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Special Report

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CANADIAN COMPANIES NOT TAKING ADVANTAGE OF INVESTMENT OPPORTUNITIES

Investment in physical capital is imperative for economic and productivity growth– it creates new products for consumers, jobs for workers, profits for investors, and taxes for governments. When businesses invest in capital, especially machinery and equipment, they equip their workers with the necessary tools to create more sophisticated goods and services and earn higher salaries. It also expands and renews the capital stock and enables new technologies to enter the production process. International comparisons clearly show that countries with more capital per worker have higher incomes per worker[1]. For these reasons, Canada's investment performance matters for future prosperity and the ease with which Canadians can enjoy higher living standards.

Sadly, however, the performance of Canadian firms in fostering new investment is not impressive. This report looks at Canada's investment performance from a historical and international perspective. The short message from this comparison is that Canada is not keeping up. The past decade has seen a declining trend in business sector investment intensity in Canada compared to other OECD and G7 countries. The comparison with the U.S. is even worse. And while relative underinvestment in Canada is not new, this adverse trend continues despite the loonie's recent meteoric rise, which has lowered the relative price of machinery and equipment – much of which is imported – and might therefore have been expected to bolster investment.

Canada's Investment Performance
(Average annual rates of growth)

	2002-2006
Exchange rate appreciation	6.5%
Price of imported M&E	-4.7%
Corporate Profits	9.5%
Real M&E Investment	6.5%
Nominal M&E Investment	2.8%

Source: Statistics Canada

HIGHLIGHTS

- **Canada's productivity growth record has been dismal, both from a historical and an international perspective.**
- **Looking ahead, demographic trends suggest that productivity will be an increasingly important determinant of economic growth.**
- **One of the main causes for the productivity lull in Canada is our lagging machinery and equipment (M&E) investment, both in absolute terms and relative to other countries.**
- **And yet, the investment climate of recent years could scarcely be any more positive for Canadian corporations.**
- **Corporate profits have soared to their highest share of GDP since at least the early 1960s.**
- **The dramatic appreciation of the Canadian dollar since 2002 has lowered the relative price of M&E – much of which is imported.**
- **None of these factors, however, seem to have prompted a resurgence in investment.**
- **To spur investment spending, governments need to continue to reform and rationalize their corporate tax system, place greater emphasis on university education (needed for effective implementation of M&E), introduce policies to boost competition and encourage FDI.**

Productivity growth – the main driver behind a rising standard of living

The Canadian economy has performed well on almost

all indicators in recent years. It has posted strong GDP growth and low unemployment and has enjoyed international trade, current account and federal fiscal surpluses. However, the one area where Canada has fared poorly is productivity growth. Indeed, productivity growth has slowed dramatically over the past several years – a development that threatens the well being of Canadians.

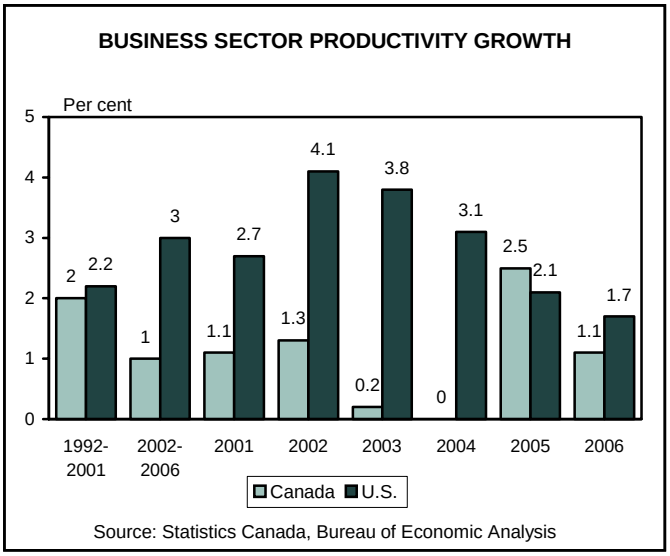
We should care deeply about productivity. At the most basic level, productivity growth is the key driver behind a rising standard of living over time. Stronger productivity growth allows for faster economic growth without sparking inflationary pressures. For households, the implication is additional income without loss of purchasing power. For businesses, higher productivity allows stronger profits growth, while governments benefit from additional tax revenues, which in turn supports the social security system, health care, education and other social priorities.

