Canadian Experiences with Fiscal Consolidations and Fiscal Rules

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The *Parliament of Canada Act* mandates the Parliamentary Budget Officer (PBO) to provide independent analysis to Parliament on the state of the nation's finances, the government's estimates and trends in the Canadian economy; and upon request from a committee or parliamentarian, to estimate the financial cost of any proposal for matters over which Parliament has jurisdiction.

This paper examines fiscal consolidations over the past three decades and reviews current consolidation plans, with a focus on fiscal rules.

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Key Points

Canadian governments are currently developing strategies to improve their fiscal positions, which have deteriorated since the recent recession. This budget planning environment raises several questions: How were 'fiscal consolidations' achieved in the past in Canada and internationally? How might they be achieved this time? And can budget practices be strengthened to help mitigate the fiscal sustainability concerns that some governments now face, and that Canada faced in the mid-1990s? This paper addresses these questions by examining evidence from international and Canadian fiscal consolidations over the past three decades and reviewing current consolidation plans, with an emphasis on fiscal rules. The main findings are:

Canadian Consolidations:

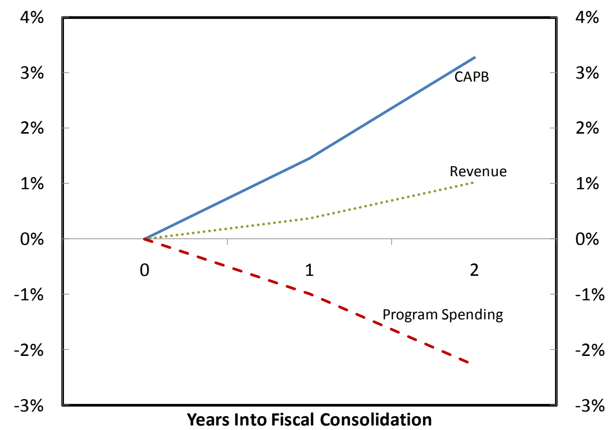
- Over the past three decades, *significant budgetary improvements for Canadian federal and provincial governments have generally relied more on reduced spending than increased revenues* — on average two-thirds of the adjustment was done on the spending side (Figure A1); and significant debt-to-GDP (Gross Domestic Product) reductions have occurred when governments maintained primary balance surpluses (i.e, the budget balance excluding debt charges).

- *History suggests that, once achieved, it can be difficult to maintain the improved fiscal position in light of pressure to spend the 'fiscal dividend' and/or reduce taxes.* After Canadian consolidations ended, budget improvements were often partially reversed due to reduced revenues (Figure A2).

- Looking ahead, *many Canadian jurisdictions are aiming for budget balance over the medium term*. Most plan to achieve this largely *by restraining spending*, with help from program reviews.

Figure A1. Change in the Cyclically-adjusted Primary Balance, Program Spending and Revenue ...During Significant Canadian Budgetary Improvements

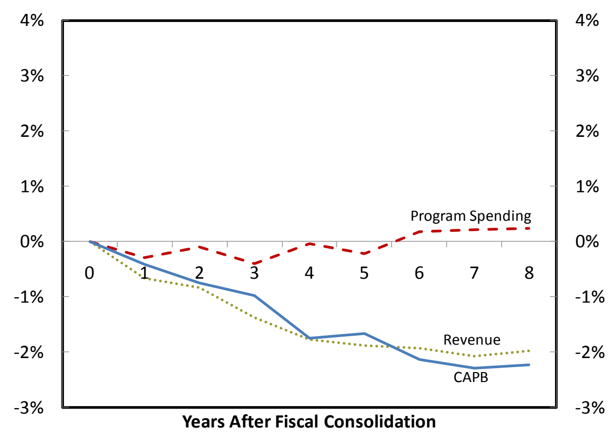
(Percent of Potential Gross Domestic Product)



Sources: PBO; OECD (2010b)
Notes: See Figure 3.3 and Table 3.1. CAPB = cyclically-adjusted primary balance. Weighted average over 12 episodes.

Figure A2. ... and After Significant Canadian Budgetary Improvements

(Percent of Potential Gross Domestic Product)

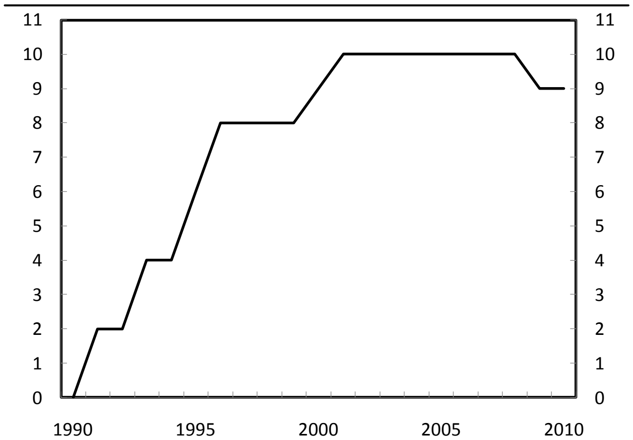


Sources: PBO; OECD (2010b)
Notes: See Figure 3.6 and Table 3.1. Weighted average over 10 episodes.

Fiscal Rules:

- Using a new PBO Canadian fiscal rules database, we document an *increasing use of legislated fiscal rules* (which set specific objectives for budgetary outcomes) *in Canada since 1990* — a trend that also occurred internationally (Figure A3).

Figure A3. Number of Canadian Jurisdictions with a Legislated Fiscal Rule



Source: PBO Canadian Fiscal Rules Database

- *Fiscal rules can help governments improve their fiscal positions, but not on their own:* Case studies suggest that legislated fiscal rules and targets likely played a supportive role in achieving, or attempting to lock-in, fiscal improvements in many of the largest Canadian consolidations over the past three decades. At the same time, there were significant differences across jurisdictions in governments' abilities to meet their rules and improve their finances. This suggests that fiscal rules on their own cannot be relied on to improve a government's finances and that other factors are also needed such as: clear policy goals; political will; public support; and a strong budget framework and reporting practices.

- For many jurisdictions, *it remains to be seen whether pre-recession legislated fiscal rules and fiscal targets (i.e., political commitments) will be re-affirmed or dropped, or whether next-generation rules will be developed*.[*]

Strengthening Budget Practices:

- A review of the consolidation strategies of the G-7 economies and Canada's federal, provincial and territorial budgets reveals *areas where Canadian budget planning and practices could improve*, *including the use of*: *well-designed fiscal rules or targets; cyclically-adjusted (structural) budget balance estimates; long term analysis and planning; more risk analysis and budget provisions for unexpected contingencies; and a stronger estimates review process* (see below for 'Issues Raised for Parliamentarians and Canadian Fiscal Policymakers').

Challenging Future Fiscal Context:

- *The future fiscal situation will likely provide new challenges and feature a less supportive external environment. As a result, proactive policies to ensure fiscal sustainability will be needed in many jurisdictions.*

  Several factors that previously supported the improvement of fiscal positions will likely provide less support in the future, these included: a sense of urgency for fiscal actions brought about by international financial markets; favorable demographics; strong domestic and international growth; falling interest and exchange rates; and households' expectations of a lower future tax burden.

[*] For instance, the federal government had several pre-recession fiscal targets: annual budget balance with a goal of $3 billion in debt reduction; achieving 25 percent federal debt-to-GDP; keeping program spending growth below nominal GDP growth over the budget projection; and eliminating total government net debt by 2021. At the provincial level, one government has since repealed its balance budget rule and three governments have amended their legislated fiscal rules to allow for temporary deficits; others avoided this need by drawing on 'rainy day' contingency funds.

Issues Raised for Parliamentarians and Canadian Fiscal Policymakers

A) **Fiscal Rules and Targets:** To enhance the credibility and accountability of medium-term fiscal consolidation plans, the International Monetary Fund (IMF), OECD and Federal Reserve have recently advocated fiscal policy rules or targets. *Parliamentarians may wish to debate the relative benefits and potential costs of legislated fiscal rules or targets in Canada.*

B) **Assessing Economic and Budgetary Uncertainty:** Despite a highly uncertain economic environment, few budgets included explicit contingencies for uncertainty. Furthermore, while several budgets discuss the sensitivity of their budget projections to changes around central assumptions, none used 'fan chart' projections (that attempt to quantify the accuracy of past projections and/or future risk factors).
Parliamentarians may wish to request that future budgets in Canada provide enhanced risk analysis of their economic and fiscal projections.

C) **Using Cyclical-adjusted Budget Measures:** Despite the wide-spread use of cyclically-adjusted (structural) budget estimates by the PBO, IMF, OECD and several governments abroad, no Canadian budgets quantified their government's cyclically-adjusted fiscal position.[**] Cyclically-adjusted budget measures estimate what the budget balance would be if the economy were operating at its potential. Such measures help isolate short-term budget changes due to cyclical economic movements that tend to dissipate over time, from budget components expected to persist over the medium term. As a result, when preparing a government's budget, the cyclically-adjusted budget balance can give policymakers a better sense of the government's underlying fiscal position — an issue that is particularly important in the current context when the economy is operating significantly below its potential.
Parliamentarians may wish to request that future budgets in Canada include cyclically-adjusted budget balance estimates.

D) **Long-term Planning:** Despite important long-term fiscal challenges and legislated requirements in other countries, few budgets included long-term fiscal analysis, plans or priorities. In the coming decades, governments will likely face significant budgetary pressure due to an aging population that could slow potential output growth appreciably (by slowing labour force growth) and increase demands on age-related program spending, such as health care and old age benefits. In this context, credible fiscal plans need to address not only the short term issue of deficit reduction, but also to mitigate the risks of future fiscal crises by proactively addressing longer-term fiscal policy challenges.
Parliamentarians may wish to request that future budgets in Canada include long-term economic and budget analysis (e.g. 'fiscal gap' estimates).

E) **Estimates Review:** With an increased emphasis on restraining spending growth, and relying on the experience with strategic reviews and recent improvements in expenditure management information, *Parliament may wish to strengthen the estimates review process.*

The paper is organized as follows: Section 1 presents key concepts. Section 2 reviews some international findings. Section 3 presents Canadian evidence on historical consolidation episodes. Section 4 reviews current consolidation plans and policy considerations and Section 5 concludes and caveats the results.

[**] For example, PBO estimates that Canada's federal government has a structural deficit of 1 percent of GDP in 2010-11. For Canada's *total* government in 2010, the OECD estimates a structural deficit of 1.6 percent of GDP, while the IMF estimates a structural deficit of 3.4 percent of GDP.

1. Background Concepts

This section briefly presents some key concepts on fiscal consolidations and rules.

Identifying Fiscal Consolidations
Fiscal consolidations episodes are defined by a significant improvement in a government's budgetary situation. While there are numerous ways to quantify this concept, this paper uses two measures that are comparable to recent analysis by the OECD (2007) and IMF (2009).

The first type of fiscal consolidation attempts to broadly control for budgetary changes related to the economic cycle by analyzing improvements in the cyclically-adjusted primary balance (i.e. revenue less program spending, both adjusted for the cycle, and excluding public debt charges).

The second type of consolidation does not attempt to control for cyclical economic changes and is identified by a significant reduction in the stock of government debt relative to the overall economy (i.e. the debt-to-GDP ratio).

As we will see, these two concepts are related, but distinct. The first concept measures changes in the government's current underlying fiscal position, while the second concept includes the stock of debt, which also reflects past borrowing. The debt-to-GDP ratio is often used as an indicator of a government's ability to repay its debt.

Fiscal Rules vs. Fiscal Targets
It is helpful to distinguish fiscal targets from fiscal rules — though the two concepts are often used interchangeably. A *fiscal target* is when a government adopts a numerical objective for a budgetary outcome (e.g. to balance the budget). A *fiscal rule* is stronger and uses legislation to restrict policy choices or outcomes. In other words, a fiscal rule is a legislated fiscal target (e.g. passing a law that limits spending growth).

Rationale for Fiscal Rules
There are several reasons for fiscal rules. First, rules may alter policymakers' incentives by addressing the short-sightedness and spending-bias budgeting problems.[1] For example, rules can serve as a public commitment to a fiscal plan that makes it easier to reject new spending proposals. Indeed, in practice, policymakers have found that "a key advantage of legislated fiscal restrictions is that they increase the finance ministers' bargaining power to promote unpopular fiscal measures." This occurs because rules can be identified as an external constraint on the internal allocations of limited funds (Kennedy and Robbins, 2003).

Rules can also be a policy tool to communicate the government's fiscal plan to the public and financial markets, and enhance its credibility by demonstrating progress towards specific objectives.

Lastly, in monetary unions, rules may reduce the likelihood of fiscal transfers to address the budget problem of an individual member.[2]

Concerns with Fiscal Rules
There are also some concerns with rules. A major worry is that strictly adhering to a rule may require fiscal tightening that could amplify an economic downturn and increase output volatility (or related, that a rule might restrict discretionary fiscal actions and prevent a more aggressive policy response).

