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## SMALL AND EXPOSED: DEBT ACCUMULATION IN CANADA'S SMALL PROVINCES

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### SUMMARY

It hardly takes a shrewd premier to keep a province from racking up debt when economic times are good, and it does not necessarily take a reckless government to accumulate debt when economic times are tough. What matters more, when assessing a government's fiscal responsibility, is how policy decisions — as opposed to cyclical effects — influence a province's debt ratio. With economically small provinces being especially vulnerable to exogenous shocks, the need to avoid chronic deficits and debt accumulation is particularly high, since minimizing deficit and debt at least improves the resilience of these provinces to recover from shocks when they do occur.

An analysis of the provincial government finances of Canada's four smallest provinces— P.E.I., New Brunswick, Nova Scotia and Manitoba — finds that some are better at preparing for inevitable exogenous economic shocks. Taxpayers in Nova Scotia and P.E.I. in particular have legitimate reason to be worried. Taxpayers in New Brunswick and Manitoba can breathe a little easier, but both provincial governments have in recent years begun introducing policies that have reduced their potential for resiliency, too.

From 1982–2008, New Brunswick's governments — both Liberal and Progressive Conservative (PC) — were the most successful of the four provinces in keeping its operating account more or less in fiscal balance. However, to best manage future economic shocks the province will have to reverse a six-year string of sizeable policy-induced deficits amassed first under a Liberal government and more recently under a PC government. Currently, New Brunswick's policies are doing more to increase provincial debt than are cyclical influences, by a factor of more than two.

Manitoba also has one of the stronger records of the four provinces but labours under the burden of the consequences of a rapid accumulation of policy-induced debt incurred during the mid-1990s. Unfortunately, during the last three years of our period of analysis, policy-induced deficits have the province sliding in the wrong direction, adding 2.6 percentage points of GDP to its accumulated operating account deficit. Notably, there appears to be little difference between NDP and PC governments when it comes to policy-induced debt accumulation. The one distinction appears to be that the PCs have tended to begin governing by adding debt, and reducing it later, while the NDP has followed the opposite pattern.

The record of P.E.I.'s policy decisions, meanwhile, has been the reverse of Manitoba's: After managing to keep its debt in check for 20 years, the government since 1999 has added 11 percentage points of GDP to its accumulated operating account deficit almost entirely as the result of policy choices. Particularly worrisome is the recent rapid accumulation of debt between 2009 and 2014. In the meantime, Nova Scotia continues working to undo the risky policies of the "lost decade" from 1984 to 1994, where PC governments increased the debt ratio by nearly a third.

In all four provinces the ability to keep debt ratios under control will depend heavily on constraining the growth in health-care spending. Health spending has soared in all provinces since 1999–2000, the most extreme case being in New Brunswick where the share of revenue spent on health has leaped from 25.4 to 35.9 per cent. Even if these provinces cannot change the fact that they are small and exposed, and are stuck with the specific economic risks that entails, they do have the ability to make policy choices that mitigate the length and severity of the effects of exogenous shocks. With three of the provinces (save P.E.I.) expected to enjoy faster growth in 2015, the work in better preparing their economies for shocks should begin right away.

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## 1. INTRODUCTION

Economically small states have a tendency to also be economically vulnerable in the sense they are prone to exogenous shocks. This vulnerability occurs when they feature a high degree of economic openness (i.e., a high ratio of exports and imports to GDP) and a dependence on a narrow range of exports. A lack of export diversification leaves the economy exposed, while a reliance on imports increases the economy's exposure to shocks in the availability and costs of inputs, such as imported energy. Small states can nonetheless effectively accommodate their vulnerability to exogenous shocks by enhancing their economic *resilience*, that is, their ability to recover from the negative impacts of exogenous shocks.<sup>1</sup>

Economic resilience is enhanced by public policies that minimize the impact of shocks and speed recovery. Particularly important in this respect is for small states to avoid a tendency toward chronic deficits and debt accumulation. Maintaining small deficits and minimizing debt accumulation is important as it enables small states to remain in a position to possibly support the private sector in recovery and, perhaps more importantly, to avoid contributing to the problem with badly timed austerity measures.

Canada's economically smallest provinces — Prince Edward Island (P.E.I.), New Brunswick, Nova Scotia and Manitoba — combine to account for less than eight per cent of Canada's GDP and just under nine per cent of its population. They are Canada's most economically vulnerable provinces. One of the questions to be investigated in this paper is the degree to which these provinces have contributed to the resilience of their economies to absorb and recover from shocks by maintaining sound public finances.

This is the third and last of a series of reports on the public finances of Canadian provinces.<sup>2</sup> This report uses public accounts data for the period 1980–81 to 2013–14 to summarize, describe and analyze the finances of Canada's smallest provincial governments. Relying on the simple arithmetic of debt accumulation implied by the government budget constraint, the sources of debt accumulation are identified, and inform a discussion of how much of the change in provincial debt can be laid at the feet of policy choices as opposed to economic conditions. In this way, we seek to identify to what extent these governments have contributed to, or harmed, the resiliency of their provincial economies.

Memories of the price Canadians paid in the past when their governments had accumulated too much debt — things like slower economic growth, higher interest rates, higher tax rates and cuts to social programs — are stoking renewed concerns that these costs might need to be paid yet again. In the four provinces considered here, the concern is heightened by the fact that the fiscal sustainability of health care, education and other key provincial programs hinge to an extraordinary extent on swings in economic conditions outside the provinces. Understanding the separate roles of these exogenous shocks, as opposed to policy-induced changes in debt, is therefore of particular interest

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<sup>1</sup> For a discussion of measures of the economic vulnerability and resilience of small states see Lino Briguglio et al., "Economic Vulnerability and Resilience: Concepts and Measurements," *Oxford Development Studies* 37, 3 (2009): 229-247. Singapore is often cited as an example of a very small and vulnerable state that is nonetheless highly resilient in the face of shocks, thanks to its excellent institutions and commitment to fiscal probity.

<sup>2</sup> The first of the series examined the finances of Ontario and Quebec (Ronald Kneebone and Margarita Wilkins, "Who, or What, is to Blame for the Accumulation of Debt in Ontario and Quebec (And What will it Take to Stop the Bleeding?)," University of Calgary School of Public Policy Research Paper 7, 17 (University of Calgary, July 2014). The second examined the finances of Canada's most resource-dependent provinces; Alberta, British Columbia, Saskatchewan, and Newfoundland and Labrador (Ronald Kneebone, "Sources of Debt Accumulation in Resource-Dependent Provinces," University of Calgary School of Public Policy Research Paper 8, 22 (University of Calgary, May 2015).

to citizens in these provinces. Of additional interest is the fact these provinces have significantly different political histories since 1980. Voters in P.E.I. and Manitoba have alternated between political parties and given each long stretches to prove the value of its policies. Voters in Nova Scotia and particularly New Brunswick have changed governing parties more frequently.

This paper will also contribute to the broader literature examining provincial budgets by providing a data set describing the finances of P.E.I., New Brunswick, Nova Scotia and Manitoba for the period from 1980–81 to 2013–14. As we explain in Section 2, Statistics Canada has halted, with data for 2008–09, the publication of a data series describing details of provincial government finances. If, or until, this data series is continued, analysts have nothing with which to measure the influence on provincial government finances of the recession of 2008–09 and the halting recovery that has followed. By providing these data we hope to facilitate further work on important questions concerning provincial government finances.

## 2. THE DATA

As discussed in the two previous papers in this series, long time series of useful data on provincial government finances are difficult to obtain.<sup>3</sup> In the appendix to this paper, we provide data on five revenue categories and six expenditure categories for each province spanning the period from fiscal years 1980–81 to 2013–14. We also report the annual deficit and the amount of debt accumulated since 1979–80. Similar data are reported in the Fiscal Reference Tables (FRT) published by the federal Department of Finance. Although the FRT draw data from the same source as we do — namely, the public accounts of each province — the tables report on just two revenue and two expenditure categories. Notably absent is data on spending on health, education and social services: the “big three” spending categories for every Canadian province. Absent too is data by the most important sources of provincial revenue: personal and corporate income taxes and retail sales taxes. Accessing this finer gradation of spending and revenue is important to understanding the sources of revenue and spending changes and is also important for identifying, as we do below, what portions of revenue and spending changes are due to the business cycle as opposed to policy choices. Where there is overlap between our data and the data reported in the FRT, there is close agreement, although some differences do appear, as reported in the Appendix.

This paper focuses on the period from 1981–82 to 2013–14.<sup>4</sup> This enables the analysis to capture of the effects on provincial finances of three major recessions (1981–82, 1990–91 and 2008–09), two periods of strong economic growth in the late 1980s and again in the early 2000s, and the impact on provincial finances of the economic recovery since the end of the 2008–09 recession. The long time series also enables us to consider the potential influence on provincial finances of the politics of elected governments.

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<sup>3</sup> See those earlier papers for a more detailed discussion. Briefly, Statistics Canada’s Financial Management System (FMS) sources data contained in the public accounts published by each provincial government and then attempts to impose a certain degree of uniformity on those data, an effort that Statistics Canada notes can never be complete (for a discussion, see *Financial Management System (FMS)*, Statistics Canada, 2009, <http://www.statcan.gc.ca/pub/68f0023x/68f0023x2006001-eng.pdf>). The usefulness of FMS data is also severely limited by the fact that the information they provide on provincial finances ends in 2008–09. To understand and identify the effects of the recent recession and the period of recovery since 2008–09 therefore requires accessing a different data set.

