

ALTERNATIVE FEDERAL BUDGET TECHNICAL PAPER

Canada's Infrastructure Gap

Where It Came From
and Why It Will Cost So Much To Close

Hugh Mackenzie





CCPA

CANADIAN CENTRE
for POLICY ALTERNATIVES
CENTRE CANADIEN
de POLITIQUES ALTERNATIVES

ISBN 978-1-77125-053-5

This report is available free of charge at www.policyalternatives.ca. Printed copies may be ordered through the CCPA National Office for \$10.

PLEASE MAKE A DONATION...

Help us to continue to offer our publications free online.

With your support we can continue to produce high quality research—and make sure it gets into the hands of citizens, journalists, policy makers and progressive organizations. Visit www.policyalternatives.ca or call 613-563-1341 for more information.

The opinions and recommendations in this report, and any errors, are those of the authors, and do not necessarily reflect the views of the publishers or funders of this report.

CAW 507
OTTAWA

ABOUT THE AUTHOR

Hugh Mackenzie is an economist and CCPA Research Associate. He is the author of a number of CCPA studies, including *Canada's Quiet Bargain*, a analysis of the benefits Canadians receive from public services and *The Art of the Impossible—Fiscal Federalism and Fiscal Federalism in Canada*. He is also a frequent contributor to op-ed pages. In the 1990s, he was executive director of the Ontario Fair Tax Commission.

Canada's Infrastructure Gap

Where It Came From and
Why It Will Cost So Much To Close

FOR AT LEAST the past 20 years, alarms have repeatedly been raised about deteriorating public infrastructure in Canada and the threat it poses for the living standards of Canadians in the future.

The evidence is clear, both in the statistics, and in the everyday experience of Canadians in every part of the country: in spine-jarring streets and highways; in mind-numbing and catastrophically wasteful traffic jams; in unresolved waste treatment problems and countless boil water orders; in the gradual decline in the state of repair of public property in older communities; in the struggles of rapidly-growing communities to keep up with the need for the basic nuts and bolts of urban civilization.

Despite widespread evidence that there is a monumental gap between the infrastructure work we currently undertake and what is needed to restore a state of good repair and to build for the needs of the future, Canada's infrastructure funding gap appears only to attract attention during economic recessions, when increased activity is needed to keep the construction industry working or to support national and regional priority events like the Olympics or the PanAmerican Games.

The rest of the time, our public infrastructure limps along in an uncertain life as a political orphan, suffering from a time horizon from conception to completion that is too far beyond the electoral cycle to appeal to potential political champions and offering itself up as a hostage to deficit politics and tax phobia whenever cash-poor governments are on the lookout for ways to avoid tough choices over cuts to services or increases in taxes.

As serious as our infrastructure deficit is, however, it would be misleading to call it an emergency or a crisis. As the data presented in this paper show, Canada's infrastructure gap is not a problem that has emerged suddenly, demanding urgent action. It has been developing slowly over decades of underinvestment. And with the exception of spectacular events like bridge closures in Montreal or sewage floods in Halifax or chunks of concrete falling from expressways in Toronto, our infrastructure funding gap rarely presents itself as a crisis.

Rather, it presents itself as a slowly deteriorating quality of life for Torontonians and Vancouverites who spend increasing numbers of hours each week sitting in traffic jams and as missed opportunities for related economic and social development.

Infrastructure underinvestment is not a crisis. It is a chronic problem in Canada. The crisis is in decision-making and in the fiscal and governance structure within which those decisions are being made, or more precisely, not being made.¹