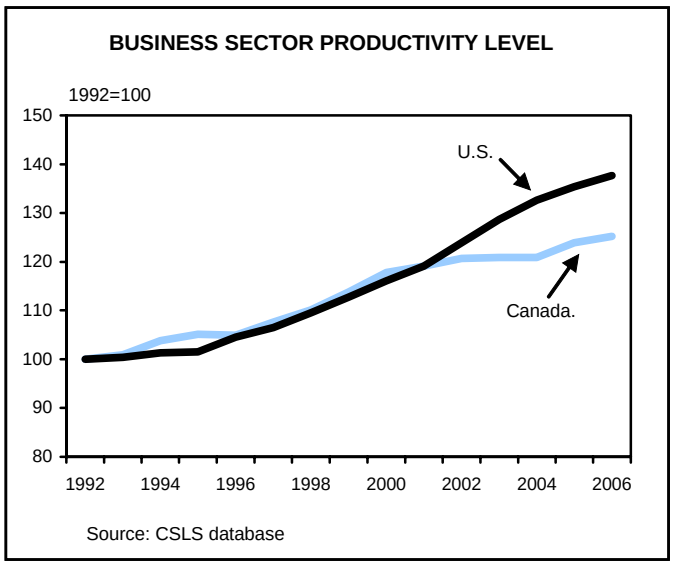
Productivity becoming more important over time

Looking ahead, productivity will be an increasingly important determinant of economic growth, especially in the face of the demographic crunch that is looming in Canada's future. With the leading edge of the baby boom generation approaching retirement age, the shifting age distribution of the population has begun to exert, and will continue to exert, downward pressure on the growth of labour, and thus, on the growth of our economy's potential output. For the future advance in the pace of potential output, productivity growth is thus paramount and so represents an important policy issue.

Canada's poor productivity track record

Canada's productivity growth record has been dismal,





both from a historical and an international perspective. Since 2002, Canada's labour productivity performance has deteriorated relative to both our performance during most of the 1990s and early 2000s and relative to the performance of labour productivity in the United States post-2002. Business sector output per hour advanced at a weak 1% average annual rate in Canada between 2002 and 2006, half the pace of the 2% advance recorded between 1992 and 2001 and only one third the phenomenal annual rate of increase of 3% recorded in the United States since 2002. In 2003 and 2004, output per hour growth appears to have virtually disappeared in Canada, advancing a meager 0.2% in 2003 and an even worse 0% in 2004. In 2005, productivity grew by a strong 2.5%. However, this was likely an outlier, as productivity growth rate decelerated sharply in 2006, advancing a mere 1.1%.

Canada's abysmal productivity performance has resulted in the widening of the business sector labour productivity gap versus the United States, from 17 percentage points in 2000 (83% of the U.S. level) to 26 points in 2006 (74% of the U.S. value), the lowest level recorded since mid-1950s[2].

From a non-North American context as well, Canada's relative productivity performance has been extremely bleak. Since 1973 Canada has had the third lowest rate of growth in output per hour among 23 OECD countries, with only New Zealand and Switzerland doing worse. This resulted in Canada's level of productivity falling from the third highest in the OECD in 1950 and in 1973 to 16th in 2006[3].

Canada's lower capital intensity

A definitive explanation for the fall-off in labour productivity growth in Canada after 2002 has proven elusive.

Possible explanations include insufficient investment in the most recent technologies as embodied in new machinery and equipment (M&E), the petering out of the productivity boost given to the business sector from the large increases in R&D intensity and in the outward orientation of the Canadian economy in the 1990s, less investment in workplace reorganization and worker training, as well as the movement of labour and capital to take advantage of high prices for commodities and strong domestic demand leading to some adjustment costs in the form of slower productivity growth. Poor productivity in some of the exploration and extraction industries like mining, oil and gas has also contributed to Canada's recent productivity slump. Soaring commodity prices have constrained productivity in this sector by making it profitable to exploit more sites of marginal quality. Meanwhile, the considerable time lag from the beginning of exploratory expenditures to substantial output and productivity gains, also acts as a further drag on output per hour worked.

It is widely recognized that machinery and equipment investment intensity is lower in Canada than in the United States and given the importance of M&E, particularly Information and Communications Technology (ICT), for productivity advance, lagging M&E investment in Canada, both in absolute terms and relative to other countries, has been identified as one of the main causes of the productivity lull. Indeed, a 2005 study by Fuss and Waverman estimates that the lower ICT capital stock intensity accounts for 56 per cent of the Canada-US labour productivity gap

Importance of Capital Investment

Investment in M&E gives firms access to the latest ideas embedded in leading-edge technology. New technologies enable workers to produce more and higher-quality goods and services through more efficient business processes. In turn, this can reduce production and operating costs for companies and contribute to faster growth.

These developments also mean that markets are much larger, since it is easier to produce more and sell anything anywhere in the world. Larger markets allow more specialization and economies of scale, which are key determinants of productivity.

Moreover, M&E investment, to be worthwhile, requires firms to spend additional resources in training its workforce and testing new ways of organizing production. These costs constitute investments in complementary intangible assets and lead to further improvements in productivity. Some studies report that the ratio of intangible assets to ICT assets could reach 10 to 1, suggesting that complementary investments in organizational assets are considerable[4].

There is growing evidence that investment in the ICT component of M&E played a crucial role in accelerating productivity growth in the latter half of the 1990s. The OECD estimates that two-thirds of Canada's productivity gains over the period 1990–2000 were attributable to industries that used ICT intensively, and to ICT producers. Higher rates of ICT investment have thus been pointed to as means of reviving Canada's future productivity growth.