Another concern is that satisfying rules can lead to 'creative accounting' (e.g. moving items off-budget, privatizing government assets, shifting revenue across fiscal years, or other one-off policy actions) or otherwise reduce budget transparency.[3]

A final practical concern is that rules are often re-written or abandoned when meeting them becomes difficult, particularly after negative economic shocks. Box 1 describes some policy design considerations, including potential response to these concerns.

[1] See Alesina and Perotti (1994) and von Hagen and Harden (1995).
[2] For example, the European Stability and Growth Pact sought to minimize negative fiscal externalities by limiting Euro members' deficits to 3 percent of GDP and debt to 60 percent of GDP.
[3] See Koen and van den Noord (2005).

Box 1: Fiscal Rules: Policy Design Considerations and Trade-offs

Budget Concepts and Coverage: Fiscal rules are applied to various budget concepts: the budget balance; debt or debt-to-GDP; spending; and revenue — all of which can be measured using actual, forecasted or cyclically-adjusted measures. Rules also vary in their budget coverage. For instance, spending constraints may exclude public debt charges or statutory and capital spending. With budget coverage there is a trade-off between using a narrower scope to focus on measures the government directly controls, versus using a broader scope to capture the overall (non-cyclically-adjusted) fiscal position, which the government controls less directly.

Time Horizon: Rules generally specify a time horizon to be met and can be forward-looking or backward-looking. A forward-looking (*ex ante*) rule might specify that the government cannot forecast a future budget deficit. A backward-looking (*ex post*) rule is generally stricter, such as requiring that the government not actually incur a budget deficit.

Monitoring and Enforcement: Monitoring and enforcement can help ensure compliance and enhance the credibility of fiscal rules. In recent years, monitoring has increasingly relied on independent fiscal agencies to provide analysis of the government's budget assumptions and its fiscal situation and outlook. These agencies may improve budget transparency and raise the political costs of poor budget planning and outcomes. Rules may also specify the consequences if they are broken. Some rules include sanctions if they are breeched such as a reduction in politicians' wages, or require the finance minister to comply with the rule or publically explain why the rule was broken.

Rules versus Discretion and Policy Flexibility: Governments generally face a trade-off between sticking to a permanent, fixed rule which can confer predictability and credibility versus the discretion to change the rule as circumstances or policy objectives evolve.[*] Nonetheless, even with rules, governments have some flexibility in how their ultimate policy objectives are met because rules are often specified asymmetrically. This means that the legislation typically states what the government cannot do, but does not specify what it should do, or how to achieve its policy objective. For example, if deficits are prohibited, the size of surplus is unrestricted — and if deficits arise but are prohibited, how they are eliminated (through revenue increases and/or spending reductions) is generally unstated.

Simple vs. Complex Rules: Simple, easy-to-communicate rules are generally preferred to complex rules, which might in principle better adapt to various contingencies. In practice, many rules include escape clauses for emergencies.

Coordinating Rules Across Levels of Government: In a decentralized federation such as Canada, the consistency or interactions of rules across different levels of government may be important when one level of government can consolidate its finances by off-loading a fiscal burden onto another level of government.

Potential Responses to Concerns about Fiscal Rules: One option to address the concern that fiscal rules may increase output volatility is to specify budget measures using cyclically-adjusted rather than actual (observed) values. This approach, which has recently become more common, allows automatic stabilizers to work in a recession, though still constrains discretionary fiscal measures.[**] One practical challenge of this approach, however, is that cyclically-adjusted budget estimates are subject to uncertainty and are not directly observable.

Concerns that fiscal rules may weaken budget transparency may be addressed with: regular interim reporting and budget analysis by independent fiscal agencies; and efforts to discourage 'creative accounting' (e.g., clauses to remove the proceeds of assets sales from revenue calculations).

Finally, many rules include escape clauses to allow some flexibility in achieving mandated outcomes, while the fine-tuning of rules can be desirable in some cases when circumstances change, provided that the rules remain credible.

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*An academic literature, such as Kydland and Prescott (1977), studies sequential policy choices. This work highlights a fundamental *time inconsistency problem* facing policymakers — namely, that future policymakers may prefer different policies, and anticipating this, private-sector expectations of future policy will restrict the set of feasible, credible government policies. Government commitment through rules can help address the credibility problem and potentially improve the set of feasible outcomes and raise social welfare.

** Another option is to directly enhance automatic fiscal stabilizers (such as increasing the progressivity of the tax system or enhancing unemployment benefits). Such policies, of course, need to be weighed against any potentially adverse impact on labour supply.

2. International Evidence

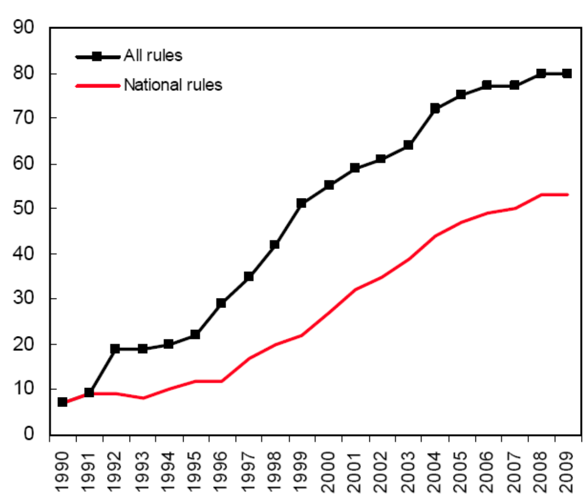
This section overviews some key international findings on fiscal consolidations and rules.

Increasing Use of Fiscal Rules and Targets Internationally

The IMF (2009) documents a dramatic increase in the use of fiscal rules and targets by central governments over the past two decades, rising from seven countries with rules in 1990 to 80 countries in 2009 (Figure 2.1).[4] The increase occurred in advanced, emerging and low-income countries, and is only partially related to international agreements and monetary unions, such as the European Stability and Growth Pact. In addition to national and international rules, many sub-national governments have rules. For instance, 49 U.S. states (excluding Vermont) currently have some form of balanced budget requirement, as do several Canadian provinces and territories, as described in Section 3.1.

Figure 2.1

Number of Countries with a Fiscal Rule or Target



Source: IMF (2009)

Notes: All rules include national and international rules, while national rules do not include sub-national rules.[4]

Of these rules, the IMF finds that budget balance and debt rules (often used together) are the most common; spending rules are less common, and revenue rules are the least common.

Fiscal Consolidations

IMF (2010b) finds that fiscal consolidations typically slow economic growth in the short-run.[5] Research on fiscal consolidations has generally emphasized the importance of two related issues: 1) the composition of adjustments (i.e. spending-reductions relative to revenue-increases); and 2) the use of fiscal rules during the adjustment.

Fiscal Consolidations: Composition Effects

There is evidence that fiscal consolidations that focused more on spending reductions over revenue increases have tended to achieve larger adjustments and have been better for the economy (at least in the short-run).[6] The reasons for these findings are that the economic mechanisms differ between spending cuts and revenue increases. Spending cuts generally allow for more accommodative monetary policy. Lower interest rates can directly lower public debt charges, and may weaken the exchange rate, thereby improving a country's net exports. In addition, if spending cuts are unexpected and viewed as permanent, they may generate a positive wealth effect from households that expect a lower future tax burden. This can increase private consumption and re-enforce the impact of lower interest rates — which also support private investment. In contrast, revenue increases do not typically benefit from monetary accommodation and may elicit a retrenchment of private consumption, which could slow economic growth and weaken the government's fiscal position.

Fiscal Rules and Fiscal Consolidations

IMF (2009) analyzes 24 episodes of large declines in general government debt over 1980-2009 for 45 countries. Excluding oil exporters, they find that

[4] The IMF uses the term *rules* to include what we have defined as fiscal rules (legislation) and fiscal targets (political commitments).

[5] They estimate a fiscal contraction of 1 percent of GDP reduces real GDP by about 0.5 percent and raise unemployment rate by 0.3 percentage points over two years.

[6] See Alesina and Perotti (1996), Alesina and Argadna (2009), OECD (2007), and IMF (2010b).

episodes with rules had larger, more sustained, more front-end-loaded debt reductions, on average.[7] They also find that expenditure rules were used more often in larger adjustments.

These results, however, do not control for other factors, such as: initial fiscal conditions; the economic cycle; interest rates; and exchange rates. As a result of these confounding factors, it is not clear whether rules played a causal decisive role, or were simply correlated, with larger consolidations — a key caveat that applies to both the fiscal composition and rules literature. For instance, it may be that governments more determined to address fiscal challenges are more likely to adopt rules and/or cut spending, in which case the government's determination, rather than the rule or spending approach *per se*, is what helped with consolidation. In addition, episodes using rules and/or spending-focus generally had higher initial deficit and debt levels. As a result, the need to reduce debt (and public awareness) may have been greater and would have generally required longer consolidations anyway.

An additional issue is that in nearly 40 percent of the IMF (2009) episodes, rules were adopted *during* the consolidation, but were not in place at the start of the episode. In these cases, rules may not have played a role in initiating consolidation, but may have instead been used in an attempt to lock-in the initial fiscal progress, and thus may overstate the roles of the rule in the consolidation.

Kennedy and Robbins (2003) note that successful adjustments occurred in the 1990s in countries with and without legislated fiscal rules. They conclude that properly-designed rules may be helpful, and may even be necessary for successful fiscal consolidations in certain countries, but they are not sufficient for successful consolidations in all jurisdictions.

Notwithstanding the challenge of isolating the precise role played by rules, other research that attempts to better control for additional factors reaches similar findings. For example, Bohn and Inman (1996) examine the evidence for US states during 1970-1991.[8] They find that more stringent balanced budget rules (specified *ex post* rather than *ex ante*, legislated, and independently-enforced) were associated with better fiscal outcomes, such as lower borrowing and larger surpluses — surpluses that were generally saved in 'rainy day' funds and achieved with lower spending rather than higher taxes.

OECD (2007) examines 85 fiscal consolidation episodes in 24 OECD countries during 1978-2007.[9] They find that initial conditions matter as larger deficits and higher interest rates prompted larger and longer adjustments. The political context is important as governments typically began consolidations early in their mandates, directly after elections. Policy choices also matter as spending-focused consolidations were larger on average — though they occurred far less often than revenue-focused consolidations; and fiscal rules/targets that combined balanced budget and spending targets were also associated with larger, longer adjustments. Finally, the OECD finds evidence of policy *back-tracking*, with the budget balance generally deteriorating after its initial improvement in the consolidation, typically due to increased spending.

Fiscal Rules and Output Volatility

One policy concern is that fiscal rules could increase output volatility. Research on this issue is somewhat mixed and generally limited to U.S. states' budget balance rules. Overall, the limited evidence does not strongly suggest that rules have increased output volatility.[10]

[7] The episodes are defined by a fall in debt-to-GDP of at least 10 percentage points over 3 years and a fall of at least 20 percent of the initial stock of public debt.

[8] The authors use a two-step procedure, by running a fixed-effect panel regression for a state's budget balance with some economic and political controls, then estimate the state's fixed effect on fiscal rules.

[9] Consolidations are defined here as an improvement in the cyclically-adjusted primary balance of 1 percent of GDP over the first two years, and continue until the improvement stops. In addition to bivariate analysis, the authors use more sophisticated panel and probit regression techniques to better control for other factors.

[10] Alesina and Bayoumi (1996) find balanced budget rules do not increase output volatility. Levinson (1998), however, provides evidence that among the largest U.S. states, those with more lenient rules had less volatile output, after controlling for other factors. More

3. Canadian Evidence

This section presents new historical evidence on fiscal rules and consolidations for Canadian jurisdictions.

3.1 Increasing Use of Fiscal Rules in Canada
Consistent with the international trend, Canadian federal, provincial and territorial governments have increasingly adopted fiscal rules over the past two decades (Figure 3.1; Annex A has a detailed chronology based on a newly-developed PBO fiscal rules database). In 1990, no Canadian jurisdiction had a fiscal rule, but by the mid-1990s eight jurisdictions had a rule. At the federal level, the *Spending Control Act* was in place for 1991 to 1995. Afterwards, several non-legislated but high-profile fiscal targets were used.