<sup>4</sup> As described below, the approach involves ratios of debt to GDP. The choice of time span therefore reflects in part the availability of a consistent data series on provincial GDP. Calendar-year values of provincial GDP are available to 2013 (sources are provided below) and these are used to produce fiscal year values for 1981–82 to 2012–13. Calendar-year data on provincial GDP for 2014 are not yet available and so the calendar value for 2013 is used to represent fiscal year 2013–14.

## The Operating Account and the Accumulated Deficit

In this paper, as in the earlier papers in this series, our focus is on that portion of provincial budgets that we will refer to as the government's *operating account*. The operating account is intended to measure the cost of ongoing programs and services and the amount of revenue collected for the purpose of financing those costs. It excludes capital expenses and revenues raised to finance capital expenditures. The deficit of the operating account defines the excess of spending on government goods and services intended for current consumption over current revenue. The accumulation of such deficits over time defines what is commonly referred to as the *accumulated deficit*.

The ratio of accumulated deficits to GDP is different from what governments report as their *net debt*. Net debt is a measure that includes in its calculation the implications of extraordinary additions to debt and debt incurred to finance capital expenditures. Net debt, then, represents a broader definition of the government's debt than just the accumulated borrowing required to pay for current expenditures.

**FIGURE 1 ACCUMULATED OPERATING ACCOUNT DEFICITS SINCE 1981-82**

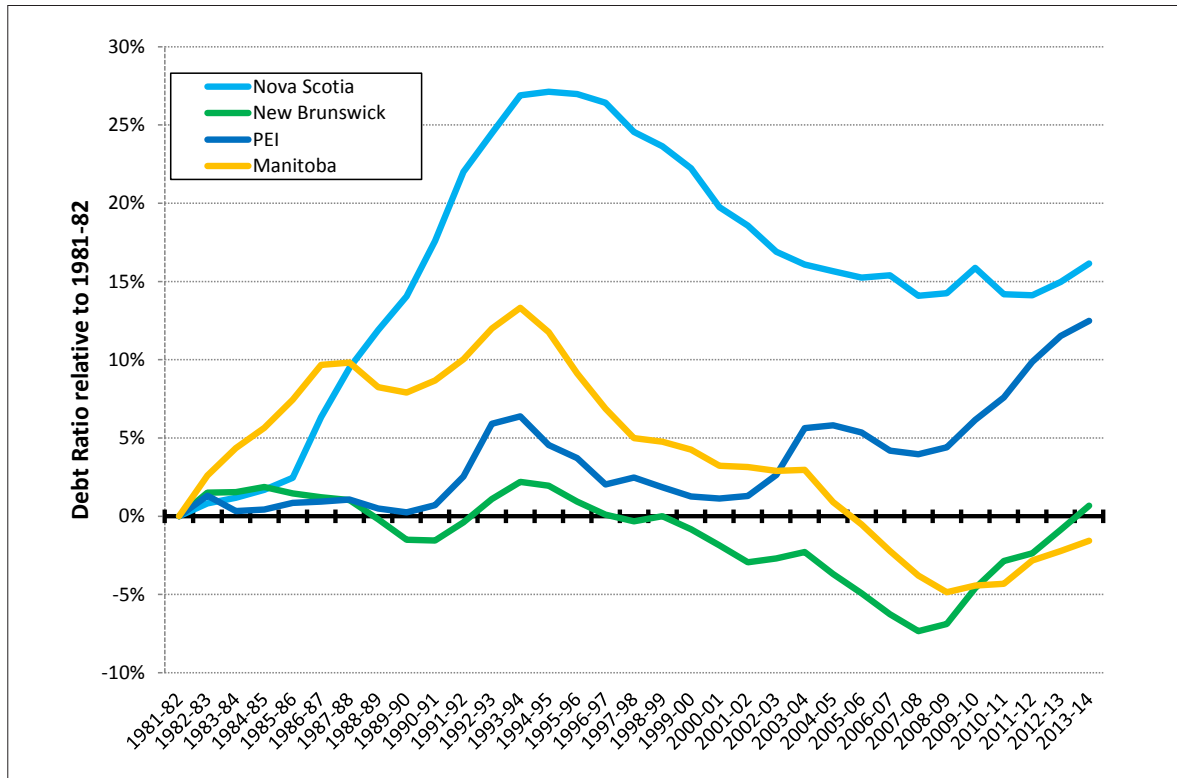


Figure 1 plots the change in the ratio of accumulated deficits on the operating account to GDP for each of the four provinces since 1981–82. The two smallest provinces — P.E.I. and New Brunswick — exhibit a similar pattern of debt accumulation with the debt ratio rising in the early 1990s and again after 2008. The pattern of debt accumulation in the two larger provinces — Manitoba and Nova Scotia — is again broadly similar with a rapid accumulation of debt in the 1980s followed by a steady reduction in debt afterward. Nova Scotia, however, is unique in accumulating much more debt (relative to GDP) and for having much less success in eliminating what was accumulated. Nova Scotia and Manitoba seem also to have had greater success than P.E.I. and New Brunswick at constraining new debt accumulation since the mid-2000s.

The purpose of the rest of this paper is to determine the sources of change in these debt ratios. That is, were these changes the result of economic conditions or policy choices?

### 3. THE SOURCES OF DEBT ACCUMULATION

Governments are constrained in their spending choices by their access to tax revenue and by what they are able to borrow. This fact has the important implication that the choices available to governments are constrained by the economic environment in which they operate; a government facing high interest rates for borrowing and slow growth in its tax base is more limited in its spending choices than it would be when interest rates are low and income is growing rapidly. A government that fails to adjust its spending when interest rates rise and income growth shrinks soon finds itself in financial trouble. Understanding these basic accounting realities is behind the approach employed in this study to identify which portion of provincial government debt can be identified as due to policy choices as opposed to which is attributable to economic conditions.

The following equation defines a budget constraint for a government's current account balance:

$$D_t - D_{t-1} = PDEF_t + r_t D_{t-1}$$

where we define

$PDEF_t$  = primary deficit (program spending less current account revenue) in year  $t$ <sup>5</sup>;

$D_{t-1}$  = accumulated deficit of the current account at beginning of year  $t$ ;

$D_t$  = accumulated deficit of the current account at end of year  $t$ ;

$r_t$  = average effective interest rate on net debt in year  $t$ .

Some elements of program spending and revenue in the current account are sensitive to the state of the economy (the business cycle). To account for these cyclical influences, one can write:

$$D_t - D_{t-1} = (PDEF_t - PDEF_t^*) + PDEF_t^* + r_t D_{t-1} \quad (1)$$

where  $PDEF^*$  defines the *cyclically adjusted primary deficit* and the term in brackets defines the size of the primary deficit that is due to the business cycle.

Of interest is the identification of sources of change in the ratio of the accumulated deficit to GDP, referred to more simply as the debt ratio. It makes sense to compare debt to GDP as the latter defines the collective income of the province's citizens and so measures the capacity for managing debt. Of interest then is explaining movements in

$$\frac{D_t}{Y_t} - \frac{D_{t-1}}{Y_{t-1}}$$

<sup>5</sup> The primary deficit can take on a negative or a positive value. If program spending is less than tax revenue, the primary deficit has a negative value and may be referred to as a primary surplus. Program spending includes all government spending except debt service which is represented here as  $r_t D_{t-1}$ .

where  $Y$  is GDP. Using Equation (1) and noting that values of  $Y_t$  and  $Y_{t-1}$  are related by the rate of growth in GDP in the following way

$$Y_t = (1 + (n_t - n_t^*) + n_t^*)Y_{t-1}$$

where

$n$  = the rate of growth in  $Y$

$n^*$  = the rate of growth in potential output,  $Y^*$ ,

the change in the debt ratio can be written as:

$$\frac{D_t}{Y_t} - \frac{D_{t-1}}{Y_{t-1}} = (\text{Cyclical Component}) + (\text{Policy Component}) \quad (2)$$

where

$$\text{Cyclical Component} = \left( \frac{PDEF_t}{Y_t} - \frac{PDEF_t^*}{Y_t} - \frac{(n_t - n_t^*)D_{t-1}}{Y_t} \right)$$

$$\text{Policy Component} = \left[ \frac{PDEF_t^*}{Y_t} + \frac{(r_t - n_t^*)D_{t-1}}{Y_t} \right].$$

The *cyclical component* identifies the change in the debt ratio that is due to the economy being away from potential (or full-employment) output and experiencing a rate of growth that differs from the rate of growth in potential output. The *policy component* identifies the change in the debt ratio that is due to fiscal policy choices.<sup>6</sup>

## Discussion

The definition of the cyclical component identifies the change in the ratio of debt to GDP resulting from an economic slowdown as being measured not only by the resulting change in the size of income-sensitive components of the primary deficit — changes that cause a gap between  $PDEF$  and between  $PDEF^*$  — but also influences GDP itself, and so causes a gap between the observed rate of growth in GDP,  $n$ , and the rate of growth in potential output,  $n^*$ .<sup>7</sup>

Accusing a government of fiscal irresponsibility when its debt ratio is made large by the effects of recession is not a fair assessment of the budgetary consequences of a government's policy choices. Just as it is not appropriate to commend a government for fiscally responsible policies when the debt ratio is made small by the effects of a cyclical boom. Removing these influences — which leaves us with the policy component — is appropriate if the goal is to identify how much blame for government debt can be laid at the feet of policy-makers. To put it differently, identifying the amount

<sup>6</sup> In the equation, the growth and interest rates are either nominal rates or real rates, but in the latter case, the interest rate must be the *ex post* real interest rate.