Rating Canada's investment performance

The investment climate in Canada has changed in important ways in recent years. The factors that foster capital investment appear to suggest an ideal environment for business investment. The loonie's rise relative to the US dollar since 2002 has made imported equipment relatively less expensive – the Canadian dollar reached a lofty 95 cents in July 2007, its highest level since 1977. And given that Canada imports about 80% of its machinery and equipment, the currency's recent bout of strength should help businesses to bulk up on capital. Also, the labour market is drum tight, with the unemployment rate at a three decade low of 6.1% and average hourly wage rates running at a brisk 3.3% pace in 2006. Although, the prime business loan rate – an indication of costs of financing new business investment, has been rising from the low of 4% reached in 2000 to 6% more recently, it is still more than two percentage points below the 8.4% average maintained since 1961. This should give businesses an added incentive to substitute costly labour for relatively cheaper capital. In addition, businesses have more money in their coffers, as corporate profits have soared to their highest share of GDP since at least the early 1960s, notwithstanding some slowdown in the past year.

It is natural to wonder, how Canada is faring in terms of business investment. And the answer is not well, both as a country and compared to our international peers.

Capital stock in the Canadian business sector, including structures and M&E capital, increased at approximately the same annual rate during 1992-2001 (4.1%) and 2002-2006 (3.7%). It is important to note, however, that this was largely the result of a pick-up in the structures component, which rose from a solid 3.9% to an even stronger 4.9%, since growth in the M&E capital stock, which in fact, has a greater bearing on productivity, tumbled from a robust 4.6% per year during 1992-2001 to a mere 0.3% post-2002. The M&E capital-labour ratio did rise over this pe-

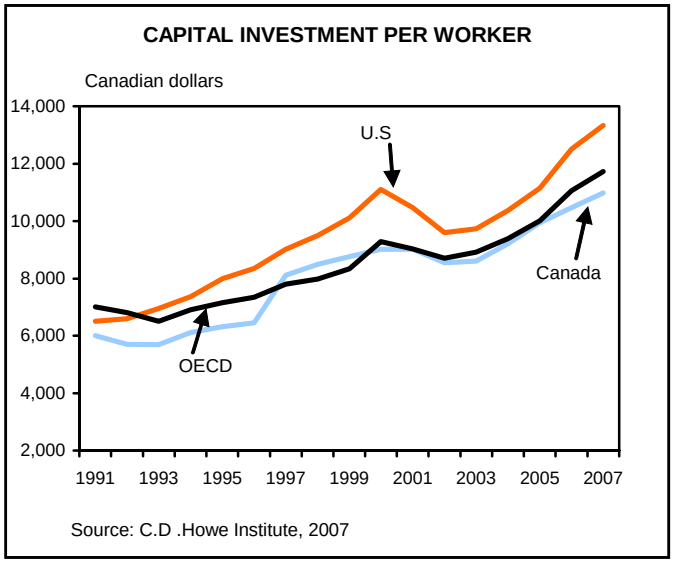
riod, but this was more the result of slower growth in hours worked than an increase in the nation's capital stock. In fact, over the past five years, growth in the M&E capital stock appears to have virtually evaporated.

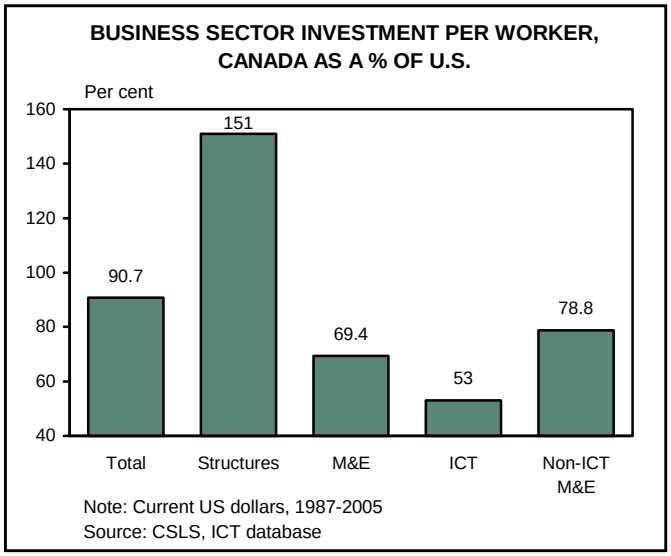
Expanding our comparisons to a world scale also show that Canada's investment performance has been disappointing. To illustrate, for every dollar of new investment enjoyed by the typical OECD worker in 2006, his or her Canadian counterpart got only about 87 cents. And for every dollar per employee spent on new investment in the United States, only 75 cents were spent in Canada[5].

Put another way, in 2006, the average Canadian worker received some $594 less in investment spending than the typical worker in OECD counties and a good $1131 less than the average G7 worker. And what makes this even more disturbing is that after closing the gap with its developed country counterparts in the late 1990s and early 2000s, Canada is falling behind again. The comparison with the U.S. is even more striking. Canada has consistently invested less per worker than its southern neighbor and since the turn of the century, the gap has widened further. Compared to the average of about $1,190 during the 1990s, the gap increased to about $1,500 post-2002, right about the time the investment climate in Canada changed for the better. It stood at a lofty $2,037 in 2006.