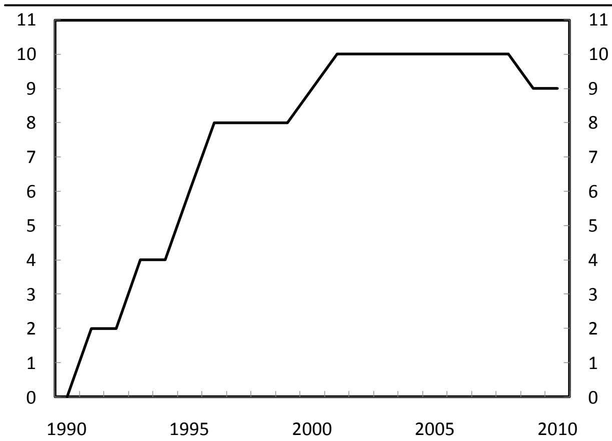
To clarify concepts, spending rules typically impose annual spending limits. Budget balance rules prohibit deficits or require a return to balance in a specific time frame. Debt rules include rainy day funds or require a debt management plan or provide guidance for debt-to-GDP. Finally, revenue rules may constrain tax increases or require a referendum to introduce new taxes.[11]

Broadly speaking, one can characterize Canada's *first generation* fiscal rules of the early-1990s as focused mainly on spending restraint (British Columbia, federal government, Alberta and Nova Scotia). As fiscal concerns became increasingly elevated by the mid-1990s, these were replaced or augmented by *second generation* rules that focused mainly on deficit reduction. The current *third generation* rules combine a focus on the budget balance and debt management, and some include revenue rules (Figure 3.2).

Canada's history with fiscal rules, detailed in Annex A, shows that some governments generally had good records of obeying their rules (federal government, Alberta, Saskatchewan, Yukon), some had mixed experiences but generally satisfied their rules (Manitoba, Quebec, New Brunswick and Nova Scotia, Northwest Territories) and others have tried a variety of rules that were often violated (Ontario and British Columbia). Finally, note that rules can be a moving target, as the vast majority of legislation has changed since its original adoption.

Figure 3.1

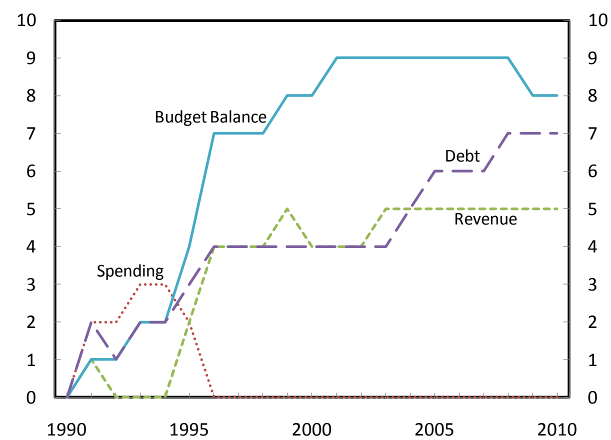
Number of Canadian Jurisdictions with a Fiscal Rule



Source: PBO Canadian Fiscal Rules Database

Figure 3.2

Number of Canadian Jurisdictions with a Fiscal Rule, by Type of Rule



Source: PBO Canadian Fiscal Rules Database

recently though, Fatas and Mihov (2006) find that stricter rules can actually lower output volatility because they restrict discretionary fiscal policy (which has tended to use procyclical, persistent spending).

[11] Revenue and spending rules generally aim at limiting the size of government. Revenue rules are in place in Alberta, Manitoba, Ontario, New Brunswick, and Yukon, and were previously used in British Columbia.

3.2 Examining Canadian Fiscal Consolidations

To better understand recent Canadian consolidations and assess the role these fiscal rules may have played in improving fiscal positions, PBO analyzed budget data for the federal and provincial governments (Annex B details the sources).

To make the results comparable to the international findings, two types of fiscal improvements are considered: 1) significant cyclically-adjusted primary balance (CAPB) improvements; and 2) significant debt-to-GDP reductions.[12] We now look at each in turn.

3.2.1 Significant Budget Balance Improvements

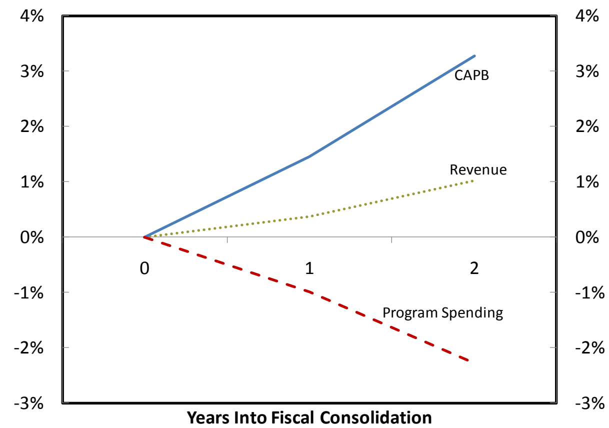
Table 3.1 on the next page lists the 12 individual budget balance improvements identified, ordered by size. These episodes are defined as: lasting at least 2 years; and featuring an overall improvement in the CAPB of at least 3 percentage points of potential GDP.[13]

Figure 3.3 shows the average changes in the CAPB, revenue and program spending during the first two years of consolidation. The total CAPB improvement was 4.2 percentage points over 3 years, on average. This 1.5 percentage point average annual improvement brought the initial CAPB from a 1 percent deficit to a surplus of over 3 percent of GDP. Not surprisingly, initial fiscal conditions were generally poor at the start of these consolidations. Across these 12 episodes, budget deficits (i.e. including debt charges) averaged 3.7 percent of GDP, and debt-to-GDP averaged 35 percent.

Figure 3.3

Change in the Cyclically-Adjusted Primary Balance, Program Spending and Revenue During a Significant Budgetary Improvement

(Percent of Potential GDP)



Source: PBO

Notes: CAPB = cyclically-adjusted primary balance. Weighted average using 2008 GDP data over 12 significant budget improvements. Results beyond two years are not included because several episodes ended at that point.

[12] An alternative, perhaps fairer, assessment is to examine whether rules achieved their actual policy objectives, rather than these fiscal consolidation definitions.

[13] While the cyclical adjustment attempts to control for the budgetary impact of cyclical economic fluctuations, it is not a direct measure of discretionary fiscal actions and is affected by mis-measurement of the output gap, asset price and commodity price cycles; one-off policy measures; and mis-measurement of the elasticities of revenue and spending with respect to the output gap. IMF (2010b Annex 3.3) gives some examples of the pitfalls of using CAPB measures to identify fiscal consolidations. Furthermore, commodity price impacts are particularly important for provinces such as Alberta, Saskatchewan, and Newfoundland and Labrador. While OECD (2010b) cyclically-adjusts natural resource revenues using deviations in commodity prices from their long-run trends, a more comprehensive terms-of-trade income gap adjustment as in PBO (2010b) would likely yield higher revenue elasticities. For example, in Newfoundland's fiscal gains in the early 2000s, the cyclical component of revenues could be under-estimated. As a result, the cyclically-adjusted revenue changes would be over-estimated. For this reason, episode averages calculated in Tables 3.1, 3.2 and D.1 exclude Newfoundland's result.

Table 3.1

Significant Cyclically-Adjusted Primary Balance Improvement Episodes in Canadian Jurisdictions

	Jurisdiction	Episode Timing	Δ CAPB	Of which: Δ Revenue	Of which: Δ Program spending	Intensity	Fiscal Rule	Annual Real GDP Growth During Episode	Annual Growth Relative To National Average	CAPB, start	CAPB, end	CAPB, 3 years after end	Most Recent Election	Start of Consolidation into Government's Mandate (Years)	Governing Party Re-elected	Years
1	Newfoundland*	2004-05	12.5	7.3	-3.5	6.3		0.5	-2.6	-2.3	10.0	n.a.	2003	2	Yes	2
2	Newfoundland	1994-96	4.9	0.8	-4.0	1.6		0.6	-1.7	0.4	5.3	3.4	1993	2	Yes	3
3	Saskatchewan	1993-94	4.8	0.6	-4.3	2.4	BB 1995; D 1995	5.5	1.9	0.3	5.1	3.3	1991	3	Yes	2
4	Nova Scotia	1993-96	4.7	1.9	-2.9	1.2	S 1993; BB 1996	0.9	-2.0	0.2	5.0	3.3	1993	1	Yes	4
5	Federal	1995-98	4.5	1.3	-3.2	1.1	S 1991; BB targets 1994	3.2	n.a.	1.2	5.7	4.4	1993	3	Yes, Yes	4
6	Prince Edward Island	2003-05	4.5	3.4	-1.1	1.5		1.9	-0.7	-1.8	2.8	n.a.	2003	1	No	3
7	Alberta	1987-88	4.3	2.2	-2.1	2.1		5.0	0.4	-2.9	1.3	-0.3	1986	2	Yes	2
8	Ontario	1993-96	4.1	0.8	-3.3	1.0	BB adopted 1999	2.9	0.0	-2.5	1.5	2.6	1990	4	No, Yes	4
9	Alberta	1993-94	4.0	0.9	-3.1	2.0	S 1992; BB 1993; R 1995; D 1995	6.7	3.1	-1.3	2.7	2.4	1993	1	Yes	2
10	Manitoba	1986-88	3.7	3.2	-0.4	1.2		0.9	-2.5	-2.6	1.1	0.1	1986	1	No	3
11	Manitoba	1993-95	3.6	0.9	-2.6	1.2	BB 1995; R 1995; D 1995	1.5	-1.8	-1.1	2.4	1.4	1990	4	Yes	3
12	Quebec	1995-99	3.4	0.7	-2.8	0.7	BB 1996	3	-0.6	-1	2.5	-0.7	1994	2	Yes, No	5
	Average ex NF		***4.2***	***1.5***	***-2.7***	***1.5***	***11 of 12***	***2.7***	***-0.6***	***-1.0***	***3.2***	***2.0***		***2.2***	***73% (11 of 15)***	***3.2***
	Avg. with Rules		***4.2***	***1.1***	***-3.2***	***1.4***	***6 of 12***	***3.4***	***0.1***	***-0.9***	***3.2***	***2.1***		***2.5***	***75% (6 of 8)***	***3.3***
	Avg. Spending-Focused		***4.3***	***1.0***	***-3.3***	***1.4***	***8 of 12***	***3.0***	***-0.2***	***-0.5***	***3.8***	***2.5***		***2.5***	***81% (9 of 11)***	***3.4***
	Avg. Revenue-Focused ex NF		***4.2***	***2.9***	***-1.2***	***1.6***	***3 of 12***	***2.6***	***-0.9***	***-2.4***	***1.7***	***-0.1***		***1.3***	***33% (1 of 3)***	***2.7***

Sources: PBO; OECD (2010b)

Notes: CAPB is the cyclically-adjusted primary budget balance. These episodes feature an improvement of at least 3 percentage points in the CAPB as a share of potential GDP, sustained over 2 years. Columns may not sum due to rounding. In fiscal rule column: S represents a spending rule; BB a budget balance rule; R a revenue rule; and D a debt rule. Intensity is the average annual change in the debt-to-GDP ratio over the episode. For Newfoundland's 2004-05 episode, the impacts of the 2005 Atlantic Accord were removed from cyclically-adjusted revenues, however, due to concerns about the need to better adjust for commodity price changes, this episode is excluded from the calculations of the averages (see footnote 13).

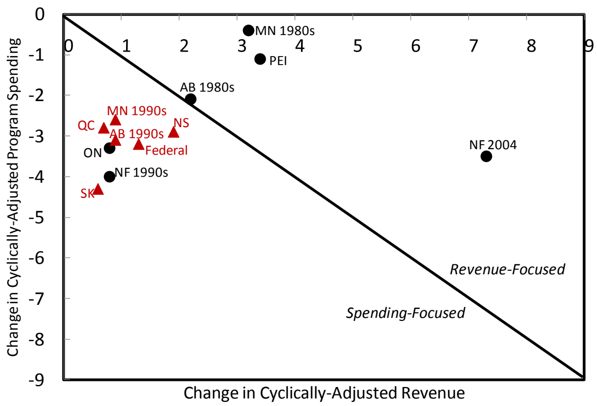
Canadian Consolidations Were More Spending-Focused

Unlike international experiences which featured more episodes focusing on revenue-increases over spending-reductions (Figure 3.4b), two-thirds of Canada's budget improvements were more spending-focused over this period (Figures 3.4a).

Figure 3.4a

Canadian Significant Budget Improvements Have Historically Relied More on Spending Reductions

(Percent of Potential GDP)



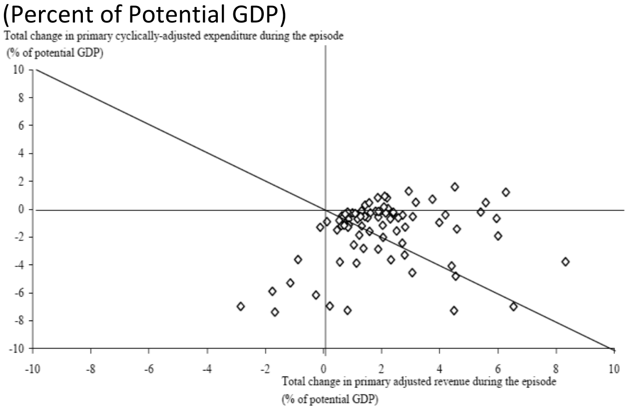
Sources: PBO; OECD (2010b)

Notes: Red text/triangle marker indicates a fiscal rule was used in the episode. Black text/circle marker indicates no fiscal rule was used. The 45 degree line indicates equal emphasis on revenue increases and spending reductions.