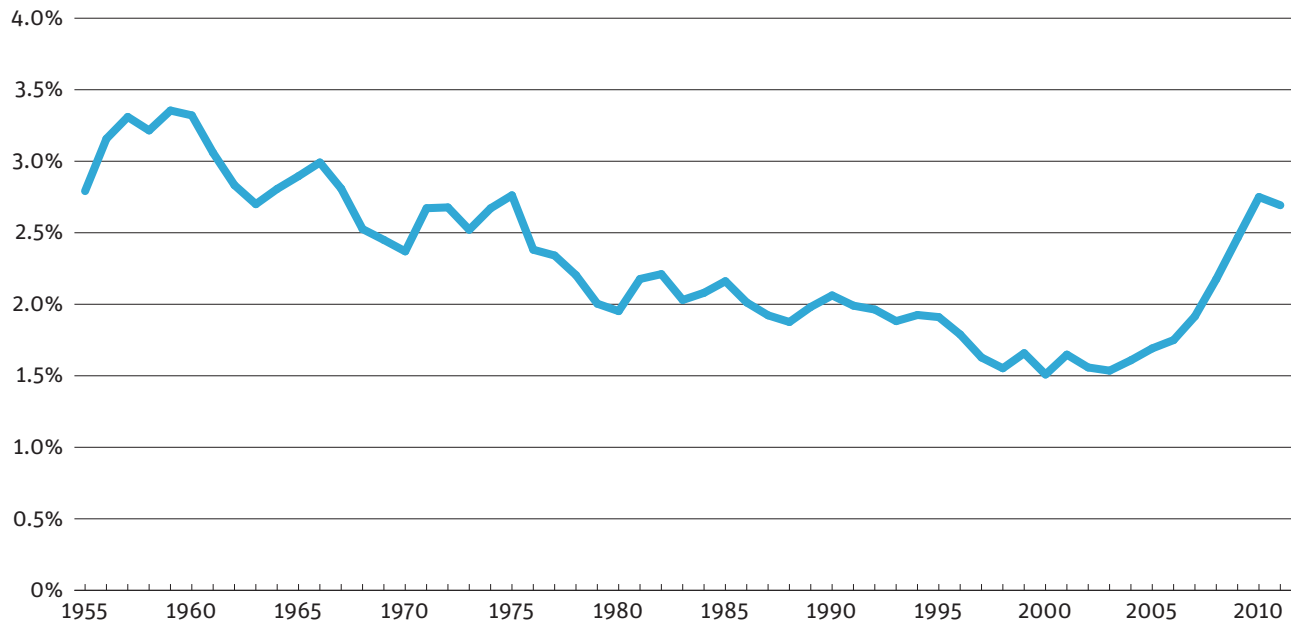
Infrastructure Investment In Canada: The Historical Context²

Canada's fiscal commitment to infrastructure was in steady decline for four decades, before the infrastructure-led fiscal stimulus program prompted by the 2008–09 recession.

Chart 1 shows investment in public infrastructure, as a share of GDP, from 1955 to 2011.

Public investment in general infrastructure peaked at just over 3% of GDP in the late 1950s and then declined steadily until the mid-2000s, before the unprecedented commitment to infrastructure in the federal-provincial economic stimulus program temporarily reversed the trend. Since this data series ends before the end of the roll-out of the stimulus program, one would expect GDP shares for general government investment activity to decline in years after 2011. It remains to be seen whether the additional activity re-

CHART 1 Investment, % of GDP, Canada General Government, 1955–2011



lated to the stimulus program represented a net addition to infrastructure investment, or whether it simply shifted expenditures forward that would have been made in future years without the program. In the former case, we would expect infrastructure investments as a share of GDP to revert to its pre-recession level. In the latter case, we would expect to see the share dip below the pre-recession level.

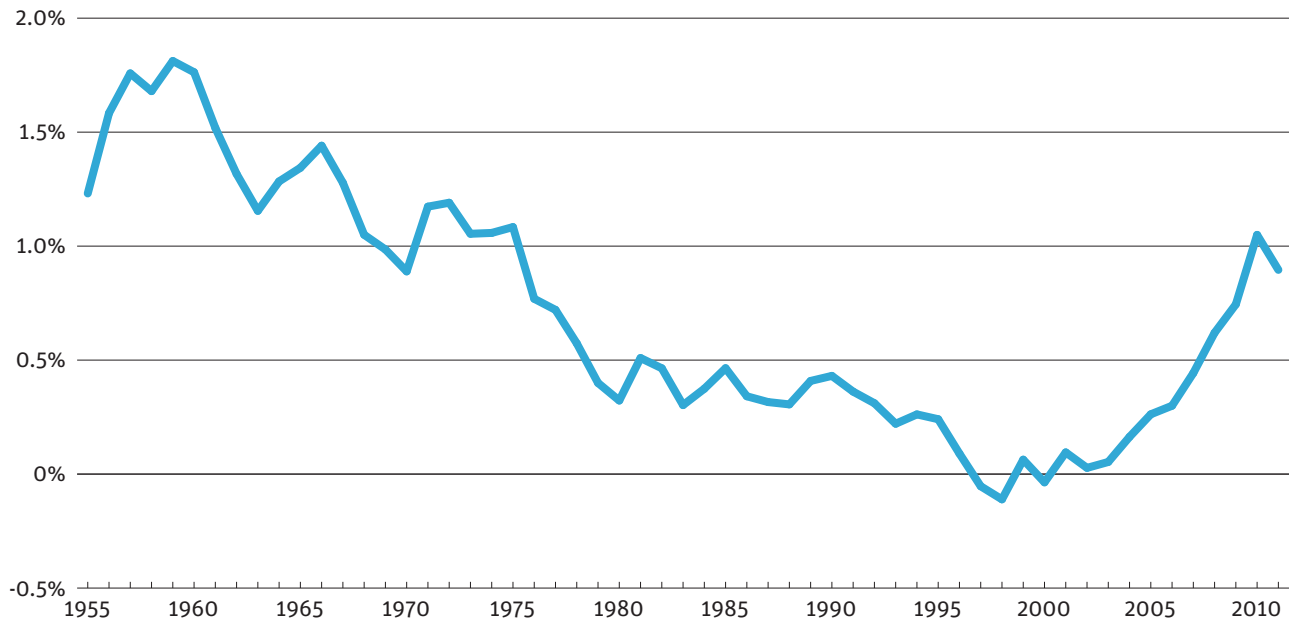
The data behind the chart do not represent net additions to Canada's public capital stock, because they do not take into account annual depreciation in the existing stock of public capital.