Breaking down total business sector nonresidential investment into its components-structures and M&E is perhaps far more revealing. The most interesting point made by such a division is that the Canada-US investment gap is entirely the result of lagging M&E investment, which, in turn, is mostly due to the ICT investment shortfall in Canada.

On a per-worker basis, Canadian non-residential business sector investment was only 85 per cent of the U.S. level in 2005 and averaged 90.7 % of the US level over the 1987-2005 period. However, these aggregate figures mask a more complicated picture. Canadian investment in structures was in fact more than the U.S level, averaging 151% over the 1987-2005 period. In contrast, Canadian investment in machinery and equipment was substantially lower than the US level, over the same period at 69.4 %. And when machinery and equipment is decomposed into its sub components, Canadian ICT investment averaged only 53% against the much higher 78.8% for Canadian non-ICT investment.





The above figures clearly illustrate that the long-standing Canada-US investment gap is almost entirely an M&E story and this is a matter of great concern since it is investment in M&E which is generally thought to have a productivity enhancing impact on a country's labour. What is even more worrisome is that the post-2002 surge in the Canadian dollar vis-à-vis the U.S. currency failed to give the country's investment a much needed boost, as Canada's relative M&E investment intensity has fallen. As a percentage of the U.S. level, Canada's M&E investment per hour fell a good 11 percentage points from the 66.2% average maintained since 1987 to a low of 55% during 2002-2006. It should, therefore, hardly come as a surprise that after advancing at approximately the same average rate (1.6%) over 1987-2001, productivity growth in Canada fell to only one third the pace in U.S. post-2002.

Industry Dimensions of Canada's Weak Investment Performance

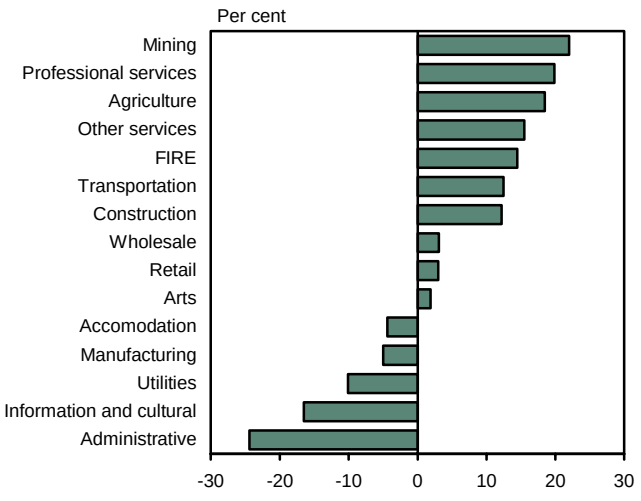
A more detailed look at the post-2002 investment

slowdown in Canada reveals that performance was not uniformly bad across all industries. In fact, a total of 5 out of 15 sectors (Administrative and Support Services, Information and Cultural Services, Utilities, Manufacturing and Accommodation and Food Services) seem to be suppressing the nation's overall performance. The fact that four of these five industries also experienced large declines in productivity growth rates over the same period just reiterates the importance of capital investment for productivity growth.

Although Administrative (-24.2%) and Information services (-16.5%) registered the largest fall-offs in the M&E capital-labour ratio between 1997-2001 and 2002-2006, the manufacturing sector also saw a big decline. What makes the situation even worse for manufacturing is that, in spite of the massive job shedding that this sector has seen the M&E capital intensity level is on a downward trend. Clearly then, this is the result of falling capital stock. In fact, Manufacturing and Information and Cultural services were the only sectors that recorded an over 5% drop in their M&E capital level between 1997-2001 and 2002-2006. Growth rates in this sector were no better either, as the pace of capital stock accumulation plummeted from a healthy 4.6% gain to a shocking 3.9% decline, over the periods considered. It appears to be no coincidence that this sector has also seen dismal productivity growth since 2002 and experienced one of the largest declines in the pace of output per hour over the two periods examined.

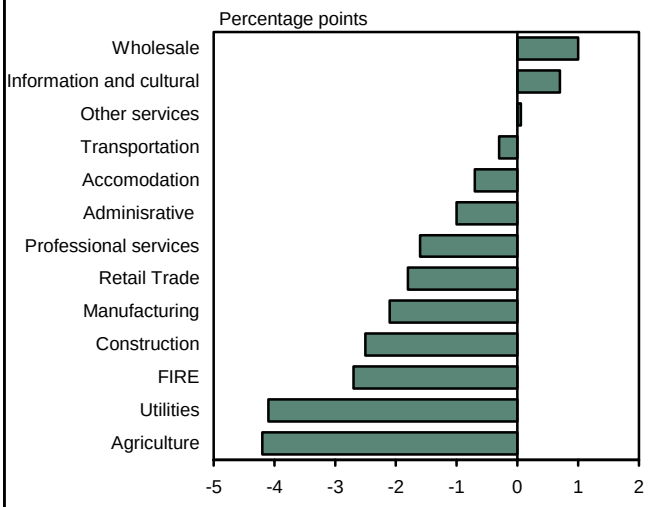
Manufacturing has been struggling for some time and has been facing a litany of woes – slowing U.S. demand, a strong Canadian dollar, high input costs and intense global