Figure 3.4b

International Significant Budget Improvements Historically Relied More on Revenue Increases

(Percent of Potential GDP)



Source: OECD (2007)

Fiscal Rules in Budget Balance Improvements

Table 3.1 shows that fiscal rules were used in half of the budget balance improvements. In these cases, balanced budget rules may have played a role in either initiating the consolidation or in attempting to lock-in the fiscal gains.[14]

Unlike the international findings, on average, rules-based adjustments were the same size and duration as the non-rule-based adjustments. Rules-based consolidations, however, reduced spending slightly more (-3.2 versus -2.7 percent). In fact, all rule-based consolidations in Canada were spending-focused, though not all spending-focused consolidations were rule-based (Figure 3.4a).

Table 3.1 also shows that significant budget balance improvements are possible without formal legislated rules in place (Alberta and Manitoba in the late-1980s; Ontario and Newfoundland in the mid-1990s; federal government in the late-1990s; Prince Edward Island after 2003 and Newfoundland after 2004). As a caveat, we think some of these episodes are related to the cyclical-adjustment procedure that does not fully control for terms of trade gains and commodity price cycles.

Economic Growth During Consolidations

Table 3.1 also reports a province's annual real GDP growth during its budget improvement, and compares this to the national average during the same period.[15] On average, real GDP growth was marginally lower in these episodes (averaging 2.7 percent, 0.6 percent slower than the national average).[16] Consistent with the international findings, growth was reduced somewhat more in revenue-focused rather than spending-focused consolidations (-0.9 versus -0.2 percent relative to the national average). Also note that there was no

[14] The federal government, Nova Scotia, and Alberta had rules in place before their consolidations. Manitoba and Quebec adopted rules during their budget balance improvements, while Saskatchewan and Ontario adopted rules after their improvements ended.

[15] As a caveat, there is no attempt to control for other factors that might have caused a given provinces' growth to differ from the national average during these episodes.

[16] Similarly, the unemployment rate fell slightly less in these episodes than the national average (-1.4 percentage points vs. -1.7 nationally).

slowdown in growth is evident in the average rules-based consolidations.

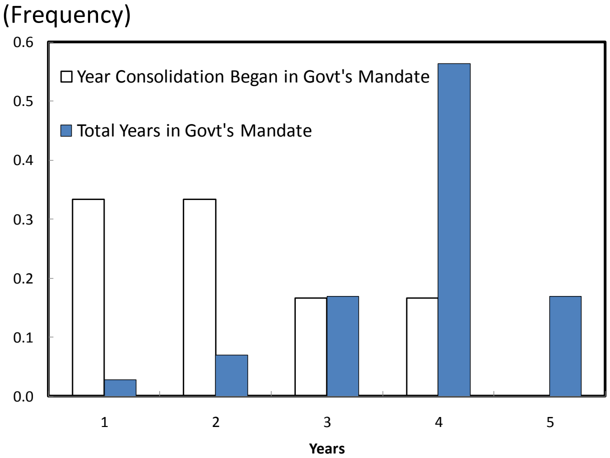
Political Considerations

Table 3.1 and Figure 3.5 show that budget balance improvements typically began early in a government's mandate — on average only 2.2 years in. Indeed, eight of the 12 budget consolidations, began in an election year or the year after.

Figure 3.5

Consolidations Typically Began Early in the Government's Mandate

(Frequency)



Source: PBO

Notes: Histograms comparing the frequency of the years in a government's mandate (71 observations, mean=3.8) and the year the cyclically-adjusted primary balance improvement began into the government's mandate (12 observations, mean 2.2).

Interestingly, there is no evidence that governments that consolidated fared any worse in subsequent elections — the re-election probability of 0.73 (in 11 of the 15 elections) was actually above the sample average of 0.63 (in 45 of 71 elections) for all the federal and provincial elections during 1984-2007.[17] Finally, consolidations occurred in governments across the political spectrum, including: NDP; Conservative; Liberal; and Parti Quebecois.

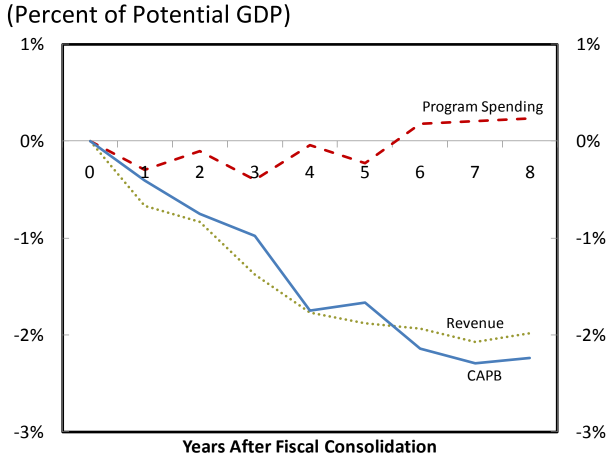
Back-tracking After the Consolidation

Table 3.1 also shows that three years after the consolidation ended, the CAPB typically deteriorated by nearly one-third of its initial improvement, falling from 3.2 to 2.0 percent of GDP, relative to the overall improvement of 4.2 percent.[18] Ontario is the only exception where the CAPB did not deteriorate three years later, though it did not improve sufficiently to begin a new consolidation.

Figure 3.6

Change in the Cyclically-Adjusted Primary Balance, Program Spending and Revenue After a Significant Budgetary Improvement

(Percent of Potential GDP)



Source: PBO

Notes: Weighted using 2008 GDP data over 10 significant budget balance improvement episodes. Prince Edward Island and Newfoundland's last episode are not included because not enough time has passed since the end of these episodes.

Figure 3.6 disaggregates the budget deterioration into spending and revenue components in the years after budget balance improvements. In particular, in the eight years after the adjustments ended, the CAPB deteriorated by over 2 percent of potential GDP on average. This effectively reversed

[17] This finding is consistent with Alesina et al. (1998) who studied OECD consolidations and found no evidence of a systematic electoral penalty for governments that follow restrained fiscal policies. Further econometric analysis (panel probit regressions) suggests that a stronger CAPB is positively associated with the incumbent government's re-election probability, after controlling for other macroeconomic variables (unemployment rate, output gap) and including party dummy variables.

[18] By the definition of a budget improvement episode, the budget balance stopped improving at the end of an episode, so stabilization is the upper bound, until another episode begins.

Table 3.2

Significant Debt-to-GDP Reduction Episodes in Canadian Jurisdictions

	Jurisdiction	Episode Timing	Duration (years)	Δ Debt-to-GDP	Intensity	Fiscal Rule Adopted	Debt-to-GDP, start of consolidation	Debt-to-GDP, end of consolidation
1	Federal	1996-2008	13	-39.4	-3.0	S 1991; BB target 1994; D target 1998	68.4	29.0
2	Newfoundland*	2003-2008	6	-39.3	-6.5		64.5	25.2
3	Alberta	1994-2006	13	-29.3	-2.3	S 1992; BB 1993; R 1995; D 1995	16.5	-12.8
4	Saskatchewan	1994-2008	15	-27.8	-1.9	BB 1995; D 1995	33.9	6.1
5	Federal	1962-1974	13	-17.6	-1.4		36.0	18.4
6	Manitoba	1998-2007	10	-10.9	-1.1	BB 1995; R 1995; D 1995	32.7	21.8
7	Nova Scotia	2002-2008	7	-10.8	-1.5	S 1993; BB 1996	46.9	36.1
8	New Brunswick	2000-2008	9	-10.1	-1.1	BB 1993; T 2003; D 2005	37.1	27.0
	Average ex NF		**11.4**	**-20.8**	**-1.8**		**38.8**	**17.9**
	Avg. with Rules		**11.2**	**-21.4**	**-1.8**		**39.3**	**17.9**

Sources: PBO; Author's Calculations from the Department of Finance's Fiscal Reference Tables (October 2009).

Notes: Debt-reduction episodes defined as a debt-to-GDP reduction of at least 10 percentage points. Intensity is the average annual change in the debt-to-GDP ratio over the episode. Episode 2 is excluded from the calculations for the averages (see footnote 13).

half of the original budgetary improvement and was due almost entirely to revenue reductions, as program spending was roughly constant as a share of potential GDP.

More generally, this result suggests that maintaining budget discipline is an on-going challenge, and that there can be significant pressure to use most of any 'fiscal dividend' from consolidation to either increase spending (as in the international evidence) or to reduce taxes (in Canada's case).

Annex D provides related analysis on fiscal deteriorations and contrasts these findings with consolidation episodes.

3.2.2 Significant Debt-to-GDP Reductions

Table 3.2 lists the eight individual debt-reductions episodes identified, defined by a reduction in the debt-to-GDP ratio of at least 10 percentage points.

In these episodes, debt-to-GDP fell by an average of 21 percentage points over 11 years (from 39 percent to 18 percent), or 1.8 percentage points a year.

Consistent Primary Surpluses Reduce Debt-to-GDP

The primary reason for the debt reductions was that during these episodes, all these jurisdictions ran primary surpluses. On average, these primary surpluses were 2.6 percent of GDP, while the difference between the effective interest rate on government debt and nominal GDP growth (times lagged debt over GDP) added back 0.6 percentage points annually to debt-to-GDP.[19]

Fiscal Rules in Debt-to-GDP Reductions

In six of the eight debt-reduction episodes, fiscal rules or targets were used; particularly prevalent were debt rules and targets.

3.3 Comparing Results from the Two Fiscal Consolidations Measures

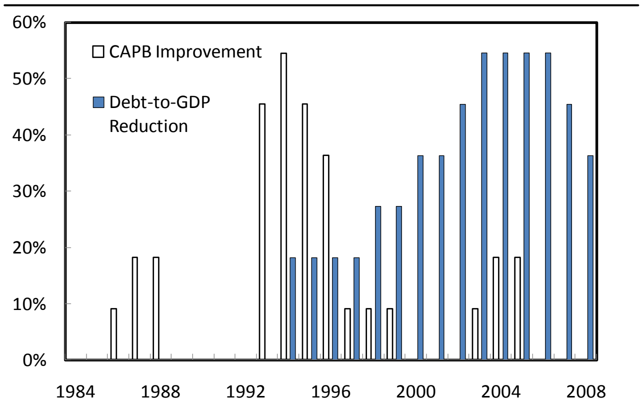
These two types of fiscal improvements (budget balance improvements and debt-to-GDP reductions) are related but distinct concepts. As a

[19] Total do not sum due to rounding. See Annex C for an equation describing the debt-to-GDP change. The 1962-1974 federal and Newfoundland 2003-2008 debt-to-GDP reductions were somewhat unique as nominal GDP growth exceeded the government's effective borrowing costs, on average over those periods, which helped facilitate a debt-to-GDP decline.

result, there is some overlap between the two. The budget balance improvements were generally shorter and concentrated in the mid-1990s and preceded longer debt-to-GDP reductions that occurred more systematically after the year 2000 (Figure 3.7).

Figure 3.7

Percent of Canadian Jurisdictions in a Significant Fiscal Improvement Episode



Source: PBO

Notes: See Tables 3.1 and 3.2

Note that fiscal consolidation episodes are relatively rare. During this relatively short sample period, which includes many of Canada's historical consolidations, significant budget balance improvements occurred only 14 percent of the time. A longer time series would likely lower this number.

Comparing the consolidations in Tables 3.1 and 3.2 shows that there are episodes where the budget balance improved without a significant debt-to-GDP reduction (Quebec, Ontario and Prince Edward Island). This was generally the result of relatively high initial deficit and debt levels.

We also see that a government can significantly reduce its debt-to-GDP without a significant balance improvement. This can occur if the initial primary surplus is sufficiently strong (as in New Brunswick) or if the growth rate of nominal GDP exceeds the effective interest rate on public debt.

Illustrative Case Studies of Significant Canadian Fiscal Improvements

Taken together, there were six jurisdictions that experienced both a significant budget balance improvement and a significant debt reduction (the federal government, Alberta, Saskatchewan, Manitoba, Nova Scotia, and Newfoundland and Labrador).

Box 2 studies these cases in more detail to better understand the role of fiscal rules in these consolidations. Overall, the narrative suggests that fiscal rules and targets were used extensively during these episodes.

The Role of Initial Conditions in Consolidations

Finally, while there are too few episodes to draw any strong conclusions, there is evidence that initial conditions may have impacted the subsequent fiscal consolidations, a common finding in the international literature. In particular, debt-reductions and CAPB improvements in Canada have tended to be larger in jurisdictions with higher initial deficits and debt levels.