<sup>7</sup> It is worth emphasizing that no attempt is made to identify how the interest rate might vary with the business cycle. This reflects an assumption that the interest rate does not react automatically to, or in a predictable way with, the business cycle.



of debt accumulated after removing the effects of the provincial economic cycle indicates to what extent a government over- or under-taxes its citizens relative to the level of public services provided.<sup>8</sup>

The measure of the policy component is motivated by the idea that fiscal policy choices are constrained by the level of debt inherited from previous governments and by the economic conditions determining the interest rate paid on outstanding debt, the rate of growth in the tax base, and the levels of cyclically sensitive spending and revenues. Depending on economic circumstances — particularly those determining the relative values of the interest rate due on outstanding debt and the rate of growth in potential output — the same set of fiscal policy choices may or may not be labelled fiscally irresponsible.

To better appreciate this point, it is easy to see from the definitions of the cyclical and policy components of the change in the debt ratio that, if the levels and growth rates of actual and potential output are equal, then there is no tendency for the debt-to-output ratio to rise, only if:

$$PDEF_t^* = (n_t^* - r_t) D_{t-1} . \quad (3)$$

The term on the right-hand side is the target for a fiscally responsible set of fiscal policy choices. The debt-to-output ratio will tend to increase as a consequence of fiscal policy choices when the balance between spending and all sources of revenue is above the target, and tend to decrease when below the target.

In what follows, the definitions of the cyclical and policy components are applied to the data defining the government's operating account. The so-called “golden rule” of public finances is that operating accounts ought to be such that, in the normal course of events, they balance spending with revenues. More precisely, the application of the golden rule is that at full employment, the operating account should not be causing the debt ratio to increase. Applying the golden rule of public finance would require that our definition of the policy component be zero at full employment and that over time, when economic downturns have been balanced by economic booms, the accumulated deficits of the government's operating account should be zero. As can be observed from Figure 1, the four provinces being considered have had varied success at meeting this standard of fiscal probity even over the course of three decades.

#### 4. POTENTIAL OUTPUT AND THE CYCLICALLY ADJUSTED PRIMARY DEFICIT

The accounting framework described above requires that one identify cyclically adjusted provincial revenue and spending and use these values to define the cyclically adjusted primary deficit. This, in turn, requires estimates of potential output,  $Y^*$ , and its rate of growth,  $n^*$ .

##### Full-Employment Output

It is common practice to generate values of provincial potential GDP ( $Y^*$ ) by applying the Hodrick-Prescott (HP) filter to observed values of GDP ( $Y$ ). The HP filter is intended to decompose data on

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<sup>8</sup> The cyclical component is not wholly “policy free.” Its magnitude is affected by the extent to which governments make their revenues and spending obligations sensitive to changes in income. The cyclical component therefore shows the change in the debt ratio due to the business cycle impacting the government budget via the current set of tax rates and the current design of spending programs, and so shows the operation of automatic stabilizers, whose size are a matter of policy.

GDP into trend and cycle components.<sup>9</sup> The attraction of the HP filter is that its application involves a minimum of judgment and requires a minimum of data. What's more, the resulting smooth but non-linear time series of potential output accords with most analysts' expectations of the evolution of that series.<sup>10, 11</sup>

## Cyclically Adjusted Balances

To arrive at estimates of the cyclically adjusted primary deficit we employ an approach utilized by the International Monetary Fund (IMF), the OECD and other research organizations.<sup>12</sup> Cyclically sensitive components of the provincial budget are adjusted proportionately to the ratio of potential output to observed output, as determined by its elasticity with respect to the output gap. Thus,

$$G_{j,t}^* = G_{j,t} \left( Y_t^* / Y_t \right)^{\beta_j} \quad \beta_j < 0$$

$$T_{i,t}^* = T_{i,t} \left( Y_t^* / Y_t \right)^{\alpha_i} \quad \alpha_i > 0$$

$$PDEF_{j,t}^* = G_{j,t}^* - T_{i,t}^*$$

where:  $T_{i,t}$  = observed revenue from revenue type  $i$  in year  $t$ ;  $G_{j,t}$  = observed expenditure on program  $j$  in year  $t$ ; starred variables are those that would be observed at potential output;  $Y_t^*$  is the value of potential output; and  $\alpha_i$  and  $\beta_j$  are elasticities measuring the sensitivity to output of revenue category  $i$  and program expenditure  $j$ , respectively. Once values of  $T_{i,t}^*$  and  $G_{j,t}^*$  are calculated, the remaining (non-adjusted) categories are added in order to derive structural total revenues and expenditures.

<sup>9</sup> The HP filter is applied to measures of provincial real GDP. Multiplying these measures by the GDP implicit price deflator yields an estimate of  $Y^*$  measured in nominal dollars. Data on provincial real and nominal GDP are from Statistics Canada, CANSIM Table 3840038. These data are calendar-year measures that span the period 1981–2012 inclusive. Since the data on provincial finances are measured on a fiscal-year basis (April 1 to March 31) a fiscal-year version of  $Y$  and  $Y^*$  is calculated using the formula  $FY_t = 0.25CY_t + 0.75CY_{t-1}$ .

<sup>10</sup> The HP filter suffers from what is known as the *end-point problem*: the fact that the approach causes estimates of potential output at the beginning and at the end of the time series to be close to observed values of output. To deal with this issue we follow an approach that involves extending the data series on output beyond the end, and prior to the beginning, of the study's sample period. Marianne Baxter and Robert King ("Measuring Business Cycles: Approximate Band-Pass Filters for Economic Time Series," *Review of Economics and Statistics* 81 (1999)) recommend adding at least three years of data (when using annual data) to each end of the sample period. That advice is followed here. Three years of data on provincial nominal output prior to 1981 (for years 1978–1980 inclusive) are taken from CANSIM series v123686 (New Brunswick), v123674 (Nova Scotia), v123722 (Manitoba) and v123662 (P.E.I.). In lieu of an implicit price deflator we rely on provincial measures of the consumer price index from CANSIM series D45041 (New Brunswick), D45020 (Nova Scotia), D45104 (Manitoba) and D44999 (P.E.I.) for those years. Forecasts of real and nominal provincial output for three years beyond the end of our sample (2014–2016) are taken from TD Economics, *Provincial Economic Forecast Update* (January 26, 2015).

<sup>11</sup> An alternative approach to using the HP filter is to estimate an aggregate production function relating output to the inputs producing that output. The modelling requirements of this approach are significant as are the data requirements, with the latter issue particularly acute at the sub-national level. Using Canadian provincial data, Yvan Guillemette ("A Simulation Model of Federal, Provincial, and Territorial Government Accounts for the Analysis of Fiscal-Consolidation Strategies in Canada," OECD Economics Department Working Paper No. 800 (August 2010)) shows that the production-function approach yields similar estimates of provincial potential output to those produced by the HP filter.

<sup>12</sup> See, for example, Fabian Bornhorst et al., "When and How to Adjust Beyond the Business Cycle: A Guide to Structural Balances," IMF Fiscal Affairs Department, Technical Notes and Manuals (April 2011); Nathalie Girouard and Christophe Andre, "Measuring Cyclically-adjusted Budget Balances for OECD Countries," OECD Economics Department Working Paper 434 (2005); and Martin Larch and Alessandro Turrini, "The Cyclically-adjusted Budget Balance in EU Fiscal Policy Making: A Love at First Sight Turned into a Mature Relationship," Economic Paper 374, European Commission (March 2009).



The IMF suggests an elasticity value of 0.7 for personal income tax revenue, 1.5 for corporate income tax revenue, 1.0 of indirect tax revenue, 1.0 for other tax revenue, and -0.1 for program expenditures.<sup>13</sup> Those are the elasticity values used here.

Applying data to Equation (2) also requires a value of the interest rate,  $r_t$ , observed in each year for each government. For this purpose, an effective rate of interest paid by these governments is calculated as the amount paid in debt charges in year  $t$  divided by the amount of net debt inherited from year  $t-1$ .