CHANGES IN M&E CAPITAL INTENSITY BETWEEN 1997-2001 AND 2002-2006



Source: Statistics Canada

CHANGES IN PRODUCTIVITY GROWTH BETWEEN 1997-2001 AND 2002-2006



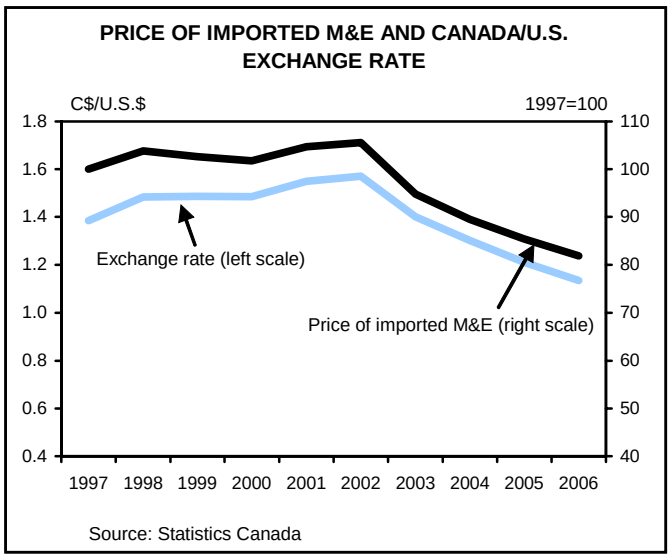
Source: Statistics Canada

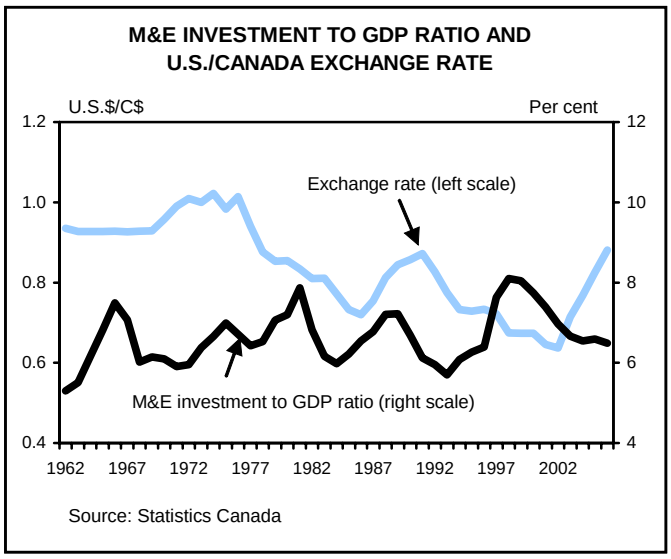
competition, factors which have all caused production to contract and profits to fall. In fact, this was the only industry that saw a drop in its operating profits as a share of GDP, between 1997-2001 and 2002-06, by 1.1 percentage points (apart from Information and Cultural Services, which experienced a negligible 0.02 percentage point fall). Faced with narrowing profit margins, short-term savings seem to have trumped long-term productivity growth as an objective for manufacturers.

A review of all available evidence, thus, corroborates the view that our investment performance falls woefully short of historical and international results. Further, rather than an all-pervasive weakness, this lamentable situation seems to be the result of miserable performance by a select few industries. If Canada is to address its flagging productivity, these industries, especially manufacturing, must fully exploit the cost advantage that a high flying loonie is providing to imported equipment and spur their investment spending.

The Canada-US Exchange Rate

An appreciation in the exchange rate, such as Canada has experienced since 2002, can have several indirect and offsetting effects on productivity and fixed investment. First, prices of imported M&E goods fall, which should be reflected in a greater incentive to substitute away from labour and towards cheaper capital. Second, unit labour cost pressures increase as the appreciating exchange rate boosts costs in terms of a common currency. This should also





give firms a greater incentive to improve labour productivity by adapting the latest technology and best practices to reduce unit labour costs. Third, export-oriented firms and industries experience a drop in sales, as exported goods become more expensive for buyers from outside the country. This reduces profits and limits the scope for firms to improve productivity through additional investments.

On balance, one would expect the former two positive effects of an elevated loonie on investment to outweigh the latter negative effect. Surprisingly, however, the large rise in the Canadian dollar after 2002 coincides with the slowdown in M&E investment as a share of GDP. This correlation may be largely spurious, with the small net positive effect of the exchange rate on investment being completely offset by other unrelated negative factors. The bottom line is that the mighty loonie has done nothing to hoist investment levels in Canada. This raises the next obvious question-why have Canadian firms not taken advantage of the seemingly favorable investment climate to ramp up investment?

