



Ontario's Debt Balloon

SOURCE AND SUSTAINABILITY

Jean-François Wen



February 2015

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Executive Summary

The Ontario government's net debt has expanded from 28% of the provincial economy in 2008/09 to an expected 40% in 2014/15. This represents an increase of over \$117 billion or \$7,800 more debt per Ontarian. The debt-to-GDP ratio is now much higher than during the fiscally challenging decade of the 1990s, when it peaked at 32%. The growth in debt since the recession is due mainly to exceptionally high spending rather than weakness in revenues. By 2010/11, revenues were back above their pre-recession level but the gap between spending and revenues had grown enormously.

What forms of spending caused Ontario's debt take off? Was it investments in infrastructure or current spending on government operations? The answer matters because higher current expenses (or "operating" expenses) should be paid for with current taxes. In contrast to current expenses, spending on infrastructure creates physical assets, such as highways and hospitals, that generate benefits for many years, often decades. While it can make sense to use debt to finance long-lived assets and to repay the capital debt gradually as the assets wear out, borrowing to pay for current expenses is harder to justify because it puts future taxpayers on the hook for today's benefits. The result is an intergenerational inequity.

The study finds that Ontario's increased debt since the recession is primarily attributable to operating deficits, rather than capital investments. More specifically, about 66% of the *increase* in provincial government debt from 2009/10 to 2014/15 is due to current expenses exceeding revenues. Even over the longer term from 2002/03 to 2017/18, current expenses are the main cause of the rise in debt. In other words, Ontario has gone deeper into debt to pay for spending that the current generation of taxpayers will enjoy while passing on the bill to future generations.

Although the Ontario government is planning to eliminate its operating deficit by 2017/18, it is important to understand that achieving a balanced operating budget does not necessarily mean that debt will stop growing. This is because the operating budget only includes current expenses, not the cost of capital investments. Thus, the government's plan to make significant infrastructure investments over the next decade will conflict with the need to restrain provincial debt.

The study also finds that Ontario's debt has been growing at an unsustainable rate, implying that spending cuts or tax increases are required to reduce the debt over the longer term. Otherwise, maintaining unsustainable fiscal policies will likely provoke further credit rating downgrades.

The study uses two indicators to assess whether Ontario's fiscal policies since 2001/02 are sustainable. The first examines whether the present value of Ontario's debt projected in the government's fiscal outlook for 2017/18, from the standpoint of 2001/02, is above the value of the debt in 2001/02. This is a period that spans 16 fiscal years, which is a sufficiently long period of time to smooth out the effects of the business cycle. Under this indicator, fiscal policy is unsustainable.

The second indicator of sustainability assesses whether the government can finance its debt in the future, based on long-term forecasts of economic growth in Ontario and interest rates on government borrowing, along with a projection of future primary surpluses (revenue less program spending, which excludes interest payments on debt). The ability of the Ontario government to generate primary surpluses to curtail future debt growth is gauged by its record of primary surpluses as a share of GDP beginning with 2002/03. Based on the average value of the ratio of primary surpluses to GDP observed in the past, Ontario fails the second indicator for sustainability.

The analysis suggests that Ontario must reduce spending or raise taxes to slow the growth in debt and to pay down the debt over the longer term. By not changing course from the status quo, Ontario's debt-to-GDP ratio may reach 51% by 2017/18 (as estimated by the "Drummond Report") or potentially as high as 66% by 2019/20 (as estimated by Kneebone and Gres, 2013). Research by Alesina and Ardagna (2010) based on the experiences of OECD countries shows that fiscal adjustments achieved through spending cuts without tax increases tend to be more successful in lowering operating deficits and debt-to-GDP ratios than adjustments based on tax increases.

The lesson is that it pays for governments to be prudent during years of relatively good economic performance. Although Ontario ran primary surpluses from 2002/03 to 2007/08, these were insufficient to offset the subsequent expansion in spending and interest on the debt after the 2008/09 recession.

