 The mining, oil and gas, and utilities sectors are well above average for their capital intensity ratios.

24 The earliest year for which Statistics Canada reports data is 2010.

particularly hydroelectricity, in the post-2010 period for Canada.²⁵ As was true for the Dwellings asset category, available data do not allow estimation of the share of GFCF in Other Structures accounted for specifically by corporate investors. However, it is likely significant given that the aggregate share of corporate investment in IPP, ICT, and Transportation Equipment accounted for slightly over half of corporate GFCF for Canadian corporations in our sample period. That the federal and several provincial governments, particularly the Quebec government but also those of British Columbia, Manitoba, and Newfoundland & Labrador, provided a substantial amount of public funding for major hydroelectrical projects, particularly after 2010, might help explain why corporate investments in the Other Structures category were financially attractive compared to corporate investments in IPP and ICT.²⁶

25 See Center for Climate and Energy Solutions, 2015 for a discussion of the growth in capacity of Canada's hydroelectricity sector over the time period covered in this study. The complementary observation is that the shares of more skilled labour-intensive sectors such as semiconductors and software as shares of GDP are smaller in Canada than in the United States.

26 See Canadian Hydropower Association, 2015 for a discussion of major hydroelectrical construction projects and their funding participants.

4. Concluding Comments

Overall, corporate investment as a share of GDP in Canada has been comparable to that of the United States with a modest deterioration in Canada’s relative performance after 2014. However, Canada has had a particular problem with corporate investment for the past two decades. Specifically, Canadian companies have since at least 2001 invested a smaller share of domestic GDP in Intellectual Property Product assets and Information and Technology Equipment than did US companies, and the gap has increased over the post-2010 period.²⁷ In this context, the World Economic Forum ranked a large group of countries on a variety of criteria related to what it called Transformation Readiness (Schwab and Zahida, 2022). One criterion was how well positioned countries were to encourage and expand investments in research innovation and invention to create new “markets of tomorrow”. The United States ranked first on the list of countries, whereas Canada ranked seventeenth. Conversely, Canada ranked ahead of the United States for upgrading infrastructure to accelerate the energy transition and broaden access to electricity and telecommunications.

While physical assets generally improve labour productivity by increasing the ratio of capital to labour, technology-related ICT and IPP asset categories are most closely tied to productivity growth, as they directly embody new technology and/or they are primary channels through which new technology is introduced and diffused throughout the economy. It has apparently been less profitable, on average, for Canadian-based companies to invest in technology-related assets than it has been for US companies, whereas the opposite has arguably been the case for investing in Dwellings and Other Structures.²⁸

A broad inference one might draw from the data is that Canada’s business investment “problem” reflects weaknesses in the environment for innovation and technological change more broadly. Much has been written about Canada’s relatively poor environment for innovation, although there is disagreement about the underlying causes and appropriate policies to address the causes. We shall say more about how to improve the policy environment for innovation and, hence, for investments in innovation in a forthcoming research study.

²⁷ A number of studies document the Canada-US gap in ICT investing since the late 1990s. See, for example, Thomas, 2016 and Munro and Lamb, 2022. Sharpe and Rai (2013) argue that the gap is largely related to weaker investments in software by Canadian firms and also that the gap is concentrated in specific industries.

²⁸ St-Arnaud (2024) argues that the cost of capital has been lower for investments in dwellings than for other private-sector investments in Canada.

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