Box 2: Fiscal Rules Used in the Significant, Broad-Based Fiscal Consolidations in Canada

This box studies the cases with significant improvements in the budget balance and debt-reductions.

1) For the **Federal government**, a formal spending rule, the *Spending Control Act*, was in place for 1991-1995. The *Spending Control Act* excluded some spending items such as public debt charges and self-financing programs (Employment Insurance and the Farm Income Protection Act); in addition, some minor spending increases were allowed if they were offset with revenue increases. The spending rule applied both *ex ante* and *ex post.* The limits were ultimately satisfied but the legislation was not extended beyond 1995-96, because spending was 'significantly below the spending limits, so extension of the Act was not required to demonstrate control over government spending' (Budget 1996, pg.137). Various fiscal targets were adopted and adjustments made to the budget framework such as deficit-reduction targets (1994-1997), budgeting based on private sector survey averages (1994–now); contingency reserves/planned debt reduction (1995–2008, and a Debt Repayment Plan beginning in 1998); and explicit economic prudence factor or prudent economic assumptions (1994–2000, 2003–2005, 2009).

2) In **Alberta**, as the fiscal improvement began, fiscal rules for spending, budget balance, debt and revenue were adopted. The *Spending Control Act* of 1992 limited program spending growth for 1992-1995. The *Deficit Elimination Act* of 1993 set annual deficit limits for 1993-1996 with adjustments allowed between fiscal years; required interim reporting and any ex post revenue above forecast to be used for debt reduction. The *Balanced Budget and Debt Retirement Act* of 1995 prohibited ex post deficits, required specific future debt repayment schedule over the 1997–2021 period at 5-year increments; and interim reporting. The *Taxpayer Protection Act* of 1995 required a referendum to impose a provincial sales tax.

3) In **Saskatchewan**, the 1995 *Balanced Budget Act* required: a balanced budget; a four-year planning horizon for budgets and a debt management plan; interim reporting; included an escape clause; and removed the sale of Crown assets from operating revenue calculations.

4) In **Manitoba**, at the end of the first budget balance improvement in 1989, *The Fiscal Stabilization Fund Act* established the first rainy-day fund in Canada to stabilize the annual budget position and improve long-term fiscal planning. As the second budget improvement began, rules were adopted for the budget balance, debt and revenue, in *The Balanced Budget, Debt Repayment and Taxpayer Protection Act* adopted in 1995. The *Act* prohibited deficits — or if a deficit occurred, required it to be offset in the next fiscal year; included escape clauses for exceptional circumstances; required interim reporting, imposed salary reductions for politicians in the case of a deficit; established a debt retirement fund with a provision for mandatory deposits; and required a referendum for major tax changes.

5) In **Nova Scotia**, as the fiscal improvement began, the *Expenditure Control Act* of 1993 was adopted. This required specific reductions in operating and capital expenditure over 1994-95 to 1997-98. For both, there was some flexibility to move limits between adjacent fiscal years, provided the limits were met over 2-year periods. It was satisfied in the first two years. Subsequent amendments prohibited forecasted ex ante deficits; and specified salary reductions for the Executive Council if the *Act* was breeched; it also included an escape clause to allow a deficit owing to a natural disaster or war.

6) In **Newfoundland and Labrador**, no formal rules were adopted during the fiscal consolidations, though there was a 2003 campaign promise to eliminate the cash deficit by 2007-08 and to put the accrual deficit on a steady downward trend; in addition, initial budget projections were labeled as 'deficit targets'. Exceptionally strong nominal GDP and revenue growth appears to have been a key driver of the fiscal improvement. For instance, between 2003-2008 own-source revenue and nominal GDP grew at remarkable annual average rates of 16.7 and 11.3 percent. In addition to higher offshore royalties, favorable federal-provincial agreements significantly buoyed revenues, such as the 2005 Atlantic Accord that exempted offshore oil royalties from equalization claw-backs — representing a revenue gain of 1.5 percent of provincial GDP in 2005.

4. Current Fiscal Policy Context and Challenges

This section outlines the current fiscal situations for G-7 countries and the Canadian federal, provincial and territorial governments. In particular, we examine how fiscal rules and institutions have changed since the recent recession. Current Canadian fiscal consolidation plans are then reviewed using the 2010 federal and provincial budgets. The section ends with some fiscal policy considerations and challenges.

4.1 Current Fiscal Situations and the Impact of the Recent Recession on Fiscal Rules and Approaches

"Fiscal rules…have not yet been seriously tested; the real test will come with the next major recession."

Kennedy and Robbins (2003)

G-7 Context: Since the recession, significant deficits and elevated debt levels have emerged in most G-7 economies (Table 4.1), with the IMF estimating that all G-7 governments currently have structural deficits.

In June 2010, the G-20 countries committed to fiscal plans to at least halve their deficits by 2013 and stabilize or reduce their debt-to-GDP by 2016. In addition to this commitment, Table 4.1 shows that there have been several recent developments in the G-7 countries where the fiscal problems are most acute, such as the adoption of new fiscal rules and the creation of new fiscal institutions or consultative bodies. These include:

- In September 2008, **Italy** adopted a medium-term fiscal plan to balance the budget by 2012 and get debt-to-GDP below 100 percent by 2011.

- In 2009, **Germany** adopted a fiscal rule that limits the cyclically-adjusted budget deficit of the federal government to a maximum of 0.35 percent of GDP by 2016 and requires cyclically-adjusted balanced budgets for the Länder (German provinces) by 2020.

- At the end of 2009, **France** created a working group that is currently proposing a new fiscal rule of cyclically-adjusted budget balance for the general government (and other measures

Table 4.1

G-7 Countries: Current Fiscal Positions, Changes to Fiscal Rules, Targets and Institutions

Country	General Government Structural Budget Balance, Share of Potential GDP, 2010	Net Debt-to-GDP, 2010	IMF-Projected Net Debt-to-GDP, 2015	New Fiscal Rule or Target (Adopted or Proposed)	New Institution or Consultative Fiscal Body
Italy	-3.6	99	100	New Fiscal Target: Budget balance by 2012; debt-to-GDP below 100% by 2011	
Germany	-3.1	59	62	New Fiscal Rule: Cyclically-adjusted budget deficit maximum of 0.35% of GDP federally by 2016 and of balance provincially by 2020	
France	-5.0	74	79	Proposed fiscal rule to balance the cyclically-adjusted general government budget; requirement for a medium-term budgetary framework (5 years ahead)	Working group
Japan	-7.6	121	153	New Fiscal Targets: Halving the primary budget deficit of central and local governments by FY 2013 and achieving a surplus by FY 2019; stabilizing debt-to-GDP by the mid-2010s and a downward trend from the early 2020s	
United Kingdom	-7.9	69	76	New Fiscal Targets: cyclically-adjusted primary budget on a five-year ahead rolling horizon; and debt-to-GDP on downward path by 2015-16	New independent Office of Budget Responsibility
United States	-8.0	66	85	Proposal to achieve primary budget balance by 2015	Fiscal commission
Canada	-3.4	32	32		

Sources: Fiscal Estimates are from the IMF World Economic Outlook (October 2010); PBO to strengthen the medium-term budgeting framework).[20]

- In 2009, **Japan** set new fiscal targets to halve the primary budget deficit of central and local governments by 2013 and achieve surplus by 2019, as well as stabilize debt-to-GDP by the mid-2010s, putting it on a downward path in the early 2020s.

- In May 2010, the **United Kingdom** created the Office of Budget Responsibility[21] to provide the economic and fiscal forecasts for the government's budget, and to independently assess whether the Government's fiscal plan has a better than 50 per cent chance of achieving its new forward-looking fiscal target to balance the cyclically-adjusted primary budget on a five-year ahead rolling horizon, together with a target to put debt-to-GDP on a downward path by 2015-16.[22]

- And finally, by December 2010, a new bipartisan fiscal commission in the **United States** will make recommendations to achieve primary budget balance by 2015.[23]

In April 2009, the IMF studied the impact of the recession on fiscal rules in 72 IMF countries. They found that rules were modified in roughly one-quarter of IMF countries with a national fiscal rule (particularly so for those with expenditure rules); in about one-third of countries there was a conflict with the rules but they had not been changed as of April 2009; and in about 40 percent of countries there was no need to change the rule — possibly because they were specified in cyclically-adjusted terms, or because they had an escape clause that allowed governments time to adjust (IMF, 2009).

[20] The May 2010 interim report of the *groupe de travail sur la mise en place d'une regle d'equilibre des finances publiques* is available here: http://www.elysee.fr/president/root/bank_objects/20.05_Note_d_etape_Camdessus.pdf
[21] http://budgetresponsibility.independent.gov.uk/index.html
[22] This approach is consistent in spirit with the probabilistic approach to fiscal policy illustrated in Boothe and Reid (1998) and advocated by Robson (2006) for Canada's federal government, and performed by a separate fiscal agency.
[23] http://www.fiscalcommission.gov/

Canada: Canadian governments are also in challenging fiscal positions (Table 4.2), with a total federal, provincial and territorial deficit of over 5 percent of GDP in 2009-10,[24] that recent Budgets suggest will fall to around 2 percent by 2012-13 (Table E.1).[25] Deficits are currently largest at the federal level and in Ontario — and for these governments and all of the provinces east of Ontario, net debt levels are above 30 percent of GDP. While part of current deficits reflect cyclical factors and stimulus measures, the IMF estimates Canada's general government structural deficit at 3.4 percent of GDP (Table 4.1), while the OECD (2010a) estimates Canada's total government sector structural deficit position is currently 1.6 percent of GDP. They attribute this structural deficit to pre-recession spending increases and tax cuts as well as lower potential output from the recession.

The recent recession has impacted not only potential output, but also Canadian governments' fiscal plans. Prior to the recession, the federal government had a combination of fiscal targets (i.e. they were stated political commitments rather than legislated rules). These included a short-term target to balance the budget each year, with a goal of $3 billion in debt reduction; medium-term targets to reduce federal debt-to-GDP to 25 percent and to keep program spending growth below nominal GDP growth over the projection period; and finally, a long-term target to eliminate total government net debt by 2021.

While the current status of these federal targets is unclear, in addition to the recent G-20 commitment, recent budget documents provide the broad fiscal policy goals. In the short term, a key objective of the Economic Action Plan is to

[24] On a national accounts basis, total government net lending as a share of nominal GDP was -5.4 percent for the 2009-10 fiscal year (-2.6 federal, -3.2 provincial, -0.5 local, and 0.8 CPP/QPP). On a public accounts basis, the budget documents indicate a total federal provincial, territorial deficit of 5.5 percent of GDP.
[25] As a caveat, the forward-looking context is only illustrative of the aggregate fiscal position; budgets are not strictly comparable across governments due to different economic assumptions and accounting treatments. Burleton and Gauthier (2010) provide a more detailed review of the 2010 federal and provincial budgets and OECD (2010a and 2010b) examines the fiscal consolidation strategies of Canadian governments.

Table 4.2

Canadian Jurisdictions: Current Fiscal Positions, Changes to Fiscal Rules, Target Dates to Balance the Budget, and any Medium and Long Term Budget Planning Documents

Jurisdiction	Net Debt-to-GDP, 2010-11	Budget Balance, Share of Nominal GDP, 2010-11	Fiscal Rule Prior to Recession	Timeline to Balance the Budget	Drawing Down 'Rainy Day' Fund	Forecast Allowance	Sensitivity of Budget Projection to Alternative Assumptions	Medium or Long Term Planning Documents
Federal Government	35	-2.8	No rule, various targets	BP —Balance by 2015-16			*	PBO *Fiscal Sustainability Report* (2010)
British Columbia	17	-1.0	Forecasted deficits prohibited	AM — Balance by 2013-14		*	*	
Alberta	-10*	-1.8	Actual deficit prohibited	BP — Balance by 2012-13	*		*	
Saskatchewan	7	-0.3	Actual deficit prohibited	BP — Balance by 2012-13	*		*	
Manitoba	27	-1.0	Forecasted deficits prohibited	AM — Balance by 2014-15				
Ontario	35	-3.0	Forecasted deficits prohibited	BP —Balance by 2017-18		*	*	Ontario's *Long-Term Report on the Economy* (2010)
Quebec	35	-1.1	Actual deficit prohibited	AM — Balance by 2013-14	*	*	*	Advisory Committee on the Quebec Economy and Public Finances (2009, 2010)
New Brunswick	33	-2.6	Balance budget over 4 yr period	BP —Balance by 2014-15				
Nova Scotia	40	-0.6	Forecasted deficits prohibited; repealed in 2009	BP —Balance by 2013-14			*	Economic Advisory Panel *Addressing Nova Scotia's Fiscal Challenge* (2009)
Prince Edward Island	34*	-1.2	No rule	BP —Balance by 2014-15				
Newfoundland and Labrador	38	-0.8	No rule	No Date Given				
Yukon	-4*	0.2	Accumulated deficit prohibited	BP —Balance by 2010-11	*			
Northwest Territories	2**	0.7	Actual deficit prohibited	BP —Balance by 2010-11				
Nunavut	1*	1.1	No rule	BP —Balance by 2010-11				
Total Federal, Provincial, Territorial	**59***	**-5.5**						

Sources: 2010 Federal and Provincial Budgets, Federal Update, October 2010, Fiscal Reference Tables, PBO Canadian Fiscal Rules Database

Notes: Fiscal data are on a Public Accounts basis from the respective Budgets. * and ** denotes 2009-10 and 2008-09 net debt-to-GDP figures from the Fiscal Reference Tables. All other debt figures are from the 2010 Budgets or Federal October 2010 update. (AM) legislated amendment of fiscal rule to allow temporary deficits, or (BP) Budget plan.

create or maintain 220 thousand jobs by the end of 2010. Over the medium term, Budget 2010 aims to balance the budget by ending the Economic Action Plan, reviewing and restraining direct program spending — and the budget states that taxes will not be increased (aside from a planned increase in Employment Insurance premiums) or transfers cut to persons or other levels of government. Parliament may wish to discuss whether the goal of balancing the budget over the medium term provides a sufficient budget constraint and accountability.