Introduction

The Ontario government's net debt has expanded from 28% of the provincial economy in 2008/09 to an expected 40% in 2014/15. This represents an increase of over \$117 billion or \$7,800 more debt per person. The debt-to-GDP ratio is now much higher than during the fiscally challenging decade of the 1990s, when it peaked at 32%.¹ Although the recession in 2008/09 weakened Ontario's tax revenues, by 2010/11 revenues were above their pre-recession level but the gap between spending and revenues had grown enormously.² What forms of spending made Ontario's debt take off? This study shows that the province's debt trajectory since the recession is primarily attributable to current expenses rather than capital investments. Even over the longer perspective from 2002/03 to 2017/18, current expenses are the predominant cause of the rising debt.

Current expenses resemble consumption: resources are used up to operate government programs over the course of a single year. In contrast to current expenses, spending on infrastructure creates physical assets, such as highways and hospitals, that generate benefits for many years, often decades. While it can make sense to use debt to finance long-lived assets and to repay the capital debt gradually as the assets wear out, borrowing to pay for current expenses is harder to justify. It puts future taxpayers on the hook for today's benefits. In Ontario's case, the province has gone deeper into debt to pay for spending that the current generation of taxpayers will enjoy while passing on the bill to future generations. This has resulted in an intergenerational inequity.

Despite statements in the Ontario government's annual budgets highlighting new infrastructure spending, 66% of the increase in the provincial debt over the fiscal years from 2009/10 to 2014/15 has been the result of current expenses exceeding revenues. In contrast, British Columbia's increase in debt over the same period is largely due to budgeting for capital investments (Wen, 2014). Part of the growth of Ontario's government debt is the result of expansionary fiscal policy following the recession of 2008/09.³

1. In this paper, public debt refers to net public debt—that is, the difference between total liabilities and net financial assets. This is the measure most commonly used in discussing government debt.

2. See also Kneebone and Wilkins (2014) who show that systemic overspending, rather than the business cycle, is the main culprit of Ontario's increase in debt.

3. Other issues, such as public pension enhancements, have also been identified. *Ontario Budget 2010* carried through on previously announced tax cuts totalling \$15 billion over three years. Current expenses shot up by about \$12 billion in 2009/10 compared to the

Whatever the merits or faults of the Ontario government's response to the recession, the province's fiscal policies have led to an unsustainable rise in debt, which will require many years of spending cuts or tax increases to address. The government's Commission on the Reform of Ontario's Public Services (the "Drummond Report"), calculated in 2012 that, if no substantive changes were made to the government's fiscal plan, the debt-to-GDP ratio would reach almost 51% by 2017/18 (Ontario Ministry of Finance, 2012). Projections by Kneebone and Gres (2013) are more sobering and show debt reaching 66% by 2019/20. Ontario's credit rating was downgraded in 2012 and, in July 2014, both Moody's and Standard & Poor's lowered their outlook on the province's debt from stable to negative. Credit rating reductions have the potential to create a debt spiral: as the interest rates on government borrowing are pushed up by the risk of default, the larger debt servicing costs are met by more borrowing. Importantly, Ontario's debt charges are increasing despite historically low interest rates. A consequence of an unsustainable rise in debt for Ontarians is that an ever larger portion of tax revenues must be diverted to interest payments. In 2014/15, more than 9 cents per revenue dollar went to paying interest on the provincial debt and not for public programs that Ontarians care about or tax relief that improves provincial competitiveness.

In 2002/03, Ontario adopted a new model for financial reporting known as capital budgeting, as recommended by the Public Sector Accounting Board (PSAB) (Ontario Ministry of Finance, 2003). Before then, capital expenditures were treated as equivalent to operating expenses. The Ontario government began tracking its tangible capital assets as of April 1, 2002. Under capital budgeting, the annual increase in public debt consists of two parts: an operating budget deficit, which represents the financial shortfall attributable to current expenses, and a capital budget deficit, which represents the shortfall resulting from new capital expenditures. Ontario's budget documents do not explicitly give the capital budget deficit but, under certain assumptions, it is equal to the gap between the change in public debt and the reported operating deficit. The point of this decomposition of the change in debt is that current expenses ought to be covered by current taxes, since the program benefits occur in the current year. In contrast, spending on infrastructure creates benefits for many generations of taxpayers, so it is fair to spread the costs over time by borrowing and gradually repaying the debt with future taxes.