Chart 2 does that, showing infrastructure investment net of straight-line depreciation.

Although net investment declined steadily over the 40 years between the late 1950s and the late 1990s, much of the damage was done in the first 20 years, when net investment dropped from its peak of 1.6% of GDP in 1959 to just 0.4% in 1979.

The chart also clearly illustrates the impact of the deficit politics of the 1990s on our infrastructure investment. Net investment was actually negative for two consecutive years in the late 1990s — new investment was ac-

CHART 2 Investment Net of Depreciation, % of GDP, General Government, 1955–2011



tually less than the annual rate of depreciation of the pre-existing infrastructure stock.

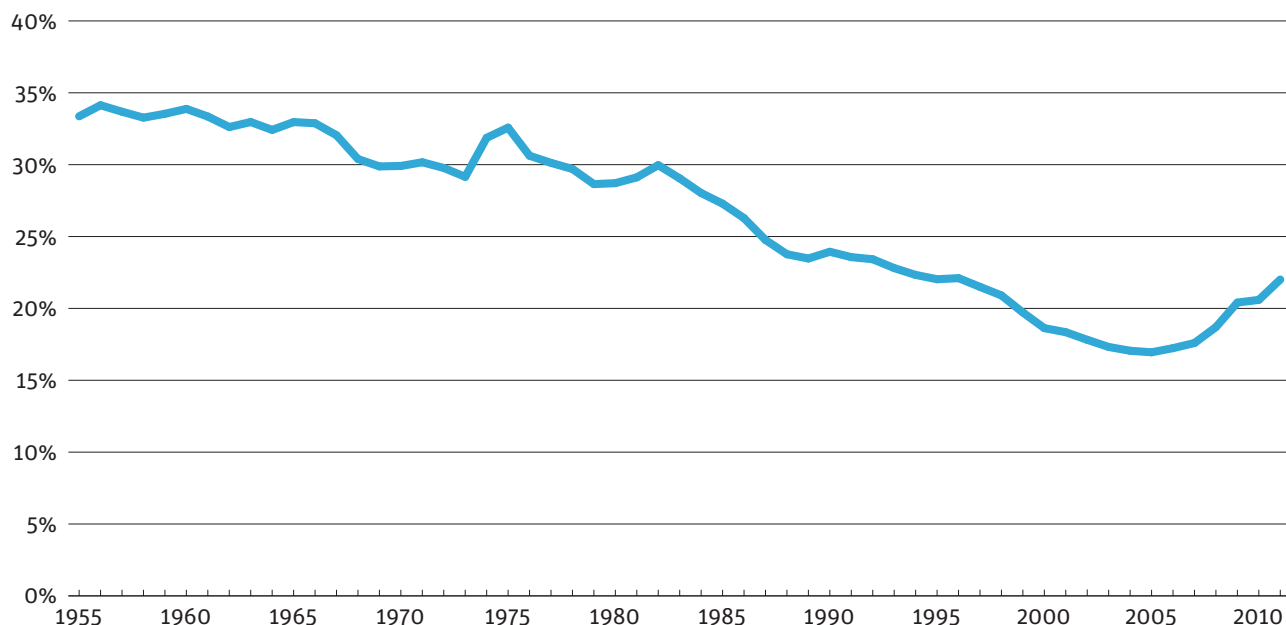
Chart 3 shows net infrastructure assets in Canada, as a percentage of GDP, illustrating the cumulative effect of infrastructure underinvestment.

In light of these data, the widespread acknowledgement that Canada faces a significant infrastructure funding gap is hardly surprising.

Looking at investment first, the difference between the 3.0% of GDP range that was typical of the 1960s and 1970s and the 1.5% range that became the norm in the late 1990s represents \$24 billion in missing annual investment in public capital.