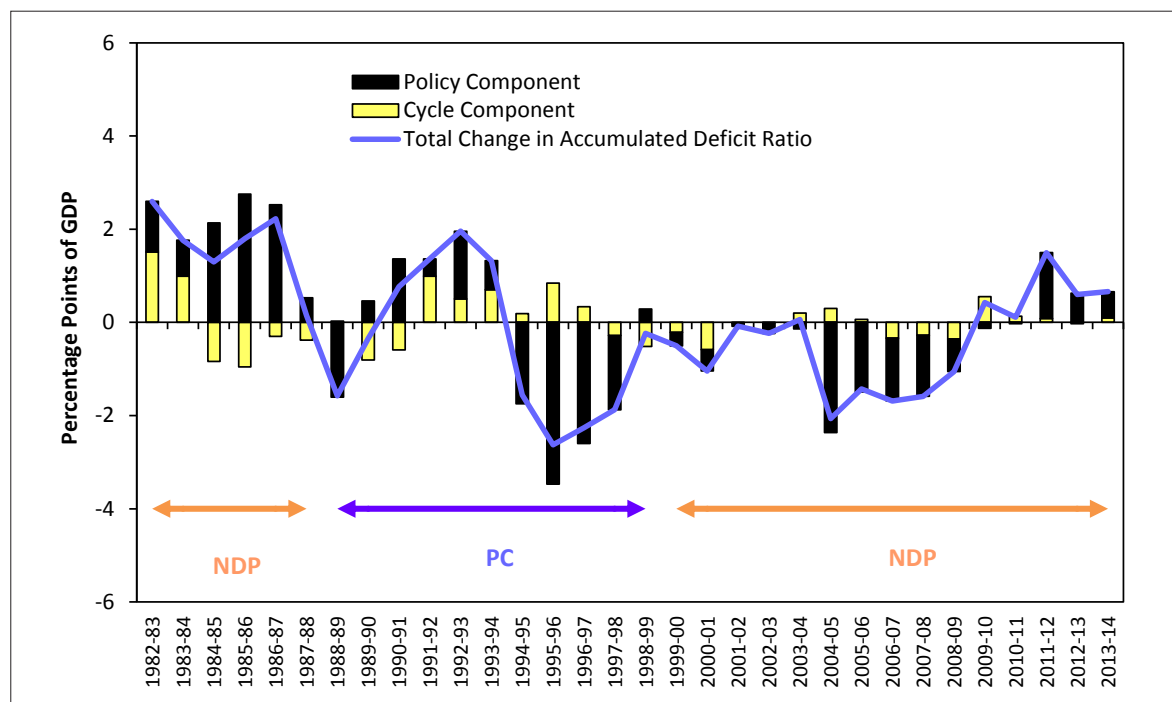
## 5. SOURCES OF DEBT ACCUMULATION

In this section, data describing the operating accounts of P.E.I., New Brunswick, Nova Scotia and Manitoba are applied to the accounting framework described by Equation (2). It is shown how this framework can be used to determine to what extent the fiscal policy choices of these governments can be held responsible for the accumulation of debt. The four provinces are discussed in order of economic size.

### Manitoba

Figure 2 shows the annual change in the ratio of accumulated deficits to GDP (the debt ratio) due to the influence of the business cycle (the cyclical component) and due to policy choices (the policy component).

FIGURE 2 MANITOBA



<sup>13</sup> As reported in Bornhorst et al., “When and How,” results are not terribly sensitive to alternative choices of these elasticity values. The values used are those suggested for Canada in the template accompanying that paper (<http://www.imf.org/external/np/fad/strfiscbal/index.htm>).

Each of the coloured bars identifies the change in the ratio of the accumulated deficit to GDP (the “debt ratio”), measured in percentage points of GDP, due to elements identified in Equation (2). Bars above the zero line indicate the influence is causing the debt ratio to increase; bars below the line indicate the influence is in the direction of reducing the debt ratio. The blue line identifies the vertical sum of the bars for any year and so measures the total observed change in the debt ratio for that year. For example, in 1987–88, one bar defines an influence pushing the debt ratio upward while the other bar defines an influence pulling the debt ratio downward. The two bars are of nearly equal size indicating that, as shown by the blue line, there was no overall change in the debt ratio in that year. Over the period from 1982–83 to 2013–14, the ratio of accumulated deficits to GDP decreased by just 1.6 percentage points of GDP.

The yellow bars identify the cyclical component. The cyclical component exhibits a wavy pattern of positive contributions to the debt ratio during periods of recession in the early 1980s, the early 1990s and with the most recent recession.<sup>14</sup> Periods of economic growth — the mid-1980s and from the mid-1990s to mid-2000s — saw the debt ratio fall as cyclically sensitive revenues increased and cyclically sensitive expenditures fell. Over the period from 1982–83 to 2013–14, the business cycle had added one percentage point to Manitoba’s debt ratio. The largest contributions to increasing the debt ratio came during the recessions of the early 1980s and 1990s, but over the entire period of analysis these increases were largely offset by decreases resulting from stronger than normal economic growth.

A more important explanation for movements in Manitoba’s debt ratio is due to the policy component as identified by the black bars in Figure 2. The policy component shows the effect on the debt ratio of discretionary changes in revenues and spending. A positive value for the policy component indicates that, given the economic environment, provincial fiscal policy choices will result in the accumulation of debt even when at full employment levels and the growth rate of output equals that of potential output. As the discussion in the previous section suggests, such a value for the policy component reflects a failure of government to respond to trends in its economic environment in a way that guarantees fiscal sustainability over the long term.

Over the entire period from 1982–83 to 2013–14, the policy component was responsible for decreasing Manitoba’s debt ratio by 2.6 percentage points of provincial GDP. The largest contributions in this regard came during the periods 1994–95 to 1997–98 and again from 2004–05 to 2008–09 when the government reduced debt on its operating account equal to 9.4 and 7.2 percentage points of provincial GDP, respectively. Unfortunately, these periods of fiscal probity were preceded by a period of debt accumulation on the operating account from 1982–83 to 1987–88 (which added debt equal to 9.8 percentage points of GDP) and followed by a recent bout of policy-induced debt accumulation in the last three years of our sample that have added debt equal to 2.6 percentage points of GDP.<sup>15</sup>

<sup>14</sup> Provincial business cycles do not start and end on the same date, do not share the same period and are not of the same amplitude. One should not therefore expect to see the exact same pattern in all provinces. For measures of how provincial employment cycles differ in timing, period and amplitude, see Ronald Kneebone and Margarita Gres, “Trends, Peaks, and Troughs: National and Regional Employment Cycles in Canada,” University of Calgary School of Public Policy Research Paper 6, 21 (University of Calgary, July 2013).

<sup>15</sup> As we have commented in earlier papers in this series, observing a positive (negative) value for the policy component in a year of economic contraction (expansion) might be interpreted as indicative of a discretionary counter-cyclical policy. That interpretation requires believing that discretionary provincial fiscal policies — particularly those stemming from changes in the government’s operating account — have a favourable influence on output and/or the Bank of Canada’s interest rate policies. Surely, governments of these small provinces in particular recognize that their fiscal policies can have no significant role to play in stabilizing output or influencing market interest rates. They may sensibly believe that investments in public infrastructure complementary to private production will bestow long-term benefits on the economy, but these investments should not involve their operating accounts.

An interesting interpretation of the pattern exhibited by the policy component is one associated with politics. For this purpose, party affiliations of the government in power are identified in Figure 2. Summing the increases in the debt ratio caused by the policy choices of the government in power allows one to identify what some might suggest is the proclivity of certain political parties to add or subtract government debt. The results of this exercise, reported below, suggest that in Manitoba there is little that differentiates NDP from Progressive Conservative governments when it comes to policy-induced debt accumulation. However, the pattern of policy-induced debt changes during their time in power is interesting. If one adheres to the usual stereotype of governments on the right of the political spectrum maintaining more fiscally conservative policies while those on the left choose to maintain a “looser” set of fiscal policies, then both parties began their mandates by going against type (i.e., the PCs increased debt while the NDP reduced debt) but ended them by returning to type (i.e., the PCs reduced debt while the NDP increased debt).

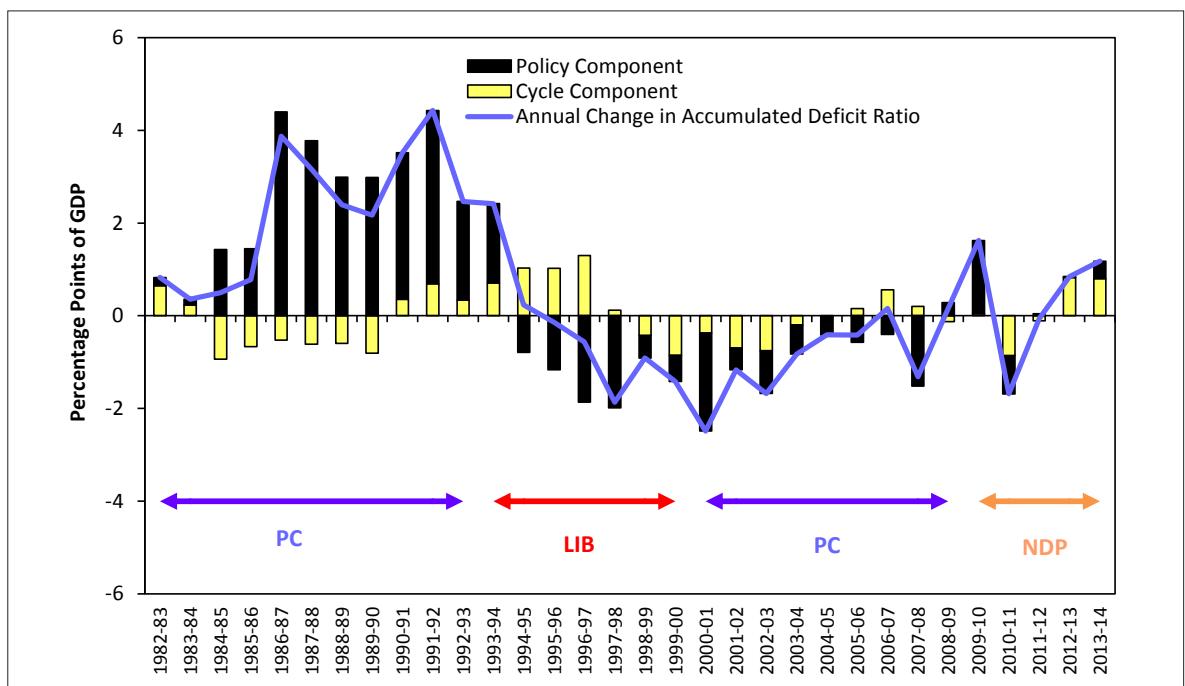
**POLITICAL BOX SCORE: MANITOBA**

Governing Party	Progressive Conservative Party (PC)	New Democratic Party (NDP)
Years as government	11	21
Total debt accumulated as a result of policy choices (percentage points of GDP)	-6.4	+3.9
Annual average amount of debt accumulated as a result of policy choices (percentage points of GDP)	-0.6	+0.2

**Nova Scotia**

Figure 3 presents the same information as Figure 2 but does so using data describing the finances of the government of Nova Scotia. The same vertical scale on the two figures is used to enable an easier comparison of the results for the two provinces. Over the entire period from 1982–83 to 2013–14, the debt ratio in Nova Scotia increased by 16.1 percentage points of provincial GDP.