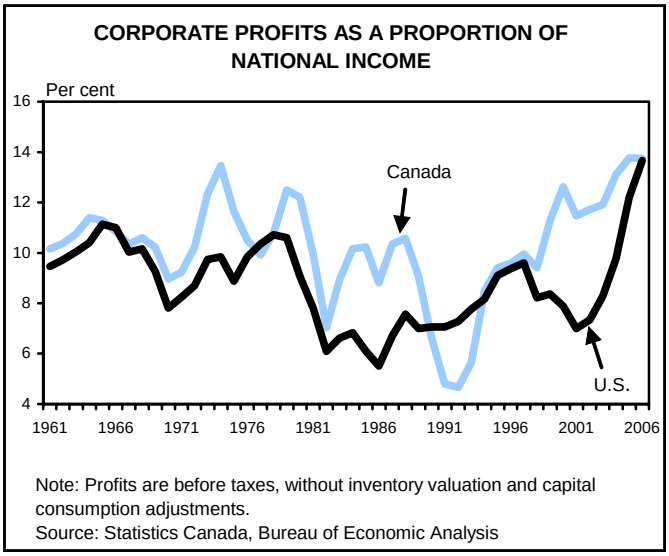
Explanations for the slowdown in M&E investment and productivity

Firms are under-investing relative to profit growth

Since 2002, profits have been hovering at record levels in Canada, averaging 12.9% of GDP. And even though profits have been on average lower in the U.S. over the same period (10.3% of GDP), they are catching up at breathtaking speed. In fact, as of 2006, profits as a share of GDP were the same in both Canada and U.S. at 13.7%.

What is interesting to note, however, is the divergent behaviour of the corporate sector on both sides of the border. While solid profit growth in the U.S. is partly the result of workplace reorganization and robust investment spending, the exact opposite seems to have happened in Canada. Canadian employers, instead of pushing for further profit growth through cost-cutting measures and productivity-enhancing investment, seem to have become more complacent due to record high profits and the lack of cost pressures. The weak U.S. employment growth numbers relative to Canada between 2002-2006 (1% for U.S. against 2% for Canada) attest to this desire on the part of American employers to run a lean operation. And while employment growth has been fairly robust in Canada since 2002, M&E investment growth has been weak.

The volume of M&E investment in Canada has increased at an average annual rate of 6.5% over the last



five years, leaving the impression that firms have maintained a reasonably healthy pace in investment spending. However, prices for M&E capital have declined over this period, in part due to the fact that the vast majority of equipment comes from U.S. and the rise in the value of Canadian dollar has been a cost-advantage to importing. Tallying it up, growth in nominal investment has averaged a tepid 2.8%, from 2002 to 2006, which is less than one-third the gain seen in profits (9.5%) over this period. As a result, M&E investment as a share of profits was at an all-time low in 2006, suggesting that the high level of profits has deterred firms from pushing for productivity growth because the bottom line is already well padded.

The robust profit backdrop has unleashed wide-ranging changes in corporate balance sheets. A look at recent trends reveal that uses of funds other than non-financial investment have increased in prominence. Historically low aggregate dividend payout ratios have helped boost undistributed earnings to a record high in 2006. And since this surplus must be used, there have been increasing investments in various types of financial assets as well as repayment of outstanding debt. Specifically, liquid assets (currency and bank deposits), other portfolio investments and corporate mergers and acquisitions (or inter-company investment) have advanced sharply in recent years. Also, net issuance of common stock by Canadian companies has turned negative in the past 12 months for the first time since the 1960s, suggesting that businesses are using the expanding surplus to buy stocks.