The cumulative effect of the underinvestment characteristic of the period of the 1980s and 1990s is dramatic. The difference between a capital stock valued at 30% of GDP in the early 1980s and 22% in 2011 represents missing public capital stock with a current value of \$145 billion.

CHART 3 Net Infrastructure Assets, % of GDP, General Government, 1955–2011



Explaining the Change

Four key factors appear to have interacted to produce an outcome that is now broadly agreed to be irrational: growing fiscal imbalance among the three levels of government in Canada; the gradual withdrawal of the federal government from financing activities of other orders of government; the emergence of the deficit as an overriding political budget priority; and the application of private-sector accounting rules to public sector budgets.

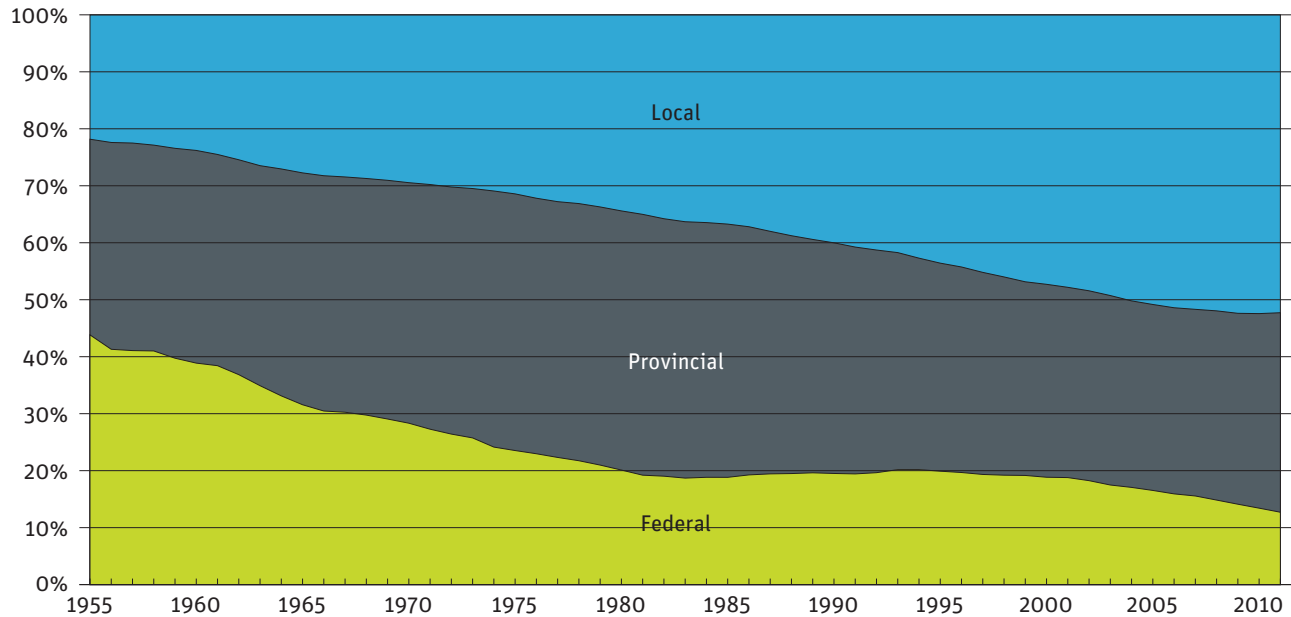
Fiscal Imbalance

The issue of fiscal imbalance shows up clearly in the data on public capital investment and public sector capital stocks.

Chart 4 shows the evolution of the share of the public sector capital stock owned by each of Canada's three orders of government between 1955 and 2011.

It reveals a remarkable pattern. In 1955, the federal government owned 44% of the Canadian public capital stock, the provinces owned 34%, and local governments 22%. By 2011, the federal government and local govern-

CHART 4 Asset Shares By Order of Government, General Government, 1955–2011



ments had reversed their positions. The federal government owned only 13% of the stock, the provinces 35%, and municipalities 52%.

Capital investment showed a similar pattern.