**FIGURE 3 NOVA SCOTIA**



As expected when measuring the influence of the business cycle on debt accumulation over a long period of time, by the end of our 32-year period of analysis we identify the cycle as having left the debt ratio higher by only half of one percentage point. Over the same period, the policy component was responsible for leaving Nova Scotia's debt ratio 15.7 percentage points of provincial GDP higher than it was in 1981–82.

Policy-induced debt accumulation in Nova Scotia was very rapid from 1984–85 to 1993–94 when the debt ratio was increased by nearly 28 percentage points. This was followed by a 14-year stretch during which policy efforts cut that accumulated debt approximately in half, although debt remained, of course, considerably higher than it was in 1981–82. Much of Nova Scotia's fiscal policy efforts since the mid 1990s can be fairly assessed as an effort to undo the effects on the provincial debt and its credit rating of the previous lost decade of policy-induced debt accumulation.

Both Figure 3 and the political box score for Nova Scotia identify the culprit for that lost decade as the Progressive Conservative (PC) government of John Buchanan and the short-lived PC governments of Roger Bacon and Donald Cameron that followed. The Liberal and PC governments that came after lowered the debt ratio, though by not nearly so much as had been previously accumulated. The New Democrat government in power at the end of our sample began its mandate by reversing efforts at debt reduction.<sup>16</sup>

**POLITICAL BOX SCORE: NOVA SCOTIA**

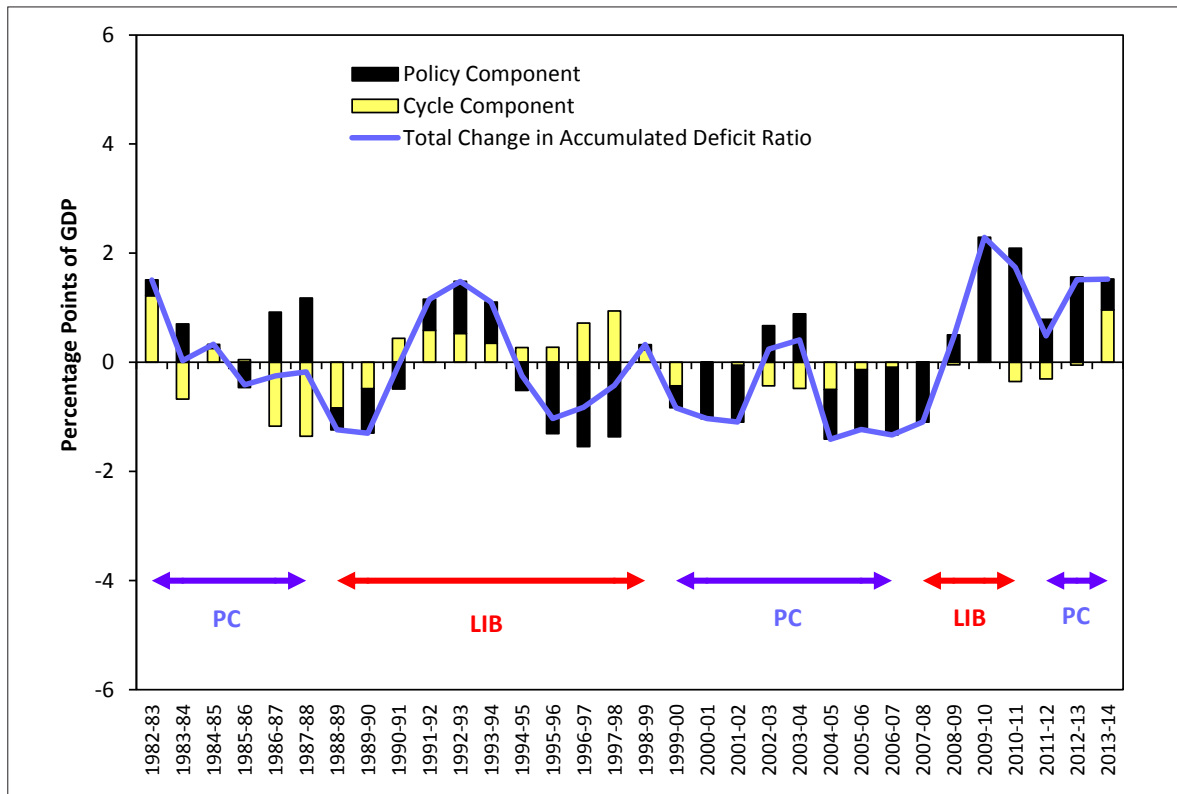
Governing Party	Progressive Conservative Party (PC)	New Democratic Party (NDP)	Liberal Party (LIB)
Years as government	20	5	7
Total debt accumulated as a result of policy choices (percentage points of GDP)	+19.6	+1.2	-5.1
Annual average amount of debt accumulated as a result of policy choices (percentage points of GDP)	+1.0	+0.2	-0.7

**New Brunswick**

Figure 4 identifies, for the government of New Brunswick, the contributions to the ratio of accumulated deficits to provincial GDP of the business cycle and government policy choices. Over the period from 1982–83 to 2013–14, the accumulated deficit on New Brunswick's operating account increased by less than 0.7 percentage points of provincial GDP.

<sup>16</sup> A new Liberal government was elected in October 2013. We assume that the policies of the previous government were the main drivers of budget outcomes for fiscal year 2013–14.

**FIGURE 4 NEW BRUNSWICK**



By the end of 2013–14, cyclical influences had accounted for a 0.5 percentage point decrease in the debt ratio relative to 1981–82. Policy choices, then, were responsible for a total of 1.2 percentage points of the overall increase in the debt ratio.

In contrast to Nova Scotia where policy choices in the 1980s demanded strong offsetting policy-induced debt reductions thereafter, in New Brunswick policy-induced additions to the accumulated deficit of the operating account have come late in our period of analysis. In the last six years of our sample, governments in New Brunswick have accumulated deficits on their operating accounts equal to nearly eight percentage points of provincial GDP.

**POLITICAL BOX SCORE: NEW BRUNSWICK**

Governing Party	Progressive Conservative Party	Liberal Party
Years as government	17	15
Total debt accumulated as a result of policy choices (percentage points of GDP)	+1.5	-0.3
Annual average amount of debt accumulated as a result of policy choices (percentage points of GDP)	+0.1	-0.0

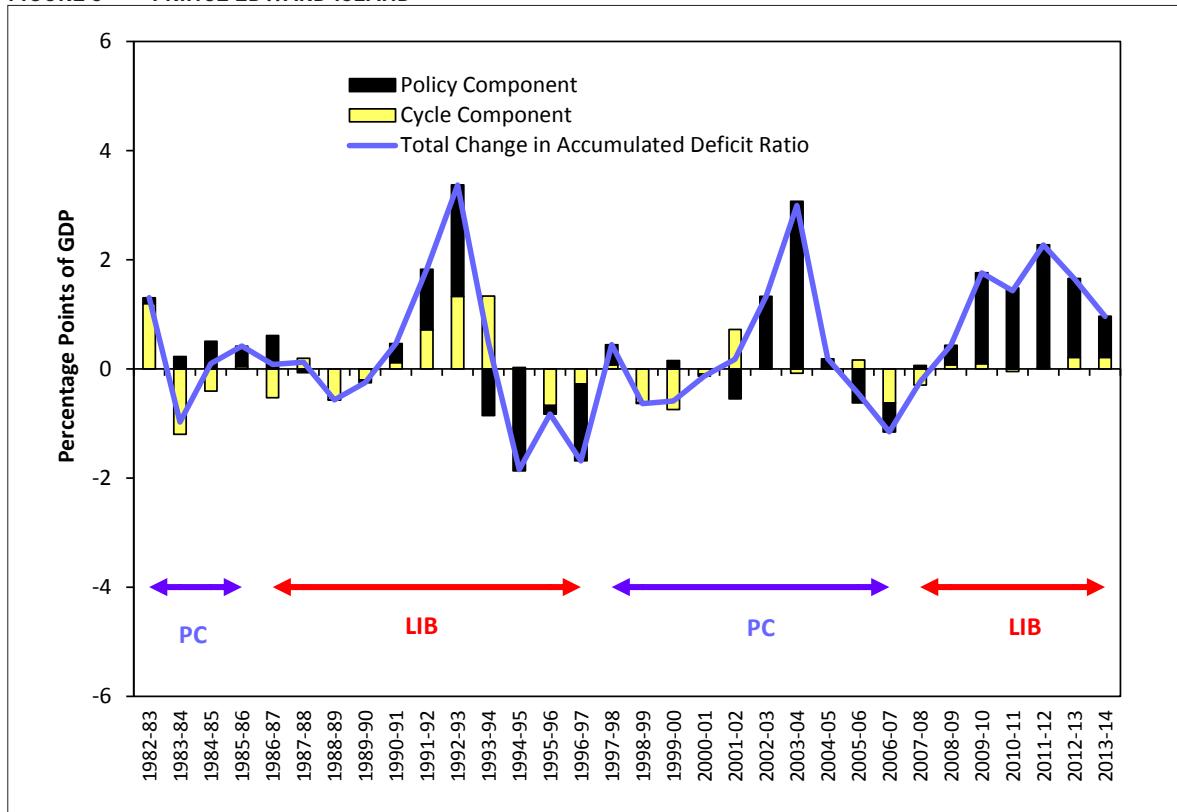
Remarkable for New Brunswick are the swings in policy-induced debt changes, often by the same governing political party. Thus, both Conservative and Liberal governments have in certain years both added and subtracted very large amounts to the debt ratio — although, as summarized in the political box score, neither added nor subtracted very much from the accumulated deficit on the operating account on average. Therefore, while each party has a similar record during their mandates when it comes to the accumulation of debt, both have also introduced with their policy

choices a good deal of volatility in the debt ratio. Finally, it is noteworthy that the rapid accumulation of policy-induced debt over the last six years of our sample has occurred under first a Liberal and then a Conservative government.