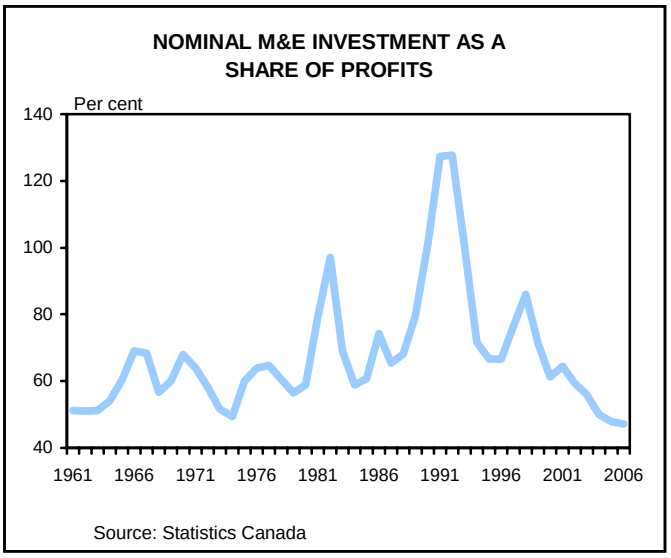
Differences in Industrial Structure

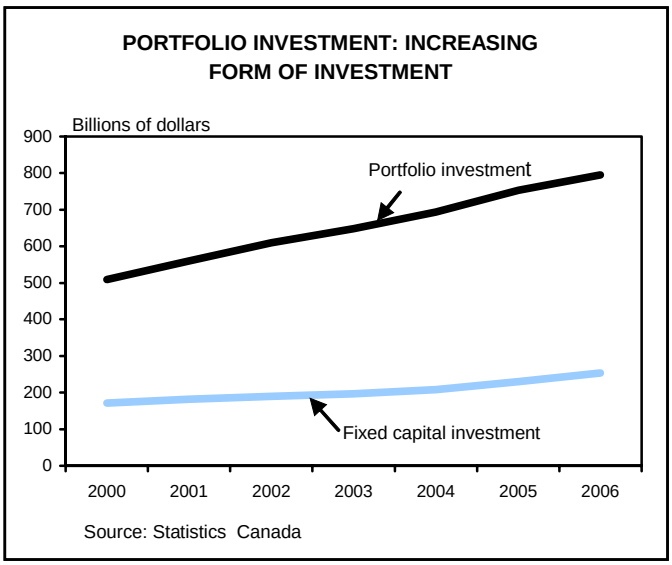
Differences in industrial structures between Canada and the United States could in principle account for part of Canada's lower investment intensity relative to the United States.

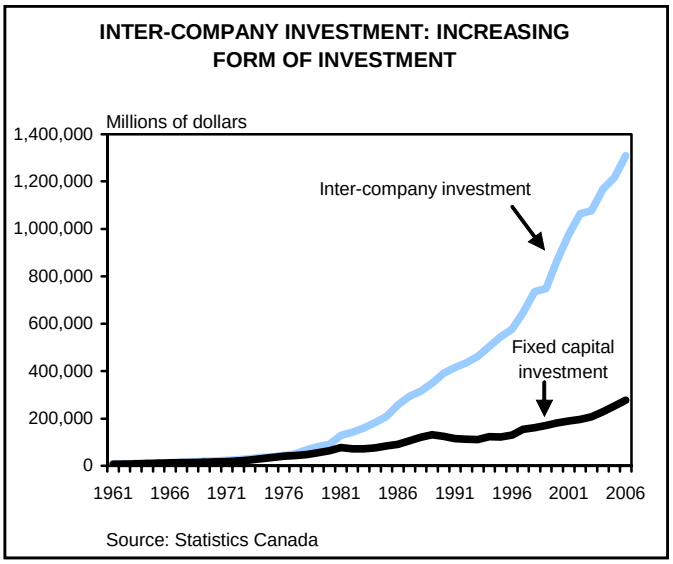
The Centre for the Study of Living Standards estimates that when ICT investment by industry in Canada is weighted by US employment shares, total business sector ICT investment for 2004 would have increased by 4.9 per cent.

Differences in Competitive Intensity

Competitiveness is the main driver of innovation and when firms are under competitive pressures they are more likely to introduce new productivity-enhancing technologies. Consequently, a possible reason for the lower M&E investment in Canada relative to the United States may be less competitive pressures in this country.







Differences in Firm Size

Large companies tend to invest more in fixed assets than smaller firms, and companies are smaller, on average, in Canada than the United States.

Small firms conduct less research and development than their big business peers. This lower R&D expertise may reduce the willingness and/ or ability of some firms to implement new technologies developed outside the firm. They often lack knowledge about using the latest M&E to optimize business. Second, smaller-scale firms could be less inclined to acquire new M&E due to differences in the cost of capital. Cost of fixed investment is, generally, higher for smaller firms. In particular, the level of investment risk that might be acceptable to a larger firm because it has substantial resource reserves might not be acceptable to a smaller one. Moreover, small firms tend to be disadvantaged relative to their larger counterparts in terms of access to finance. The third factor that causes differences in fixed investment and use might be the differing benefits by firm size. Smaller firms are less likely to benefit from economies of scale and the cost savings to be had from larger production runs facilitated by greater use of M&E. A word of caution though – the smaller-scale of firms in Canada in all probability has a greater impact on investment levels rather than growth rates.

Let us be absolutely clear that small firms are an important part of the Canadian economy. Moreover, a sizeable number of these firms eventually wind up as large businesses. Still, Canada's greater incidence of small firms does serve to constrain our investment level, if not growth rate, relative to the United States.

Direct Foreign Investment

In 2006, FDI in Canada as a proportion of GDP was 31%. This is a much higher proportion than in the United States (about 15.8%). Multinationals often purchase fixed assets, such as computers in their home country for use in the host countries, with the result that these investments are sometimes not recorded as investments in the host country. This could mean that M&E investment is overestimated in the United States and underestimated in Canada, explaining part of the gap. However, the importance of this phenomenon is likely small.

Differences in Managerial Attitudes and Culture

In explaining part of the fixed capital spending shortfall in Canada, many cite the differences in the behaviour of Canadian and U.S. firms. Unfortunately, these explanations must remain speculative in nature, as there is to our knowledge no hard data for their assessment.

It is often asserted that Canadian businesses tend to be less aware of the latest technological developments because of their distance from the major ICT development centers in the United States, such as Silicon Valley

It is also claimed that Canadian businesses are more conservative and risk averse than their business peers in the United States. If this were true, this could account for a greater reluctance to be on the cutting edge of perhaps unproven technology and hence the lower capital outlays. Finally, Canadian managers have lower educational attainment overall than their U.S. counterparts; the Institute of Competitiveness and Prosperity found that only 32 per cent of our managers possess a university degree of any sort versus 48 per cent of US managers. The more educated the managers are the more likely are they to think innovatively and to operate more effectively. Canadian managers are, therefore, more reluctant to undertake the organizational changes and the training investments needed for the effective implementation of M&E and hence invest less in the same.