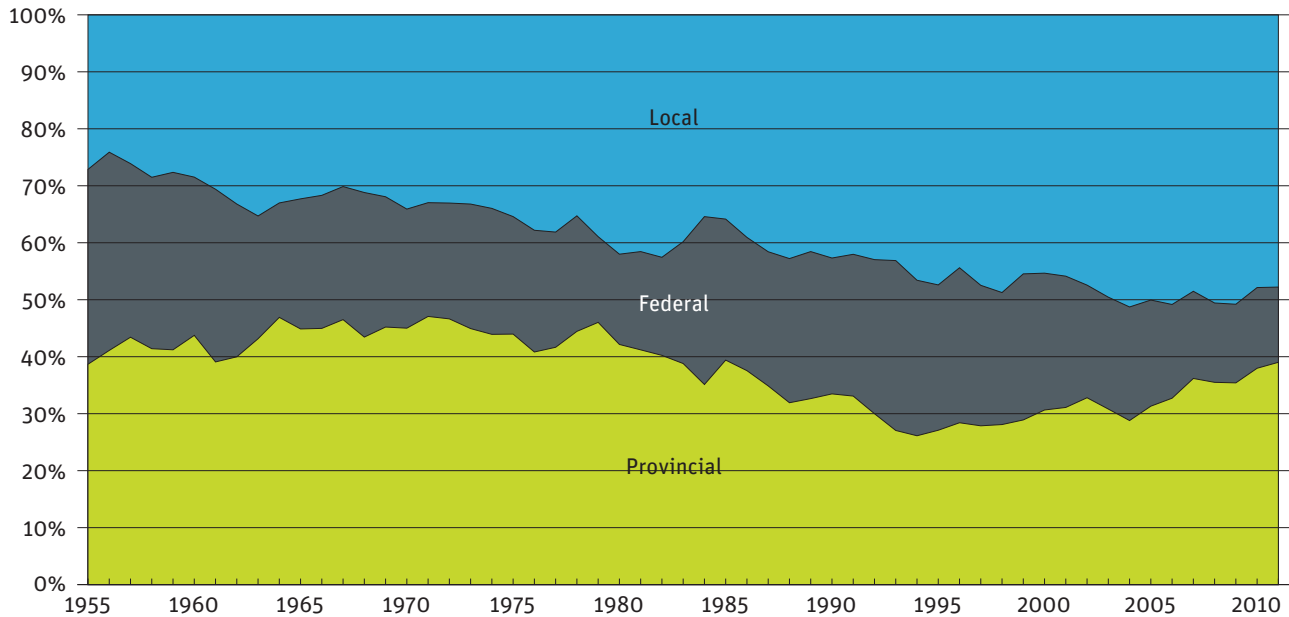
In 1955, the federal government accounted for 34% of capital investment. By 2003, it had declined to 13%, the provincial share remained constant at 39%, and the municipal share increased from 27% to 48%.

A look at investment net of depreciation is even more revealing.

For most of the period since 1975, the federal government's investment has hovered around the level required to offset depreciation of its assets. Provincial governments' investment declined steadily until, in the 1990s, their total investment fell below that required to maintain their existing capital base, and did not become slightly positive again until 2000. Notably, during that entire period, local governments' investment in infrastructure never fell below annual depreciation.

From a financial perspective, the significance of the shift is that, over the 50-year period, infrastructure responsibilities shifted from the level of government with the largest and most growth-responsive revenue base — the federal government — to the level of government with the smallest and least growth-responsive revenue base — local government.

CHART 5 Investment Shares, General Government, 1955–2011



Fiscal Federalism and the Use of Federal Spending Power

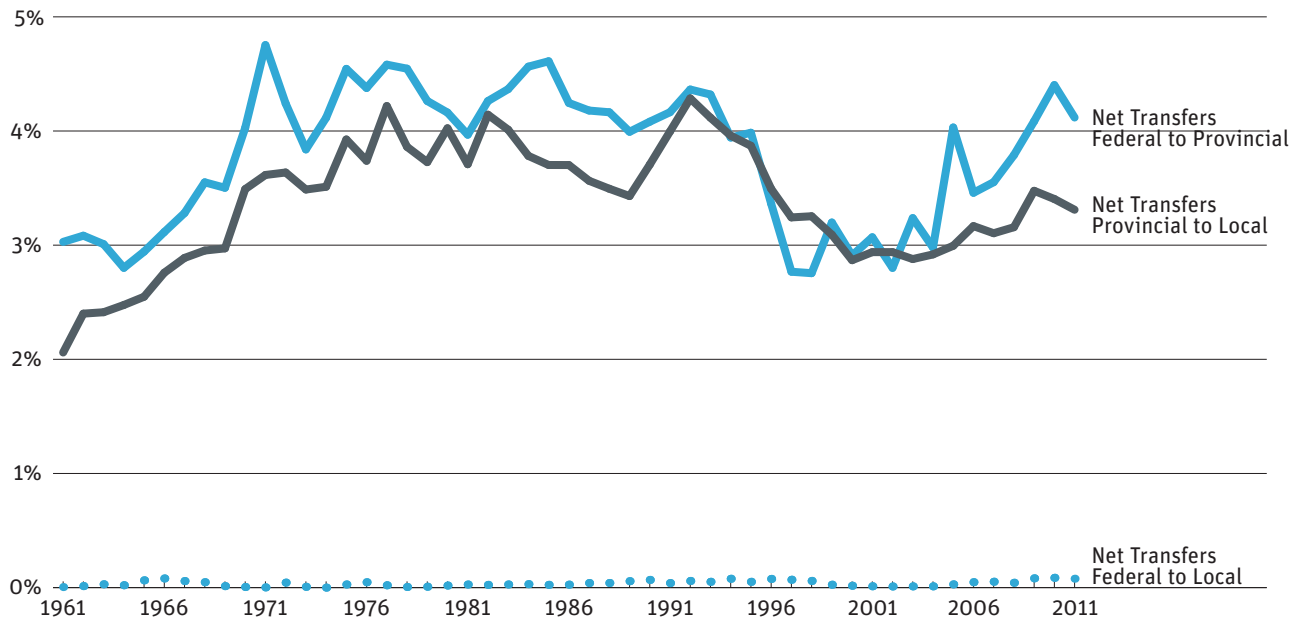
Had there been a corresponding increase in transfer payments from the federal government to provincial governments and municipalities and from provincial governments to municipalities, the fiscal imbalance would at least have been offset.