## Prince Edward Island

Figure 5 identifies, for Prince Edward Island, the contributions to the ratio of accumulated deficits to provincial GDP of the business cycle and government policy choices. Over the period from 1982–83 to 2013–14, the debt ratio in P.E.I. increased by 12.5 percentage points of provincial GDP.

**FIGURE 5 PRINCE EDWARD ISLAND**



The policy component was the largest contributor to operating account debt since 1981–82; policy choices increased the ratio of debt to GDP by 12.2 percentage points over the sample period. Particularly worrisome is the rapid accumulation of debt in the last five years of the sample; a period during which the ratio of accumulated deficits to GDP increased by 7.6 percentage points. This movement away from long-term balance on the operating account is unprecedented in the recent history of P.E.I.’s provincial finances.

The average annual and total amounts of debt accumulated by governments representing Progressive Conservative and Liberal parties reported in P.E.I.’s political box score suggest there is little difference between political parties when it comes to policy-induced debt accumulation. Figure 5 shows, however, that only the government of Liberal premier Catherine Callbeck (1993–96) was able to introduce policies that consistently reduced the operating account debt ratio. This effort, however, only offset the additions to debt introduced by her predecessor, former premier Joe Ghiz.



## POLITICAL BOX SCORE: PRINCE EDWARD ISLAND

Governing Party	Progressive Conservative Party (PC)	Liberal Party (LIB)
Years as government	14	18
Total debt accumulated as a result of policy choices (percentage points of GDP)	+4.5	+7.7
Annual average amount of debt accumulated as a result of policy choices (percentage points of GDP)	+0.3	+0.4

## 6. DISCUSSION

As Figure 1 illustrates, the four provinces have performed rather differently with respect to their efforts to control the accumulation of debt on their operating accounts. This is despite some common constraints. Most important of these is the rapid increase in health-care spending that has, especially since 1999–2000, absorbed steadily more from total provincial revenues.

### PERCENTAGE OF TOTAL REVENUE SPENT ON HEALTH CARE

	Manitoba	Nova Scotia	New Brunswick	P.E.I.
1980-81	30.8%	28.0%	23.6%	31.7%
1999-00	32.7%	37.0%	25.4%	34.5%
2013-14	40.1%	42.8%	35.9%	43.5%

Source: Provincial public accounts, reported in the Appendix.

Note: The data for P.E.I. is for spending on health and social services combined.

Particularly during the 20 years leading up to 2000, New Brunswick proved quite successful at maintaining a balance on its operating account even over the short term. Since 2000, a series of policy-induced surpluses were followed by a series of deficits that were largely offsetting. Over the 32 years of our sample, New Brunswick did the best of the four provinces in staying close to balance on its operating account and so ensuring its budget would not be the source of instability that might lessen the resilience of the private economy to absorb shocks. To continue this enviable record, however, the provincial government needs to reverse its recent string of six consecutive years of sizable policy-induced deficits. Balancing its budget will require a combination of tax increases and spending cuts equal to \$500 million; an amount equal to 6.5 per cent of program expenditures.<sup>17</sup> This effort is made challenging by the size and rapid growth of the health-care budget, a particularly acute problem in New Brunswick.

Taking a long view, Manitoba has also found success at avoiding the accumulation of debt on its operating account. The long view, however, hides the rapid accumulation of debt up until the mid-1990s, almost all of it policy-driven. Since then, a long string of policy-induced surpluses have erased that early accumulation of debt. The near-term challenge for Manitoba is to halt the string of three policy-induced deficits that have resulted in the province adding 2.6 percentage points of GDP to its accumulated operating account deficit; a challenge made difficult by the fact that health-care spending has increased by an average of 6.5 per cent per year since 2000, the largest rate of increase amongst these four provinces and considerably faster than the five per cent average annual rate of growth in revenue experienced over the same period.

<sup>17</sup> This is based on the 2013–14 budget. Given the recent economic downturn, the necessary adjustment is likely larger than this.

Whereas Manitoba spent the latter part of our sample period recovering from an early accumulation of debt, the government of P.E.I. did the opposite; after 20 years of maintaining more or less balanced operating accounts, the provincial government initiated a string of large, policy-induced operating account deficits. Since 1999–2000, the province has added over 11 percentage points to its accumulated operating account deficit, almost all of it the result of policy choices. Driven largely by health-care spending (averaging 5.7 per cent per year since 1999–2000), growth in program spending (averaging 4.7 per cent since 1999–2000) has been allowed to outpace revenue growth (averaging 3.9 per cent since 1999–2000) by a significant margin. Measures are clearly required for P.E.I. to return to long-term balance on its operating account. To minimize potentially negative impacts of this adjustment on the ability of the private sector to respond to shocks, a long-term plan for gradual adjustment is required. The first steps must be aimed at closing the gap between the rates of growth in program spending (4.7 per cent) and revenue (3.9 per cent) experienced since 1999–2000.

Of the four governments being examined here, the government of Nova Scotia has proved to be the least able to establish even a long-term balance on the accumulation of debt on its operating account. This assessment, however, is all due to the lost decade of policy-induced debt accumulation from 1984–85 to 1993–94, a period during which policy choices caused the debt on the operating account to increase by nearly 28 percentage points of GDP. To their credit, governments since 1993–94 have more or less consistently introduced budget changes that have reduced the accumulated deficit. This effort to reduce debt has recently halted, however, leaving the province with an accumulated deficit on its operating account that is 16 percentage points higher than it was in 1981–82. The effort to gradually reduce debt needs to be renewed so as to remove the potential for sudden, large tax increases and spending cuts of the sort that lessen the resiliency of the private economy to deal with shocks.

## **7. CONCLUSION**

The purpose of this study was to gain an understanding of how policy choices and movements in the business cycle have each influenced the amount of debt accumulated in the four Canadian provinces most vulnerable to economic shocks. In producing these measures we have been able to offer comment on the success these governments have had in contributing to the resiliency of these economies to recover from shocks to which small, open economies are particularly prone.

An understanding of what drives the accumulation of government debt requires a time series describing government finances that is internally consistent insofar as the effect of spending and revenue choices on debt can be clearly identified. An important contribution of this paper was to construct a database of provincial government finances that allows this to be done. Those data are provided in the Appendix.

Another contribution of this study was to define an accounting framework that allows one to identify how much government debt has been accumulated as a consequence of policy choices, as opposed to the effects of the business cycle. This framework emphasizes that governments should be held accountable for paying the interest on the debts they have inherited from previous governments and that to warrant being labelled fiscally responsible requires that governments respond to changes in the economic environment.

The data available for this study end with the 2013–14 fiscal year. The fiscal year that is about to end, 2014–15, has produced new challenges for many provinces — particularly those reliant on oil production — but is forecast to be a relatively good year for the small and vulnerable provinces examined here. During 2015 all of these provinces, with the exception of P.E.I., are forecast to enjoy faster growth in real GDP than the Canadian average and significantly faster than what they experienced in 2014.<sup>18</sup> At least in the near term then, the small and exposed provinces have an opportunity to introduce policy changes that will build on what may also be cyclically induced reductions in their deficits.

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<sup>18</sup> See, for example, TD Economics, *Provincial Economic Forecast Update*, January 26, 2015.

## APPENDIX

The following four tables present the provincial budget data used in this study. These data come from the public accounts of the four provinces and are measured in millions of nominal dollars.

As explained in the text, what we record as the accumulated deficit is the sum of annual deficits in the operating account since 1979–80. The accumulated deficit differs from measures of net debt as the latter includes the accumulated deficits from government funds other than the operating account.

Our analysis requires an initial value for the accumulated deficit. For this purpose we use the net debt for each province in 1979–80 as reported in the Fiscal Reference Tables (FRT) published by the federal Department of Finance in October 2002. Our calculations of the cycle and policy components rely on *changes* in the operating account debt ratio and so are not critically dependent on this initial value.

Similar data to ours are contained in the FRT published by the Department of Finance each year since 1996. However, the data in the following tables go beyond what is found in the FRT by reporting not only total spending and total revenue, but also revenues and expenditures by major categories. Where our data and the FRT overlap, the two sets of data closely match, although there are some differences to note.