Differences in Corporate Taxes

Canada has some of the highest rates of capital taxation in the world (Mintz et al. 2006). The PST in certain provinces (Ontario, British Columbia, Manitoba, Saskatchewan and Prince Edward Island) is applied to ICT spending, increasing its cost compared to other more long-lived asset types and discouraging ICT investment.

Having said this, it is important to point out that Canada's high corporate taxes appears to have had little effect on the corporate sector's after-tax profitability – evident from the record high undistributed earnings. Also, the marginal effective tax rate (METR) on business investment in 2006 was slightly lower in Canada (36.6%) than in the United States (38%). On the other hand, the METR in Canada was considerably higher in 2000. There have been significant decreases since then. Although, higher taxes on business investment may have contributed to somewhat lower relative investment in the past, the current comparable rates suggest that the corporate tax system can't be blamed for Canada's investment shortfall, compared to the United States.

Lessons for Canada

During the last decade, the low value of the loonie was blamed for under-investment due to the high expense of

importing foreign capital goods. Yet, the strengthening of the Canadian dollar does not seem to have prompted a resurgence. What might the government do in the face of this disappointment?

Clearly, some of these factors cannot be influenced by policy, while others can. Differences in the industrial structure reflect Canada's comparative advantage and are not easily amenable to policy initiatives. The smaller size of Canadian businesses also reflects structural influences, but can be affected by tax policy. Indeed, some argue the greater importance of small and medium sized enterprises (SMEs) in Canada relative to the United States reflects the more favorable tax treatment of SMEs in this country. It is unclear that one would want to reverse this situation just to promote M&E investment. Also, foreign investment makes an important contribution to both economic and productivity growth in this country and it is in the country's interest to encourage it even though it may lead to a downward bias in official M&E investment estimates.

One of the factors that can be influenced by public policy is the proportion of managers with university education. Education is a key to improving productivity and innovation yet Canadian governments starved funding for much of the 1990s. This has recently turned around, but Canada still has deficiencies relative to other countries in key areas such as graduate studies.

As already mentioned, marginal tax rates on business investment in Canada are slightly lower than in the United States. It is, thus, tempting for governments in Canada to declare victory on this front. But we still have to address Canada's global weakness in taxing business investment. Our effective tax rate on business investment is still among the highest in the world (according to the Institute for Competitiveness and Prosperity, it was the sixth highest among industrialized and leading developing economies, following China, Brazil, Germany, Russia and the United States, in 2006).

Alhough effective tax rates on fixed assets do not fully explain the Canada-US investment gap, changes to the tax system can reduce the gap. For example, a reduction in rates could potentially incite additional capital investment and contribute to a closing of the gap.

On this front, the elimination of federal capital tax in the 2006 budget and the sharp reduction in the Canada-wide effective tax rate on marginal investment projects – from 36.6 % in 2006 to 30.9 % in 2007 were welcome improvements. In fact, as of March 2007, investment in machinery and equipment by manufacturers or processors is eligible to claim accelerated capital cost allowance at a rate of 50% on a straight-line basis (against the earlier 30% allowance). The increased rate is temporarily available from now until the end of 2008. Surely, this has to be the push that businesses, especially manufacturers, need to boost their sorely lagging capital spending. Admittedly, this measure will have a greater affect on the timing of investment rather than having a long-run impact on competitiveness – if it is allowed to expire.

There is a lot more that can be done, particularly in reducing corporate tax rates, eliminating the remaining provincial capital taxes and harmonizing all provincial sales taxes with the federal GST– under which ICT investment is not taxed (or at least making the tax value-added).

Conclusion

To sum up, the rapid growth in corporate profits over the past few years has not been accompanied by a matching increase in capital spending, with the result that M&E as a share of GDP has declined – and this has happened during a period of rapid strengthening in the Canadian dollar that has reduced the cost of capital. This conservative behaviour is likely in response to an uncertain economic environment – including worries over lofty energy prices, a higher exchange rate and the prospect of rising interest rates – but it will not help to improve Canada's pitiful productivity performance. The main message is simple – the private sector, aided by the public sector, must put greater weight on productivity enhancing capital investment in the coming years.

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Endnotes

[1] Sala-i-Martin (1997) shows a positive relationship between capital investment and economic growth.

[2] These figures have been taken from the Centre for the Study of Living Standards' (CSLS) 'International Productivity Monitor, Spring 2007'. If adjusted for the finding of Baldwin, Maynard and Wong from Statistics Canada, that Canada and U.S. do not measure hours worked comparably, the Canadian business sector productivity was more like 89% in 2005.

[3] 'International Productivity Monitor, Spring 2007', CSLS.

[4] Brynjolfsson, E., and L. Hitt. 2000, 'Beyond Computation: Information Technology, Organizational Transformation, and Business Performance,' *Journal of Economic Perspectives,* Vol. 14, No. 4, pp. 23-48.

[5] C.D. Howe Institute.