Over the 50 years for which consistent data are available, however, that has not been the case.

Federal government transfer payments to provincial and local governments increased from 3% of GDP at the beginning of the 1960s to a range of 4% to 4.5% during the 1970s and 1980s, before dropping back to the early 1960s level in the late 1990s and increasing again in the 2000s, first as a result of the federal-provincial health accords and then as a result of the post-2008 stimulus program.

Local government transfer payment revenue (almost entirely from provincial governments) reached 4.2% of GDP in 1977, from a starting point of 2.1% in 1961. Transfers fluctuated around 4% of GDP, reaching a peak of 4.3% in 1992, and then dropping steadily to 3% by the end of the decade.

CHART 6 Intergovernmental Transfer Payments, % of GDP, 1961–2011



Source: Statistics Canada. Table 380-0017 - Gross domestic product (GDP), expenditure-based, annual (dollars unless otherwise noted)

Notably, local governments managed to maintain their share of infrastructure investment over the period despite fluctuations in transfers from provincial governments, suggesting that the decline in transfers had the effect of squeezing out other categories of local government services or forcing the fiscal burden onto more regressive local property taxes.

Tellingly, the increase in transfer payments from the federal government to provincial governments in the 2000s was not matched by corresponding increases in transfers to local governments.

The evidence also suggests that the shift in responsibility for public capital investment from senior governments to local governments has not been matched by corresponding increases in transfer payments. Instead, the evidence points to the federal government's overall fiscal strategy as the major driver of transfer payments.

Deficit Politics

In Canada, it is always difficult to pinpoint a political sea change. With 14 separate jurisdictions, each operating in a different political context, even major changes tend to be diffused over time. The rise of fiscal balance issues

from marginal relevance in the early 1970s to centre stage in the mid-1980s to an unquestioned part of the political background by the end of the 1990s occurred gradually and at different rates, depending on the jurisdiction.

The earliest indications of change were the fiscal restraint initiatives implemented in the mid-to-late 1970s by both the federal and some provincial governments, most notably Ontario.

Deficit politics tightened its hold with the election of Ronald Reagan's Republican administration in the United States in 1980 and of Brian Mulroney's Progressive Conservatives in 1984. Despite their identification with conservative politics and anti-deficit rhetoric, neither of these national governments actually made any inroads into the deficits they inherited. Indeed, in both the United States and Canada, it was left to "tax and spend" Democrats and Liberals to close the deal on the deficit issue and balance the national governments' budgets.