For the 10 provincial and territorial governments that began the recession with fiscal rules, there were a variety of responses:

- Three governments are drawing down rainy day funds that have thus far been sufficient to avoid breeching their legislation (in Alberta, Saskatchewan, and the Yukon, where heightened sensitivity to resource price movements may have provided additional incentives for these funds to provide insurance during adverse shocks).
- Three governments have explicitly amended their legislation to include new timelines to return to budget balance (Quebec, Manitoba, and British Columbia).
- One province repealed its prohibition of tabling a deficit (Nova Scotia in 2009); and there is some ambiguity in the remaining three jurisdictions, where escape clauses may have been invoked or the rules temporarily suspended (Northwest Territories plans to balance its budget in 2010-11, New Brunswick by 2014-15, and Ontario by 2017-18).

The objective to return to budgetary balance over the medium term is a prevalent fiscal policy goal in

Canadian jurisdictions. Aside from Newfoundland and Labrador, all budgets included target timelines to eliminate deficits with varying degree of detail provided. Of those budgets with a timeline, Ontario was the main outlier (planning to halve its deficit in five years, and eliminate it by 2017-18).

Deficit Reduction Strategies Primarily Emphasize Spending Restraint

Deficit-reduction strategies, in addition to unwinding fiscal stimulus and automatic stabilizers, primarily emphasize spending restraint starting in 2011 (with nine jurisdictions highlighting restraint on public sector wages and/or employment). Most governments are also engaging in program reviews.

On the revenue side, aside from a cyclical rebound in tax revenues with the expected economic recovery, there were some new measures, including: increasing consumption taxes (adopting the Harmonized Sales Tax (HST) in Ontario and British Columbia[26] and raising by 2 percentage points the HST in Nova Scotia and the provincial sales tax in Quebec); small increases in alcohol, tobacco and gas taxes (in Saskatchewan, Manitoba, Quebec, and Newfoundland); and a proposed, but subsequently abandoned, health care user fee (Quebec).

Despite Uncertain Times, Few Budgets Included Explicit Contingencies for Uncertainty

Budget projections in only three provinces featured explicit forecast allowances and contingency reserves to cover worse-than-expected budget outcomes (British Columbia, Ontario and Quebec).

Furthermore, only half of the governments provided information on the sensitivity of the budget projections to alternative assumptions (federal government, British Columbia, Alberta, Saskatchewan, Ontario, Quebec, and Nova Scotia).

Few Budgets Plan over the Long Term

Finally, we have identified only three provinces that have recently published or commissioned medium and longer-term analysis on their key economic and fiscal challenges:

- **Nova Scotia:** an economic advisory panel wrote a report for the new government to establish priorities on the province's fiscal challenges (e.g. when and how to return to budget balance);
- **Ontario:** as required by the province's *Fiscal Transparency and Accountability Act*, the Ministry of Finance produced a 20-year demographic and economic projection with some budget implications; and
- **Quebec:** as part of pre-budget consultations, an Advisory Committee on the Economy and Public Finances prepared a series of reports that included a 15-year-ahead economic projection and medium-term structural budget balance projection.

Federal Government: PBO's *Fiscal Sustainability Report* (PBO, 2010c) provides 75-year-ahead demographic, economic and federal government budgetary projections. That report highlights the strain on government finances expected in the coming decades owing to spending pressures related to an aging population and slower potential trend output growth.

In particular, population ageing will move an increasing share of Canadians out of their prime working-age and into their retirement years. With an older population, spending pressures in areas such as health care and elderly benefits are projected to intensify. At the same time, slower labour force growth is projected to restrain growth in the economy, which will in turn slow the growth of government revenue.

Budget 2007 committed to "publish a comprehensive fiscal sustainability and intergenerational report with the 2007 Economic and Fiscal Update". This report would "provide a broad analysis of current and future demographic changes and the implication of these changes for Canada's long-run economic and fiscal outlook". The Government's report has not yet been published.

[26] British Columbia's HST will face a referendum in September 2011.

4.2 Fiscal Policy Challenges Ahead

"Canada's collective governments face a challenge more daunting than we faced in the 1990s."

Dodge (2010)

This section draws some lessons from the mid-1990s fiscal consolidations and contrasts the context then with the context now. We also highlight some key fiscal challenges ahead and policy recommendations by international organizations.

Lessons from the 1990s

Past consolidations from the 1990s can provide some useful lessons for current consolidation plans:[27]

- First, past consolidations suggest that credible fiscal plans should be developed and communicated early, as public awareness and support are important components for success.
- Second, policy measures should be well identified. As one current example and a first step, in addition to specifying a principle for deficit reduction between spending and revenue measures, Quebec's budget specified the *amount* of additional measures required in the years ahead to balance its budget — the details of the additional measures required would be provided in future budgets.
- Finally, previous consolidation plans at the federal level were based on prudent economic assumptions and used explicit contingency reserves and forecast allowances.

Overall, the experiences of the 1990s highlighted the importance of building credible budget plans and demonstrated how difficult it is to re-establish fiscal credibility after it is called into question.

Important Distinctions between the Current Context and the 1990s Consolidations

With a focus on spending restraint, Canada's current consolidation plans take a similar approach to that of the mid-1990s. Box 3 compares some key supportive factors for budgetary improvements and argues that the unique confluence of factors that arose in the mid-1990s is unlikely to occur in the current context. This suggests that actions to proactively address long-term fiscal sustainability will be needed.

The Challenge of Achieving Budgeted Spending Restraint

"There has been no shortage of efforts over the last 30 years (to reduce government spending). However, precious few of them have lived up to expectations."

Savoie (2009)

Notwithstanding the spending restraint demonstrated in many of Canada's previous consolidations, there is evidence suggesting a general tendency in Canadian jurisdictions for ex post spending to exceed initial budget projections over past 10-15 years.[28] Indeed, even coming after stimulus-inflated spending levels, restraining overall nominal spending growth below 2 percent — as planned in most 2010 budgets — implies a reduction in real per capita spending. If maintained, such restraint will likely impact government service delivery. Dodge (2010) points out that "significant reductions in real direct outlays will be extraordinarily difficult to achieve."

A related outstanding question is whether strategic program reviews will ultimately generate the savings assumed in the budgets, a question raised by Savoie (2009).

Recommendations for Fiscal Rules and Targets from International Organizations

In the near term, the OECD (2010a) recommends that Canada's fiscal consolidation plans use deficit targets to return to budget balance, along with spending growth limits. Over the medium term, and once budget balance is achieved, they recommend continued spending limits, and balance budget or surplus targets (with surpluses

[27] See Macklem (2010).

[28] See Busby and Robson (2010).

Box 3: Comparing the 1990s Fiscal Situation to the Current Context

	The Mid-1990s	**Current Context**
Urgency for fiscal actions:	A key supporting factor in the 1990s was a sense of urgency to address debt and deficit problems with concerns about an imminent fiscal crisis without actions. This context helped raised public awareness and support for deficit-reduction measures as several new governments began their mandates.	Despite current modest structural deficits to GDP and outstanding fiscal sustainability challenges, Canada is better positioned fiscally than many large advanced economies. This relativistic thinking could allow for complacency and inhibit efforts to address serious long-term fiscal sustainability issues.
Domestic and international growth:	Strong domestic and international growth in the second half of the 1990s helped government finances. This robust growth came after the early-1990s recession, possibly related to structural adjustments associated with changes in monetary and trade policies (inflation targeting in 1991; Canada-U.S. FTA in 1989, NAFTA in 1994).	The current consensus view among forecasters is for relatively subdued medium-term growth in the U.S. economy, and for slower trend growth in Canada in the decades ahead from slower labour input growth related to population aging (see, e.g., PBO 2010c).
Exchange rates:	In addition to strong U.S. growth, a contributing factor to foreign demand for Canadian exports was the sharp exchange rate depreciation in the first half of the 1990s that continued into 2002 until global commodity prices rebounded.	While exchange rates are notoriously difficult to predict, the consensus view from Budget 2010 is for a moderate appreciation the Canadian dollar, in line with improving global commodity prices.*
Interest rates:	The mid- to late-1990s was a period of generally falling borrowing costs. In particular, in the two years after the 1995 Federal Budget, the Bank of Canada's overnight rate fell by 5 percentage points.	With the under-pricing of risk in financial markets in the lead-up to the crisis, combined with the aggressive monetary policy response to combat the crisis and increased in public sector borrowing globally in the years ahead, policy interest rates and borrowing costs, while at low levels, are likely to rise over the medium term, which can restrain consumption and investment.
Demographics:	In the 1990s, labour input (total hours worked) grew by 1.2 percent annually.	In the decades of the 2010s and 2020s, labour input is projected to slow, growing at 0.9 and 0.1 percent annually (see, e.g., PBO 2010c).
Tax cuts and households' expectations of future policy:	The mid-1990s fiscal consolidations focused more on spending reductions, and as those consolidations ended, taxes where generally reduced (Figure 3.6). A perceived fall in the tax burden can support private consumption.	In the current context, forward-looking households may expect future taxes to rise if the planned spending cuts are ultimately insufficient to ensure fiscal sustainability. For instance, at the federal level, while program spending-to-GDP is near its long-run trend, revenue-to-GDP is below its long-run trend by about 2 percent of GDP (see PBO 2010c, Figures 4-1 and 4-11).

Overall, while these 6 factors aligned in the mid-1990s, they are less likely to support budget improvements in the current context.

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* The exchange rate and net export channels may be less reliable in the near term for any particular country because the historic evidence generally captured *individual* fiscal consolidations of various countries at various points in time. The current context differs importantly because most advanced economies are planning to fiscally consolidate *simultaneously*.

used to pay down debt) together with targets to reduce debt-to-GDP. They argue for making these medium-term targets legislated fiscal rules to "provide clear yardsticks for accountability and transparency". To support these aims, they also recommend establishing an independent fiscal agency (or agencies) for provincial and territorial fiscal analysis.

The IMF (2010a), in highlighting the key role that strengthened fiscal institutions can play in support of fiscal consolidation strategies, makes similar general recommendations. These include: a transparent medium-term fiscal target or rule; reports on longer run fiscal challenges; and monitoring and assessments by independent fiscal agencies.

Recently, the Chairman of the Federal Reserve (Bernanke, 2010), called for further discussion of fiscal rules in the U.S. context, saying, "…a fiscal rule could provide an important signal to the public that Congress is serious about achieving long-term fiscal sustainability… A fiscal rule could also focus and institutionalize political support for fiscal responsibility. Given the importance of achieving long-term fiscal stability, further discussion of fiscal rules and frameworks seems well warranted."

Some Potential Trends in 'Post-Crisis' Budgeting
Finally, Schick (2009) provides some general observations on the 'post-crisis' fiscal policy environment, which he thinks will likely feature:

- renewed interest in fiscal rules, with a possibility of 'next-generation' rules that better distinguish structural versus cyclical changes in budget performance;
- governments looking longer term, with a shift in emphasis away from the issue of fiscal balance to the issue of fiscal sustainability;
- governments seeking new tools to better assess fiscal risk (e.g. attempting to quantify implicit contingent liabilities) and integrating the results into budget statements.

5. Conclusions, Caveats and Possible Extensions

This paper examined Canadian fiscal consolidations over the past three decades and reviewed current consolidation plans, with a focus on legislated fiscal rules. The paper's main findings are:

Using a new PBO Canadian fiscal rules database, we find:

- an increasing use of legislated fiscal rules by Canadian governments since 1990 — a trend that has also occurred internationally.
- significant variability across jurisdictions in obeying fiscal rules.
- rules are generally a moving target, as most legislation has changed since its original adoption.