One difference is for Nova Scotia where, for years only since 2011–12, the FRT subtract net income from government business enterprises to arrive at total revenue. In other years, the FRT do not make this adjustment. We do not subtract this amount because the government's definition of its general revenue fund — which is intended to represent all departments and public service units of the provincial government while excluding other units and government business enterprises — includes this amount, and because what is reported in the public accounts does not allow for subtracting it prior to 1999–2000.

In P.E.I., our data represent what the province defines as its *operating fund*. Data in the FRT represent the province's operating fund only up until 2001–02; it reports the revenues and expenditures of the province's *consolidated statement of operations* thereafter. The consolidated statement of operations includes the revenues and expenditures associated with agencies, boards and Crown corporations owned or controlled by the province. In P.E.I., spending on health and social services is separated only since 2005–06. Prior to that time, these amounts are reported only in aggregate.

**MANITOBA**

Fiscal Year	Revenue						Expenditure							Annual Operating Account Deficit	Accumulated Deficit since 1979-80
	Personal Income Tax	Corporate Income Tax	Retail Sales Tax	Federal Cash Transfers	Other Own-Source Revenue	Total Revenue	Health	Social Services	Educa-tion	Other Program Expendi-ture	Total Program Expendi-ture	Debt Charges	Total Expendi-ture		
1980-81	413	112	243	834	367	1,968	606	207	396	770	1,979	79	2,058	90	1,064
1981-82	514	115	269	838	445	2,181	746	244	494	835	2,318	114	2,432	251	1,315
1982-83	631	54	272	919	532	2,409	905	264	571	942	2,682	162	2,844	435	1,749
1983-84	596	111	362	1,038	690	2,797	1,000	299	543	1,145	2,986	240	3,226	429	2,178
1984-85	587	130	397	1,081	730	2,925	1,072	339	653	1,119	3,183	224	3,407	483	2,661
1985-86	650	127	443	1,095	802	3,117	1,149	366	663	1,194	3,372	273	3,645	528	3,189
1986-87	760	119	469	1,156	882	3,387	1,238	398	684	1,273	3,594	352	3,946	559	3,748
1987-88	989	167	574	1,306	998	4,034	1,337	453	757	1,360	3,907	431	4,338	305	4,053
1988-89	1,030	201	595	1,568	1,149	4,543	1,429	456	808	1,417	4,110	375	4,485	-58	3,995
1989-90	1,031	152	622	1,658	1,143	4,606	1,521	485	871	1,446	4,323	425	4,748	142	4,137
1990-91	1,149	78	606	1,695	1,217	4,745	1,645	536	936	1,483	4,600	437	5,037	292	4,429
1991-92	1,218	105	566	1,821	1,227	4,937	1,738	606	956	1,484	4,784	487	5,271	334	4,763
1992-93	1,090	144	576	1,749	1,339	4,898	1,801	675	1,002	1,423	4,901	563	5,464	566	5,329
1993-94	1,218	136	642	1,628	1,282	4,906	1,792	655	1,009	1,297	4,753	584	5,337	431	5,760
1994-95	1,178	145	687	1,895	1,288	5,193	1,757	655	943	1,128	4,483	597	5,080	-113	5,647
1995-96	1,315	177	722	1,867	1,575	5,656	1,816	665	953	1,145	4,579	594	5,173	-483	5,164
1996-97	1,412	241	761	1,712	1,369	5,495	1,815	657	959	1,122	4,553	539	5,092	-403	4,761
1997-98	1,431	193	830	1,864	1,424	5,742	1,852	657	1,009	1,326	4,844	520	5,364	-378	4,383
1998-99	1,807	215	883	1,701	2,026	6,632	2,122	764	1,635	1,721	6,242	517	6,759	127	4,510
1999-00	1,611	307	918	2,270	2,096	7,202	2,354	819	1,806	1,768	6,747	479	7,226	24	4,534
2000-01	1,757	444	933	2,288	2,189	7,610	2,616	854	1,915	1,597	6,982	514	7,496	-114	4,420
2001-02	1,659	306	966	2,350	2,322	7,603	2,740	893	1,998	1,593	7,224	502	7,726	123	4,543
2002-03	1,636	160	1,007	2,405	2,711	7,919	2,955	930	2,059	1,684	7,628	367	7,995	76	4,619
2003-04	1,720	289	1,064	2,716	2,586	8,375	3,301	965	2,169	1,795	8,230	329	8,559	184	4,803
2004-05	1,842	402	1,125	3,174	3,597	10,140	3,560	1,020	2,309	1,924	8,813	765	9,578	-562	4,241
2005-06	1,949	373	1,198	3,103	4,102	10,725	3,849	1,075	2,366	2,270	9,560	790	10,350	-375	3,866
2006-07	2,130	311	1,277	3,320	4,347	11,385	3,956	1,142	2,948	2,109	10,155	745	10,900	-485	3,381
2007-08	2,285	367	1,391	3,597	4,797	12,437	4,224	1,224	3,218	2,380	11,046	815	11,861	-576	2,805
2008-09	2,455	386	1,569	3,866	4,487	12,763	4,590	1,192	3,091	2,609	11,482	830	12,312	-451	2,354
2009-10	2,402	257	1,527	3,924	4,537	12,647	4,831	1,295	3,125	2,841	12,092	756	12,848	201	2,555
2010-11	2,592	330	1,576	4,047	4,695	13,240	5,044	978	3,218	3,406	12,646	773	13,419	179	2,734
2011-12	2,700	424	1,658	4,332	4,741	13,855	5,328	1,013	3,389	4,309	14,039	815	14,854	999	3,733
2012-13	2,846	456	1,767	3,953	4,592	13,614	5,454	1,035	3,339	3,507	13,335	839	14,174	560	4,293
2013-14	2,978	468	2,028	3,842	4,898	14,214	5,706	1,074	3,562	3,573	13,915	821	14,736	522	4,815

**NOVA SCOTIA**

Fiscal Year	Revenue						Expenditure							Annual Operating Account Deficit	Accumulated Deficit since 1979-80
	Personal Income Tax	Corporate Income Tax	Retail Sales Tax	Federal Cash Transfers	Other Own-Source Revenue	Total Revenue	Health	Social Services	Educa-tion	Other Program Expendi-ture	Total Program Expendi-ture	Debt Charges	Total Expendi-ture		
1980-81	291	62	325	685	202	1,565	438	159	329	659	1,586	184	1,770	205	1,050
1981-82	339	72	340	939	200	1,891	539	200	549	588	1,876	242	2,118	227	1,277
1982-83	418	44	432	954	272	2,119	622	236	660	515	2,033	354	2,388	269	1,546
1983-84	443	57	500	1,023	301	2,324	690	259	707	496	2,152	407	2,559	235	1,781
1984-85	474	70	596	1,091	319	2,550	755	283	738	543	2,319	471	2,790	240	2,021
1985-86	544	78	644	1,120	330	2,715	816	299	738	592	2,444	539	2,984	269	2,290
1986-87	594	81	684	1,011	301	2,672	845	182	774	1,052	2,853	558	3,411	740	3,030
1987-88	684	96	758	1,073	303	2,913	909	195	824	1,101	3,028	566	3,594	681	3,711
1988-89	716	128	810	1,217	328	3,198	988	219	881	1,158	3,246	560	3,806	608	4,319
1989-90	791	133	870	1,259	348	3,401	1,071	247	928	1,215	3,462	571	4,033	632	4,951
1990-91	910	103	907	1,294	339	3,554	1,135	276	977	1,311	3,699	672	4,371	817	5,768
1991-92	955	69	860	1,283	367	3,533	1,207	303	1,002	1,340	3,852	695	4,547	1,014	6,782
1992-93	915	67	886	1,233	654	3,754	1,281	242	1,001	1,194	3,718	652	4,370	615	7,397
1993-94	932	80	955	1,195	649	3,811	1,215	277	979	1,145	3,615	745	4,360	549	7,946
1994-95	905	93	992	1,478	663	4,131	1,177	276	958	1,153	3,565	802	4,366	235	8,181
1995-96	882	99	1,012	1,543	701	4,237	1,223	301	916	1,217	3,658	780	4,438	201	8,382
1996-97	952	112	1,026	1,707	449	4,246	1,267	545	900	838	3,551	760	4,310	64	8,446
1997-98	998	122	717	1,830	759	4,425	1,410	557	901	883	3,750	654	4,404	-21	8,425
1998-99	992	119	723	1,769	947	4,551	1,632	566	906	957	4,061	762	4,823	273	8,697
1999-00	1,145	149	755	1,865	871	4,784	1,770	583	879	1,062	4,294	827	5,121	337	9,034
2000-01	1,229	170	804	1,946	943	5,091	1,747	584	873	971	4,175	873	5,047	-44	8,991
2001-02	1,274	194	853	1,889	1,030	5,240	1,838	638	904	1,025	4,405	949	5,355	114	9,105
2002-03	1,354	205	905	1,769	1,057	5,290	1,996	668	933	820	4,418	847	5,264	-25	9,080
2003-04	1,350	233	975	1,831	958	5,347	2,166	659	982	975	4,783	845	5,628	281	9,360
2004-05	1,462	329	1,031	2,175	860	5,858	2,369	704	1,011	1,115	5,199	890	6,089	232	9,592
2005-06	1,568	362	1,058	2,266	1,008	6,262	2,647	711	1,072	1,166	5,596	863	6,460	198	9,789
2006-07	1,679	393	1,091	2,570	1,562	7,294	2,898	818	1,187	1,675	6,579	930	7,508	215	10,004
2007-08	1,778	389	1,075	3,023	1,913	8,179	3,014	870	1,230	2,094	7,208	925	8,133	-46	9,958
2008-09	1,818	325	1,175	2,947	1,869	8,135	3,166	891	1,262	2,330	7,648	867	8,515	380	10,338
2009-10	1,828	363	1,187	3,240	1,586	8,204	3,372	945	1,279	2,451	8,047	823	8,870	666	11,004
2010-11	1,961	409	1,479	3,155	1,854	8,858	3,592	958	1,130	2,217	7,898	848	8,746	-112	10,892
2011-12	2,058	417	1,598	3,049	1,867	8,989	3,758	976	1,131	2,527	8,392	843	9,235	246	11,138
2012-13	2,143	429	1,649	3,145	1,868	9,234	3,857	942	1,111	2,791	8,700	897	9,598	364	11,502
2013-14	2,193	426	1,660	3,273	1,592	9,143	3,913	942	1,116	2,984	8,955	857	9,812	669	12,171