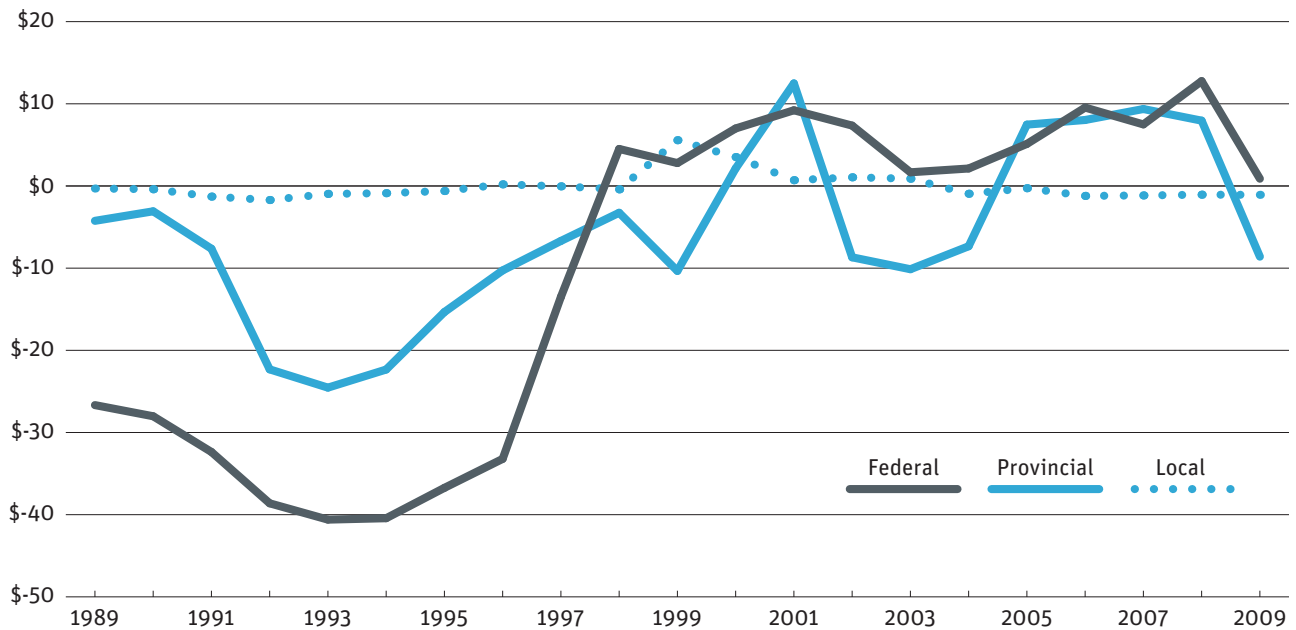
Because of economic and political differences among provinces, provincial governments adopted deficit aversion as a fiscal strategy on different timetables and with varying degrees of actual commitment. But even with these differences, by the end of the economic expansion of the late 1990s, both the provincial/local sector and the federal government were in budgetary surplus. As a consequence of the 2008 recession, both the federal government and most provincial governments are back in deficit.

However, political aversion to deficit financing has its price. In its restructuring of transfer payment programs in the mid-1990s, the federal government made both intergovernmental transfers and its key countercyclical individual transfer program — unemployment insurance — less responsive to economic cycles. As a result, the task of fiscal stabilization was shifted from the federal government to the provinces. That shift is evident in the persistence of federal budgetary surpluses throughout the 2000 to 2003 economic slowdown, despite increases in health transfers, while provincial budgets moved back into deficit.

The politics of deficit aversion has had an independent impact on the financing of public capital, in two respects. First, because capital spending does not have "clients" who are immediately affected and therefore likely to object to funding cuts, reducing capital spending commitments and cutting back on routine maintenance of capital assets often serves as one of two favoured paths of least resistance when it comes to fiscal "restraint." The other, as demonstrated above, is to cut transfer payments to other institutions.

Second, because capital spending, by its very nature, delivers benefits over an extended period of time, the traditional method for financing pub-

CHART 7 Budget Balances By Order of Government, 1989–2009, \$ Billions



Source: Statistics Canada. Table 385-0001 - Consolidated federal, provincial, territorial and local government revenue and expenditures, annual (dollars)

lic capital has been through borrowing on capital markets. And in traditional approaches to accounting in the public sector, that contributed directly to fiscal deficits.

Capital funding: The Perfect Storm. How These Influences Interact As An Obstacle To Capital Spending

It would be difficult to design a context more likely to produce a shortfall in public capital investment than the current one.

We have an evolving federation, in which responsibilities for public capital have been shifting steadily from the federal government (with the most robust and flexible revenue system) to local level government (with the least flexible revenue system).

We have a political atmosphere that is hostile to the deficit financing that commonly provides the funding for capital investment and to the taxation that is required to cover the carrying costs.

Adding to the squeeze is the irresistible temptation faced by senior governments to export their fiscal problems by cutting transfer payments — fed-

eral to provincial and provincial to local – undermining further the fiscal capacity of the governments that carry the greatest responsibility for infrastructure.

On balance, when it comes to Canada’s physical infrastructure, the federal government has the money, the provincial governments have the constitutional authority, and local governments have the responsibility for making the actual investments.

Closing the Gap: Do Our Governments Have the Political Will To Do What Is Required?

Regardless of how the jurisdictional issues are sorted out, Canada faces a massive problem in infrastructure renewal over the next decade.³

In 2011, the most recent year for which data are available, the depreciated value of the general government capital stock in Canada amounted to 22% of GDP. Simply to maintain that level would require an annual investment of 2.9% of GDP. That level of investment activity compares with the 2.7% of GDP that was invested in the peak year of the stimulus program and the level in the late 1990s of just over 1.6%.