Examining Canadian fiscal consolidations, we find:

- Of the 12 significant budget improvements identified, the cyclically-adjusted primary budget balance improved by a total of 4.2 percent of GDP over 3 years, on average. About two-thirds of the improvement was from lower spending and one-third from higher revenues.
- Of the eight significant debt-reductions identified, government debt as a share of GDP fell by 21 percentage points over 11 years, on average, largely because governments maintained consistent primary balance surpluses during these episodes.
- Relative to international experiences, Canadian consolidations have focused more on spending reductions relative to revenue increases (i.e, the consolidations were 'spending-focused').
- All consolidations that featured fiscal rules were spending-focused, but not all spending-focused consolidations used fiscal rules.
- Overall, case studies suggest that fiscal rules and targets likely played a supportive role in achieving, or attempting to lock-in, the fiscal gains in Canadian jurisdictions with the largest and broadest fiscal improvements in the past three decades. Nonetheless, fiscal improvements have occurred with and without rules — either spurred on by governments determined to address fiscal problems or aided by external developments, such as global commodity price gains.
- To be effective, fiscal rules should be tailored to the jurisdiction, consistent with the government's ultimate policy objectives and strike a balance between policy trade-offs. Without clear policy goals, political will and public support, rules on their own cannot be relied on to improve a government's finances.
- Regarding political considerations: Consolidations typically began early in a government's mandate, often in an election year or the year after; fiscal consolidations (and deteriorations) occurred for governments across the political spectrum; and governments that consolidated were no less likely to be re-elected.
- After consolidations ended, the original fiscal improvements were often partially reversed — in Canadian cases, mainly due to reduced revenues. This suggests that maintaining fiscal discipline is an on-going policy challenge, in light of pressure to spend the 'fiscal dividend' and/or reduce taxes.

Examining current consolidation plans, we find:

- Several G-7 economies have adopted new fiscal targets and institutions to enhance the credibility of their consolidation plans. These changes include: medium-term rules or targets across different levels of government; new consultative fiscal bodies; and the use of cyclically-adjusted budget measures.
- The objective to return to budgetary balance over the medium term is a prevalent fiscal policy goal in Canada jurisdictions. Recent budgets plan to achieve this goal primarily by restraining spending growth, and most governments are engaging in program reviews.
- The federal government had several fiscal targets before the recession whose current status is unclear (e.g., annual budget balance

with a goal of $3 billion in debt reduction; achieving 25 percent federal debt-to-GDP; keeping program spending growth below nominal GDP growth over the budget projection; and eliminating total government net debt by 2021).

- At the provincial level, one government repealed its balance budget rule and three governments amended their legislated fiscal rules to allow for temporary deficits; others avoided this need by drawing on fiscal stabilization (or 'rainy day' contingency) funds.

Caveats and Possible Extensions

With a limited number of episodes from recent history to draw on, the results should be viewed as suggestive, but are generally too few to perform formal statistical tests, or control for additional factors. Extending the sample period to examine earlier historical Canadian consolidations would be an interesting extension.

Also, one of the approaches used in this paper to identify consolidation episodes (based on changes in the cyclically-adjusted primary balance) was recently criticized in IMF (2010b). The authors argue that due to flaws in the typical cyclical adjustment, this standard approach tends to over-identify favorable outcomes where no fiscal austerity measures were used, and under-identify cases of fiscal austerity associated with unfavorable outcomes. As a result, it may be helpful to see how robust the results are to an improved provincial cyclical adjustment procedure that better handles terms-of-trade movements, or to compare the results to the IMF's 'policy action' based approach to identify consolidations (that is similar to Romer and Romers' (2010) narrative approach).

Furthermore, using provincial primary balances (which include both own-source revenues and federal transfers) could make the provincial consolidations identified here appear less revenue-focused because federal transfers were reduced in the mid-1990s.

Finally, it should be emphasized that the correlation between legislated fiscal rules and fiscal consolidations both in the Canadian and international findings is not necessarily indicative of a causal relationship between fiscal rules and consolidations and may be related to other factors. For instance, rules were often adopted during fiscal improvements rather than in place at the outset, and rules may be used more often by governments that are more determined to address fiscal problems or in cases where the initial fiscal conditions were worse.

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Annex A: The History of Legislated Fiscal Rules in Canada

Jurisdiction	Fiscal Rule Legislation	Originally Adopted	Repealed (R); or Amended (A); or Lapsed (L)	Legislated Requirements	Rule Obeyed
Federal Government	*Spending Control Act*	1992	(L) 1995	Program spending limits for 1991-92 to 1995-96 (excluding public debt charges, Employment Insurance and Farm Income Protection); allowed adjustments between fiscal years	Yes
British Columbia	*Taxpayer Protection Act*	1991	(R) 1992	Required an annual plan to balance the budget (ex ante) over five-year ahead period; required a debt reduction plan; required interim reporting; tax rate freeze for 1990-91 to 1993-94; limits on forecasted spending growth.	No, repealed 1992
	Tax and Consumer Rate Freeze Act	1996	(L) 2000	Froze tax rates (hydro rates, auto insurance, tuition) and prohibited new tax increases for 1996-97 until 1999-2000	Yes
	Budget Transparency and Accountability Act	2000	2001	Economic Forecast Council advises the minister on economic growth forecasts; quarterly reports required; minister must make public statement for non-compliance	
	Balance Budget Act	2000	Superseded by *the Balanced Budget and Ministerial Accountability Act*	Deficit targets for 2000-01 to 2003-04	No, repealed 2002
	Balanced Budget and Ministerial Accountability Act	2001	(A) 2009	Prohibits forecasting ex ante deficits; salary reductions for executive council for failure to balance budget; 2009 amendment allows temporary deficits for 2009-10 to 2012-13	Met on average, with exceptions and 2009 amendment
Alberta	*Spending Control Act*	1992	Superseded by *Deficit Elimination Act*	Limited program spending growth for 1992-93 to 1994-95	Yes
	Deficit Elimination Act	1993	Superseded by *Fiscal Responsibility Act*	Set annual deficit limits for 1993-94 and to balance by 1996-97 and thereafter; adjustments allowed between fiscal years; required interim reporting and any ex post revenue above forecast to be used for debt reduction	Yes
	Balanced Budget and Debt Retirement Act	1995		Prohibited ex post deficits, required specific future debt repayment schedule over the 1997–2021 period at 5-year increments; interim reporting; smoothing of resource revenues	Yes
	Alberta Taxpayer Protection Act	1995	(A) 2000	Referendum required to adopt a provincial sales tax	Yes
	Fiscal Responsibility Act	2000	(A) 2009	Prohibits ex post deficits; required a contingency reserve of 1% of revenue; established *Alberta Sustainability Fund*	Yes
Saskatchewan	*Balanced Budget Act*	1995	Superseded by *The Growth and Financial Security Act*	Prohibited deficits over the 4-year ahead fiscal plan; required a debt management plan; interim reporting required	Yes
	The Growth and Financial Security Act	2008		Prohibits deficits in each year of the 4-year ahead budget plan; required a debt management plan; established a Debt Retirement Fund to help achieve the long-term objective of eliminating the debt; required interim reports; monitor size of government relative to population; annual program reviews; surpluses are allocated 50% to Growth and Financial Security Fund and 50% to Debt Retirement Fund; if deficits occur they must be offset by an equivalent surplus in the next fiscal year	Yes
Manitoba	*The Balanced Budget, Debt Repayment and Taxpayer Protection Act*	1995	Superseded by *The Balanced Budget, Fiscal Management and Taxpayer Accountability Act*	Prohibits deficits; establishes Debt Retirement Fund requiring mandatory deposits after 1996-97; but does not allow for transfers from it to balance budget; if a deficit occurs it must be offset in the next fiscal year; requires a referendum for major tax changes; salary reductions for Executive Council if deficit incurred	Yes, but in 2003 an escape clause was invoked due to BSE and forest fires
	The Balanced Budget, Fiscal Management and Taxpayer Accountability Act	2008		Prohibits forecasting ex ante deficits; 2008 amendment allows temporary deficits for 2008-09 to 2010-11 --- an expected 2010 amendment will require a return to surplus by 2014-15 and balanced budgets thereafter; referendum required for major tax changes; requires annual debt retirement, except for 2009-10 and 2010-11	No, 2010 amendment

Annex A: The History of Legislated Fiscal Rules in Canada, continued

Jurisdiction	Fiscal Rule Legislation	Originally Adopted	Repealed (R); or Amended (A); or Lapsed (L)	Legislated Requirements	Rule Obeyed
Ontario	*Balanced Budget Act*	1999	(R) 2004	Required forecasted balanced budgets by 2001-02; salary reductions of Executive Council if deficits incurred	No, repealed 2004
	Taxpayer Protection Act	2003	last (A) 2007	Requires referendum to raise existing tax rates or introduce a new tax	No, exemptions added in 2002 and 2004 for levies and premiums
	Fiscal Transparency and Accountability Act	2004		Requires multi-year fiscal plans; prohibits forecasting ex ante deficits in each of the 3-year ahead budget planning horizon; seek to maintain 'prudent' debt-to-GDP; requires a long-range report on 20-year economic and demographic challenges; requires a pre-election report on finances; anticipated deficits require a plan and timeline to achieve budget balance	No
Quebec	*An Act respecting the elimination of the deficit and a balanced budget*	1996	Superseded by *the Balanced Budget Act*	Set interim deficit limits to eliminate the deficit by 1999-2000 with balanced budgets thereafter; deficits of less than $1B must be offset by equivalent surplus next fiscal year; larger deficits must be offset over no more than 5 years based on a fiscal plan to balance budget	Yes
	Balanced Budget Act	2001	(A) 2009	Prohibits ex post deficits; established stabilization fund that can be used to balance the budget; 2009 amendment allows for temporary deficits for 2009-10 to 2012-13, by 2013-14 the budget must be balanced	No, 2009 amendment
New Brunswick	*Balanced Budget Act*	1993	Superseded by *Fiscal Responsibility and Balanced Budget Act*	Government 'objective' to budgetary balance over the 3-year period 1993-94 to 1995-96; then over a 4-year period thereafter	Generally, but first four-year balance not met after accounting review
	Taxpayer Protection Act	2003		Requires a referendum to introduce a new tax	
	Fiscal Responsibility and Balanced Budget Act	2005		Government objective for budgetary balance over the 3-year period 2004-05 to 2006-07; then over a 4-year period thereafter; government objective for declining net debt-to-GDP ratio	Yes, until recent recession
Nova Scotia	*Expenditure Control Act*	1993	(A) 1996; (R) 1999	Required operating expenditures to decline by at least 3 per cent in 1994-95 and 1995-96, and by at least 2 per cent in 1996-97 and 1997-98. Required capital expenditure to decline by at least 5 per cent in each year from 1994-95 to 1997-98. For both, there was some flexibility to move limits between adjacent fiscal years, provided the limits were met over 2-year periods. Subsequent amendments prohibited forecasted ex ante deficits; salary reductions for Executive Council if the Act was breeched; but included an escape clause to allow a deficit owing to a natural disaster or war.	Yes on spending restraint until 1996 amendment; No on deficits, revoked in 1999 due to accounting changes
	Financial Measures Act	2000	annual changes, (A) 2009	2009 amendment repealed prohibition of ex ante deficits; and the obligation to recover a deficit occurring in a fiscal year in a subsequent fiscal year.	Yes, until 2009 amendment
Yukon	*Taxpayer Protection Act*	1996		Annual deficits allowed by only if there is no increase in the accumulated deficit; general election is required if breached; referendum required to increase taxes	Yes, accumulated surplus maintained
Northwest Territories	*Deficit Elimination Act*	1996		Commits 'in principle' to balanced budgets; set deficit limits for 1996-97 to 1997-98, then required balanced budgets thereafter; legislative assembly can recommend the dismissal of Executive Council members if breached	Met on average, with exceptions due to high GDP volatility

Sources: PBO; federal and provincial legislation; Philips (1996); and Kennedy and Robbins (2003). Notes: This annex and additional data are available in the Canadian fiscal rules database on the PBO Web site, 'Research Resources' tab: www.parl.gc.ca/pbo-dpb

Annex B: Data Sources

Significant improvements in the cyclically-adjusted primary balance are identified using the following data: Cyclically-adjusted budget estimates for the federal government are from PBO (2010a) and cover 1976-77 to 2013-14, on a Public Accounts basis. Cyclically-adjusted budget estimates for the provincial and territorial governments cover 1983-2007 on a National Accounts basis, and were provided by the OECD, see OECD (2010b) for details.