**NEW BRUNSWICK**

Fiscal Year	Revenue						Expenditure							Annual Operating Account Deficit	Accumulated Deficit since 1979-80
	Personal Income Tax	Corporate Income Tax	Retail Sales Tax	Federal Cash Transfers	Other Own-Source Revenue	Total Revenue	Health	Social Services	Educa-tion	Other Program Expendi-ture	Total Program Expendi-ture	Debt Charges	Total Expendi-ture		
1980-81	225	75	201	525	510	1,535	362	161	306	550	1,380	126	1,505	-30	752
1981-82	264	86	214	639	570	1,772	423	179	363	674	1,638	157	1,796	23	776
1982-83	321	33	232	899	460	1,945	542	219	501	676	1,937	211	2,148	203	978
1983-84	348	40	328	963	535	2,213	576	232	540	713	2,060	285	2,345	132	1,110
1984-85	356	64	370	996	587	2,373	621	258	560	732	2,171	336	2,507	134	1,244
1985-86	403	86	430	1,128	616	2,663	721	233	591	800	2,345	369	2,714	51	1,295
1986-87	416	67	467	1,143	677	2,770	779	247	627	843	2,496	395	2,891	121	1,416
1987-88	512	76	514	1,220	703	3,025	856	259	677	925	2,717	415	3,132	107	1,523
1988-89	542	120	588	1,300	773	3,323	913	263	728	928	2,832	427	3,259	-64	1,459
1989-90	608	115	624	1,404	833	3,583	995	268	772	998	3,034	437	3,471	-113	1,347
1990-91	678	78	624	1,442	880	3,702	1,084	292	820	1,053	3,249	475	3,724	22	1,369
1991-92	680	92	591	1,421	978	3,762	1,143	326	884	1,119	3,472	476	3,948	185	1,554
1992-93	626	38	603	1,743	985	3,994	1,197	323	976	1,232	3,728	538	4,266	272	1,826
1993-94	728	90	646	1,517	1,042	4,023	1,242	305	1,009	1,132	3,688	585	4,273	250	2,076
1994-95	698	160	691	1,626	1,126	4,300	1,291	296	979	1,159	3,724	645	4,369	69	2,144
1995-96	787	114	732	1,623	1,170	4,426	1,309	296	970	1,205	3,780	595	4,375	-51	2,093
1996-97	825	237	729	1,521	1,159	4,471	1,317	303	981	1,192	3,791	564	4,356	-115	1,978
1997-98	810	206	585	1,653	1,220	4,474	1,316	302	870	1,377	3,865	574	4,439	-35	1,943
1998-99	780	117	593	2,122	875	4,486	1,419	372	879	1,364	4,034	616	4,651	164	2,108
1999-00	900	141	591	1,826	1,380	4,838	1,228	650	874	1,468	4,219	611	4,830	-8	2,100
2000-01	910	179	653	1,795	1,298	4,835	1,290	656	874	1,261	4,082	637	4,719	-116	1,984
2001-02	910	180	660	2,035	1,467	5,251	1,411	683	940	1,388	4,421	652	5,073	-179	1,805
2002-03	911	135	736	1,930	1,550	5,261	1,577	698	1,020	1,414	4,710	661	5,371	109	1,915
2003-04	952	111	803	1,918	1,728	5,512	1,789	717	1,061	1,561	5,127	582	5,709	197	2,111
2004-05	1,000	173	723	2,355	1,792	6,043	1,837	731	1,077	1,596	5,241	580	5,820	-223	1,888
2005-06	1,064	150	839	2,393	1,942	6,387	1,958	775	1,310	1,529	5,572	590	6,162	-225	1,663
2006-07	1,175	218	872	2,531	1,961	6,756	2,110	818	1,306	1,687	5,921	558	6,479	-277	1,386
2007-08	1,256	267	841	2,721	2,106	7,190	2,272	903	1,431	1,767	6,374	576	6,949	-241	1,144
2008-09	1,323	111	1,061	2,764	1,972	7,231	2,446	942	1,452	1,942	6,782	601	7,383	152	1,296
2009-10	1,306	200	934	2,941	1,739	7,121	2,588	984	1,622	2,015	7,209	607	7,816	696	1,992
2010-11	1,250	258	1,055	2,930	2,050	7,543	2,687	1,038	1,724	2,070	7,519	642	8,160	617	2,610
2011-12	1,262	229	1,128	2,874	2,313	7,806	2,730	1,030	1,749	1,880	7,389	662	8,051	245	2,854
2012-13	1,224	209	1,170	3,001	2,185	7,788	2,786	1,053	1,788	2,009	7,635	660	8,295	508	3,362
2013-14	1,370	223	1,062	2,875	2,234	7,764	2,790	1,077	1,822	1,912	7,600	662	8,262	499	3,861

**PRINCE EDWARD ISLAND**

Fiscal Year	Revenue						Expenditure						Annual Operating Account Deficit	Accumulated Deficit since 1979-80	
	Personal Income Tax	Corporate Income Tax	Retail Sales Tax	Federal Cash Transfers	Other Own-Source Revenue	Total Revenue	Health	Social Services	Educa-tion	Other Program Expendi-ture	Total Program Expendi-ture	Debt Charges			Total Expendi-ture
1980-81	33	5	36	163	67	305	97		75	106	277	34	312	7	97
1981-82	38	8	41	186	78	351	111		83	106	301	44	345	-6	91
1982-83	45	3	46	195	85	374	131		92	125	348	51	399	25	116
1983-84	48	8	55	212	93	417	140		96	127	363	55	418	2	117
1984-85	51	8	60	213	130	461	145		102	159	406	60	466	5	122
1985-86	55	10	65	227	100	457	155		107	148	410	62	472	14	137
1986-87	61	10	68	244	108	491	168		116	158	442	67	510	19	156
1987-88	77	18	77	245	117	533	182		125	168	475	71	546	13	169
1988-89	86	18	86	282	128	600	196		134	194	524	81	605	5	173
1989-90	99	15	93	299	140	647	213		146	208	566	87	653	7	180
1990-91	103	13	95	312	155	678	232		152	217	601	95	696	19	199
1991-92	107	16	91	300	166	680	250		161	214	625	103	729	48	247
1992-93	98	9	94	303	172	676	264		166	221	651	113	764	88	335
1993-94	116	15	102	282	224	739	286		179	195	661	111	772	33	368
1994-95	105	20	113	332	242	812	282		129	248	659	117	776	-37	332
1995-96	120	18	125	308	221	793	281		121	268	669	120	789	-4	328
1996-97	130	20	130	287	233	800	295		139	214	648	118	766	-34	294
1997-98	137	25	123	292	210	788	296		169	237	702	102	804	16	310
1998-99	130	27	133	350	212	852	299		186	265	750	101	852	0	309
1999-00	161	18	145	353	223	900	311		179	307	797	103	899	-1	308
2000-01	141	36	153	383	237	952	334		192	329	855	108	963	12	320
2001-02	156	27	158	400	231	974	371		196	319	885	106	991	17	337
2002-03	174	25	165	341	244	950	403		200	317	920	101	1,021	71	408
2003-04	165	30	172	387	243	996	425		225	373	1,023	104	1,127	130	539
2004-05	178	27	173	444	244	1,065	432		227	337	995	102	1,097	32	571
2005-06	205	38	180	444	265	1,132	343	110	226	567	1,021	114	1,134	2	573
2006-07	218	43	186	474	274	1,195	354	111	231	595	1,059	117	1,176	-19	554
2007-08	230	39	188	518	286	1,261	378	111	183	672	1,161	116	1,277	15	569
2008-09	236	28	195	558	312	1,330	410	119	196	734	1,264	106	1,370	40	609
2009-10	245	30	204	639	308	1,426	508	92	211	838	1,438	102	1,539	113	723
2010-11	259	36	206	641	295	1,437	514	95	220	833	1,442	106	1,548	110	833
2011-12	286	42	214	631	308	1,481	536	100	223	893	1,529	105	1,633	152	985
2012-13	300	52	212	595	283	1,443	554	92	229	802	1,449	114	1,562	119	1,105
2013-14	318	47	244	652	279	1,541	578	93	238	853	1,523	114	1,637	96	1,201

### **About the Author**

**Ron Kneebone** is a Professor of Economics and Director of Economic & Social Policy in The School of Public Policy, both at the University of Calgary. His current research is examining the characteristics of Canadian federal, provincial and municipal fiscal policy choices, the problem of homelessness and income supports for persons with disabilities.

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