That alone would essentially require that a slightly enhanced version of the stimulus program’s infrastructure component be made permanent.

It is generally accepted, however, that Canada’s current infrastructure stock is not adequate. Most observers point to the late 1970s as the point where Canada’s infrastructure gap began to emerge. In the early 1980s, the depreciated value of the general government capital stock amounted to just over 30% of GDP.

To reach a target of 30% of GDP in ten years would require an annual investment in general government infrastructure of 4.3% – a higher investment rate than was ever achieved in the period from 1955 to 2011. In 2013–14, that would require an investment of approximately \$75 billion for general government infrastructure alone.

Even to reach 25% – roughly the ratio in the mid-1980s, when infrastructure adequacy had already begun to emerge as a significant political issue – we would have to increase infrastructure investment to 3.4% of GDP, equal to the highest investment-to-GDP ratio achieved between 1955 and 2011. In 2013–14, that would require an investment of approximately \$60 billion.

Whether the target is an infrastructure base of 25% of GDP (\$60 billion in 2013–14) or 30% of GDP (\$75 billion in 2013–14), the annual investment

in infrastructure required is significant; substantially higher than the \$45 billion annual that was allocated to general government infrastructure at the peak of the recession-related stimulus program in 2009 and 2010, and in a different category altogether from the \$20–30 billion that was being allocated annually in the mid-2000s.

Traditionally, in Canada, infrastructure development has been cost-shared between the federal and provincial governments, occasionally with local governments brought into the formula, either directly or indirectly.

There are obstacles, other than the obvious financial ones, that must be addressed. The long-standing reluctance of provincial governments to allow a direct financial relationship between the federal government and local governments may have become a constitutional luxury we can no longer afford. At the very least, a durable mechanism for cost sharing must be established to replace the ad hoc on-again, off-again non-system we now have.

We also need to adapt public sector accounting standards to the fiscal realities of our political federation by allowing governments that provide transfer payment funding for capital to account for those payments as capital expenditures amortized over time rather than as current expenditures.

We need a robust and transparent governance structure for national infrastructure renewal that resists the tendency to use infrastructure funding as a political pork barrel and a lever to promote costly and wasteful public-private partnerships or the privatization of public services — both of which have been indulged in repeatedly by the current and previous federal governments.

The stakes are very high. If we were to allow investment as a share of GDP to drop to 2% of GDP — its range in the early 2000s — the investment-to-GDP ratio would drop to 17%. Allowing a drop to the 1.5% level that was typical of the late 1990s and early 2000s would drive the ratio down to 14%.

This compares with the low point in the entire 1955 to 2011 period of 17%. A decision to revert to pre-recession levels of investment will leave our infrastructure stuck at a crisis level indefinitely, and is clearly a recipe for disaster.

Notes

1 This analysis focuses exclusively on infrastructure requirements for the Statistics Canada category labeled as general government. This category captures what would be commonly referred to as economic infrastructure, including the transportation sector and public utilities. It does not take into account capital investments in health care, education or social services. While these areas of investment are significant, they do not lend themselves to the kind of long-term analysis presented here because the mix of these investments between private and public sources of funding changes over time. Since investments in health and education capital by the federal government are essentially non-existent, such investments would be additive to investment requirements at the provincial and local level. Over the 1955 to 2011 period, health, education and social services investment averaged an additional 0.3% of GDP at each of the provincial and local levels.

2 Sources: Capital and investment: Statistics Canada, CANSIM Table 031-0002 Flows and stocks of fixed non-residential capital, by North American Industry Classification System (NAICS) and asset, Canada, provinces and territories, annual (dollars x 1,000,000)

GDP: 1955 to 1960: Historical Statistics of Canada, Statistics Canada, Catalogue #11-516-XWE Table F1-13. 1961 to 2011: CANSIM Table 380-0017, Gross domestic product (GDP) expenditure-based annual (dollars x 1,000,000).

Intergovernmental transfers: CANSIM Table 380-0022 Sector accounts, all levels of government, annual (dollars x 1,000,000)

Budget balances by order of government: CANSIM Table 385-0001 Consolidated federal, provincial, territorial and local government revenue and expenditures, annual (dollars x 1,000,000)

3 The estimates that follow are based on the projections of 2011 data, using the following assumptions: Nominal GDP growth, 4%; Infrastructure asset depreciation rate, 9% straight line.



CCPA

CANADIAN CENTRE
for POLICY ALTERNATIVES

CENTRE CANADIEN
de POLITIQUES ALTERNATIVES