Debt-to-GDP reduction episodes are based on data from the Fiscal Reference Tables from October 2009, for the federal government for 1961-62 to 2008-09 and for the provinces and territories for 1986-86 to 2008-09 on a Public Accounts basis, available at: http://www.fin.gc.ca/pub/frt-trf/index-eng.asp.

Elections dates and results for the Canadian federal government, provinces and territories are from Wikipedia.

Annex C: Factors Driving Changes in the Debt-to-GDP

The change in the debt-to-GDP in a given period can be expressed by the following equations:

$$\frac{D_t}{Y_t} - \frac{D_{t-1}}{Y_{t-1}} = \frac{-(REV_t - PS_t)}{Y_t} + (r_t - g_t) \cdot \frac{D_{t-1}}{Y_t}$$

$$\Delta \frac{D_t}{Y_t} = \frac{-PB_t}{Y_t} + (r_t - g_t) \cdot \frac{D_{t-1}}{Y_t}$$

where *D* is the level of debt; *Y* is nominal GDP; *REV* is revenue; *PS* is program spending; *PB* is the primary budgetary balance; *r* is the effective interest rate on government debt, and *g* is nominal GDP growth.

These equations provide a simple decomposition of annual movements in the debt-to-GDP into components attributable to:

1) the primary budgetary balance, PB_t, which equals budgetary revenues less program spending; and
2) the difference between the effective interest rate on government debt, r_t, and nominal GDP growth, g_t, (multiplied by lagged debt divided by GDP).

These equations show that, other things equal, the debt-to-GDP will fall if the government runs a primary balance surplus; or if economic growth exceeds the government's borrowing costs.

While this decomposition is a conceptually useful accounting identity, in practice the distinction among the components is imperfect because of the interactions among the components. As two examples: financial markets' perceptions of deficits and debt levels will affect the government's borrowing costs through changes in risk premia over time; also stronger economic growth can improve the primary balance through the actions of automatic stabilizers which raise tax revenues due to the progressivity of the tax system and slow statutory spending on programs such as Employment Insurance.

Annex D: Examining Episodes of Fiscal Deteriorations

Table D.1 Significant Cyclically-Adjusted Primary Balance Deterioration Episodes in Canadian Jurisdictions

	Jurisdiction	Episode Timing	Δ CAPB	Of which: Δ Revenue	Of which: Δ Program spending	Intensity	Fiscal Rule	Annual Real GDP Growth During Episode	Annual Growth Relative To National Average	CAPB, start	CAPB, end	CAPB, 3 years after end	Most Recent Election	Start of Deterioration into Government's Mandate (Years)	Governing Party Re-elected	Years
1	Newfoundland*	1999-03	-6.2	-9.8	-3.6	-1.2		6.6	3.2	3.7	-2.5	-6.8	1999	1	No	5
2	Alberta	1997-01	-4.6	-2.2	2.4	-0.9	BB 1993; R 1995; D 1995	4.2	0.0	2.6	-2.0	0.0	1997	1	Yes	5
3	Saskatchewan	2000-02	-4.6	-3.1	1.5	-1.5	BB 1995; D 1995	0.4	-2.9	2.8	-1.8	1.3	1999	2	Yes	3
4	British Columbia	1995-98	-3.7	-1.2	2.4	-0.9	R 1996	2.3	-0.8	0.4	-3.3	-1.6	1991	5	Yes, No	4
5	Ontario	1989-92	-3.3	-0.7	2.6	-0.8		-0.4	-0.8	0.7	-2.5	0.1	1987	3	No, No	4
6	Quebec	2000-02	-3.2	-1.8	1.4	-1.1	BB 1996	2.7	0.6	2.5	-0.7	1.0	1998	3	No	3
7	Federal	1999-04	-3.1	-1.8	1.3	-0.5	BB Targets	3.4	n.a	5.7	2.7	2.2	1997	3	Yes, Yes	6
8	Ontario	2000-03	-3.1	-0.9	2.2	-0.8	BB 1999; R 1999	-0.4	-0.8	2.6	-0.4	0.2	1999	2	No	4
9	British Columbia	1989-92	-3.0	0.6	3.6	-0.8	S 1991; BB 1991; R 1991; D 1991	1.9	1.5	0.7	-2.2	0.0	1986	4	No, Yes	4
	Average ex NF		***-3.6***	***-1.3***	***2.3***	***-0.9***	***8 of 9***	***1.6***	***-0.6***	***2.2***	***-1.4***	***0.3***		***2.9***	***42% (5 of 12)***	***4.3***
	Avg. with Rules		***-3.7***	***-1.4***	***2.2***	***-0.9***	***7 of 9***	***2.0***	***-0.6***	***2.5***	***-1.2***	***0.4***		***2.8***	***56% (5 of 9)***	***4.3***
	Avg. Spending-Focused		***-3.5***	***-0.9***	***2.6***	***-0.8***	***5 of 9***	***1.5***	***-0.2***	***1.4***	***-2.1***	***-0.3***		***3.0***	***29% (2 of 7)***	***4.2***
	Avg. Revenue-Focused ex NF		***-3.9***	***-2.5***	***1.4***	***-1.0***	***4 of 9***	***1.9***	***-2.9***	***4.3***	***0.5***	***1.8***		***2.5***	***75% (3 of 4)***	***4.5***

Sources: OECD (2010b); PBO

Notes: CAPB is the cyclically-adjusted primary budget balance. These episodes feature a deterioration of at least 3 percentage points in the CAPB as a share of potential GDP, sustained over 2 years. Columns may not sum due to rounding. In fiscal rule column: S represents a spending rule; BB a budget balance rule; R a revenue rule; and D a debt rule. Intensity is the average annual change in the debt-to-GDP ratio over the episode. The Newfoundland episode is excluded from the calculations of the averages (see footnote 13).

D.1 Significant Budget Balance Deteriorations

In an analogous way to the fiscal consolidation episodes, Table D.1 describes the nine fiscal deterioration episodes identified, which were clustered in the late-1990s and early-2000s, just after a general consolidation phase.[29]

Significant deteriorations were less abrupt than the consolidation episodes, with an average CAPB deterioration of 3.6 percentage points of GDP over 4 years, moving from an initial CAPB surplus of about 2 percent to a deficit of over 1 percent of GDP, on average.

[29] Fiscal deteriorations are defined as a decline in the cyclically-adjusted primary balance of at least 3 percent of potential GDP, sustained over 2 years.

Table D.2 Episodes of Significant Increase in Debt-to-GDP in Canadian Jurisdictions

	Jurisdiction	Episode Timing	Duration (years)	Δ Debt-to-GDP	Intensity	Fiscal Rule Adopted	Debt-to-GDP, start of consolidation	Debt-to-GDP, end of consolidation
1	Federal	1975-1995	21	50.0	2.4	S 1991; BB targets 1994	18.4	68.4
2	Newfoundland	1990-1993	4	28.5	7.1		37.5	66.0
3	Prince Edward Island	1992-1994	3	27.4	9.1		11.9	39.3
4	Saskatchewan	1986-1993	7	22.8	3.3	BB 1995; D 1995	11.1	33.9
5	Nova Scotia	1989-1994	6	19.8	3.3	S 1993; BB 1996	25.8	45.6
6	Ontario	1991-1996	6	18.6	3.1	BB 1999	13.6	32.2
7	Alberta	1987-1993	7	18.5	2.6	S 1992; BB 1993; R 1995; D 1995	-2.0	16.5
8	New Brunswick	1990-1993	4	16.5	4.1	BB 1993	23.0	39.5
9	Quebec	1990-1996*	6	12.6	2.1	BB 1996	23.3	35.9
	Average		**7.1**	**23.9**	**4.1**		**18.1**	**41.9**
	Avg. with Rules		**8.8**	**23.5**	**2.9**		**17.7**	**41.2**

Sources: PBO; Department of Finance's Fiscal Reference Tables (October 2009).

Notes: Debt-increase episodes are defined as a debt-to-GDP increase of at least 10 percentage points. Intensity is the average annual change in the debt-to-GDP ratio over the episode. *Quebec's debt-to-GDP increase is likely understated because an accounting reform makes data incomparable after 1996.

Similar to the consolidation results, about two-thirds of the deteriorations occurred on the spending side — this time due to increased spending, and about one-third due to lower revenues. Once again, there is no discernable difference in the average episode, in the cases where rules were in place at some point during the deterioration. When the initial surplus was larger, revenue was reduced more, on average.

Table D.1 also shows that deteriorations started somewhat later in a government's mandate than consolidations (2.9 years versus 2.2 years). Governments in power during the budget deteriorations were less likely to be re-elected, with a re-election probability of 0.42 (in 5 of 12 elections), compared to the sample average of 0.63 (in 45 of 71 elections).[30] This effect was largest when spending increases were primarily responsible for the CAPB deterioration (getting re-elected in only 2 of 7 elections, or 29 percent of the time). As with consolidations, governments across the political spectrum oversaw significant budget deteriorations: NDP, Conservative, Liberal; and Parti Quebecois.

D.2 Significant Debt-to-GDP Increases

Table D.2 describes the nine episodes of significant debt-to-GDP increases. The average increase in debt-to-GDP was 24 percent over 7 years (rising from 18 to 42 percent). Fiscal rules were often introduced towards the end of these debt increases, or shortly thereafter.

Comparing debt increases to debt reductions (Tables D.2 and 3.2), suggests that debt levels can rise much faster than they can be brought down, increasing by 4.1 percentage points annually in deteriorations and falling by only 1.8 percent in improvements.

[30] This result is consistent with Brender and Drazen (2008) that finds an increase in the budget deficit is associated with a lower re-election probability in developed countries.

Annex E: Canadian Fiscal Consolidations Plans Based on Governments' 2010 Budgets

Table E.1 Summary of 2010 Budget Projections, Federal and Provincial and Territorial Governments

Sum of Provincial and Territorial 2010 Budget Projections

$Billions and Percent Change	2008-09	2009-10	2010-11	2011-12	2012-13
Budgetary Revenue	**287.4**	**281.3**	**295.5**	**305.4**	**319.8**
% Change	-2.1	-2.1	5.1	3.4	4.7
Budgetary Expenses	**292.9**	**310.2**	**327.0**	**328.9**	**336.9**
% Change	4.4	5.9	5.4	0.6	2.4
Of which: Total Program Expenses	**271.8**	**289.2**	**303.6**	**302.9**	**308.0**
% Change	5.2	6.4	5.0	-0.2	1.7
Of which: Public Debt Charges	**21.1**	**21.0**	**23.4**	**25.9**	**28.8**
% Change	-4.8	-0.5	11.5	10.8	11.0
Budgetary Balance (excludes stabilization fund withdrawals)	**-5.5**	**-28.9**	**-31.5**	**-23.5**	**-17.1**
Net Provincial and Territorial Debt	**340.8**	**388.3**	n.a.	n.a.	n.a.
Share of Nominal GDP					
Budgetary Revenue	18.0	18.4	18.3	18.2	18.1
Budgetary Expenses	18.3	20.3	20.2	19.6	19.0
Of which: Total Program Expenses	17.0	18.9	18.8	18.0	17.4
Of which: Public Debt Charges	1.3	1.4	1.4	1.5	1.6
Budgetary Balance	-0.3	-1.9	-1.9	-1.4	-1.0
Net Provincial and Territorial Debt	21.3	25.4	n.a.	n.a.	n.a.

Federal Government's Budget Projection, October 2010 Update

$Billions and Percent Change	2008-09	2009-10	2010-11	2011-12	2012-13
Budgetary Revenue	**233.1**	**218.6**	**232.5**	**246.3**	**261.2**
% Change	-3.8	-6.2	6.4	5.9	6.0
Budgetary Expenses	**238.8**	**274.2**	**277.8**	**276.1**	**282.5**
% Change	2.6	14.8	1.3	-0.6	2.3
Of which: Total Program Expenses	**207.9**	**244.8**	**246.6**	**242.7**	**246.1**
% Change	4.2	17.7	0.7	-1.6	1.4
Of which: Public Debt Charges	**31.0**	**29.4**	**31.3**	**33.4**	**36.4**
% Change	-7.0	-5.2	6.5	6.7	9.0
Budgetary Balance	**-5.8**	**-55.6**	**-45.4**	**-29.8**	**-21.2**
Net Federal Debt	**463.7**	**519.1**	**564.5**	**594.2**	**615.5**
Share of Nominal GDP					
Budgetary Revenue	14.6	14.3	14.4	14.6	14.8
Budgetary Expenses	14.9	18.0	17.2	16.4	16.0
Of which: Total Program Expenses	13.0	16.0	15.3	14.4	13.9
Of which: Public Debt Charges	1.9	1.9	1.9	2.0	2.1
Budgetary Balance	-0.4	-3.6	-2.8	-1.8	-1.2
Net Federal Debt	29.0	34.0	34.9	35.3	34.8

Source: 2010 Provincial and Territorial Budgets; Federal Budget Update October 2010