This study analyzes Ontario's debt trajectory over the 16-year period from 2002/03 to 2017/18, using the *Ontario Public Accounts*, *Ontario Budget 2014* and the *Ontario Economic Outlook and Fiscal Review 2014* (Ontario Ministry of Finance,

previous year, led by the auto-sector bailout (\$3.0 billion) and additions to funding of Long-Term Health Care (\$2.4 billion), Agriculture and Rural Affairs (\$1.0 billion), Training, Colleges and Universities (\$1 billion), and Education (\$0.7 billion).

various years, 2014b, 2014c). The study has two purposes: (1) to examine the contributions made by the operating budget deficit and the capital budget deficit to the rise in debt and (2) to examine the sustainability of the government's fiscal policies. Section 1 explains why the numerical difference between the change in public debt and the operating budget deficit can be interpreted as a capital budget deficit, and it presents the results of the analysis for each year. Section 2 discusses the concept of fiscal sustainability and shows that Ontario's fiscal policy is unsustainable, and thus will require a shift of direction to restrain the growth in debt.

1 Capital Budgeting and the Source of Debt

The twin budget deficits

It is important for the analysis of the sources of growth in debt to distinguish between the portions of the government's total spending that are attributable to the current year's services and those for future services. For this purpose, it is useful to conceive of the government as having two "branches". One branch is responsible for operations—that is, annual service delivery and tax policy. The other branch is in charge of managing the government's capital stock in return for a service payment from the first branch. This is pure fiction but it serves to show the logic of the government's financial reporting model. Program spending on items like the salaries and benefits of government workers and materials used for delivering services in the current year, as well as cash transfers to persons, are assigned to the operating budget. Interest payments on the part of the debt that was incurred to finance operating costs in the past also go into the operating budget.⁴ A more subtle form of current costs is called the *user cost of capital*. It represents the cost of using the public sector's capital stock to provide public services for one year. The public capital stock includes highways, hospitals, schools and universities, public parks, government office buildings, and so on. The user cost of capital is the amount of money the (fictitious) operating branch of the government pays to the (fictitious) capital branch of the government for the use of physical capital.⁵ If capital expenditures are financed by debt, then the user cost of capital is the sum of the interest on the outstanding capital debt and the depreciation of the capital stock due to wear and tear.⁶ Depreciation is a non-cash expense

4. Some provinces, such as British Columbia, break the public debt into a part attributed to borrowing to pay for operating costs and a part to pay for capital spending. Ontario does not do this but it is unnecessary to know the breakdown to carry out the analysis in this study.

5. A helpful analogy for the user cost of capital is what it would cost to rent the capital from the private sector for a year.

6. A basic principle of capital budgeting is that capital assets should be financed with debt. Dahlby and Smart (2014) appear to contradict this principle in arguing that part of capital expenditures should be financed by current taxation. However, their result can be understood as the net effect of two distinct considerations: (1) fully financing investments with debt (as per strict capital budgeting) and (2) meeting the requirement for fiscal sustainability with a constant tax rate. In their model, an initial increase in capital expenditure is accompanied by a permanently higher level of spending. Thus to meet the condition for sustainability with a constant tax rate, the government must generate primary surpluses

referred to as amortization. The “payment” of the user cost of capital by the operating budget to the capital budget enables the capital branch of government to service and repay its capital debt. Thus the operating budget deficit is defined as:⁷

$$\begin{aligned} \text{Operating budget deficit} = & \text{Current program spending} + \text{Interest on operating debt} \\ & + \text{User cost of capital} - \text{Revenues.} \end{aligned}$$

The operating budget deficit is the measure reported in the news headlines when a provincial budget is announced. Note that while the operating deficit records the difference between the cost of operating government programs during the year and the total revenues collected by the government, it leaves aside the cost of investing in future service delivery, which goes into the capital budget. With these concepts explained, the capital budget deficit is defined simply as:

$$\begin{aligned} \text{Capital budget deficit} = & \text{New capital expenditures} + \text{Interest on capital debt} \\ & - \text{User cost of capital.} \end{aligned}$$

Finally, the increase in public debt is the sum of the deficits of the operating budget and the capital budget:

$$\text{Increase in public debt} = \text{Operating budget deficit} + \text{Capital budget deficit.}$$

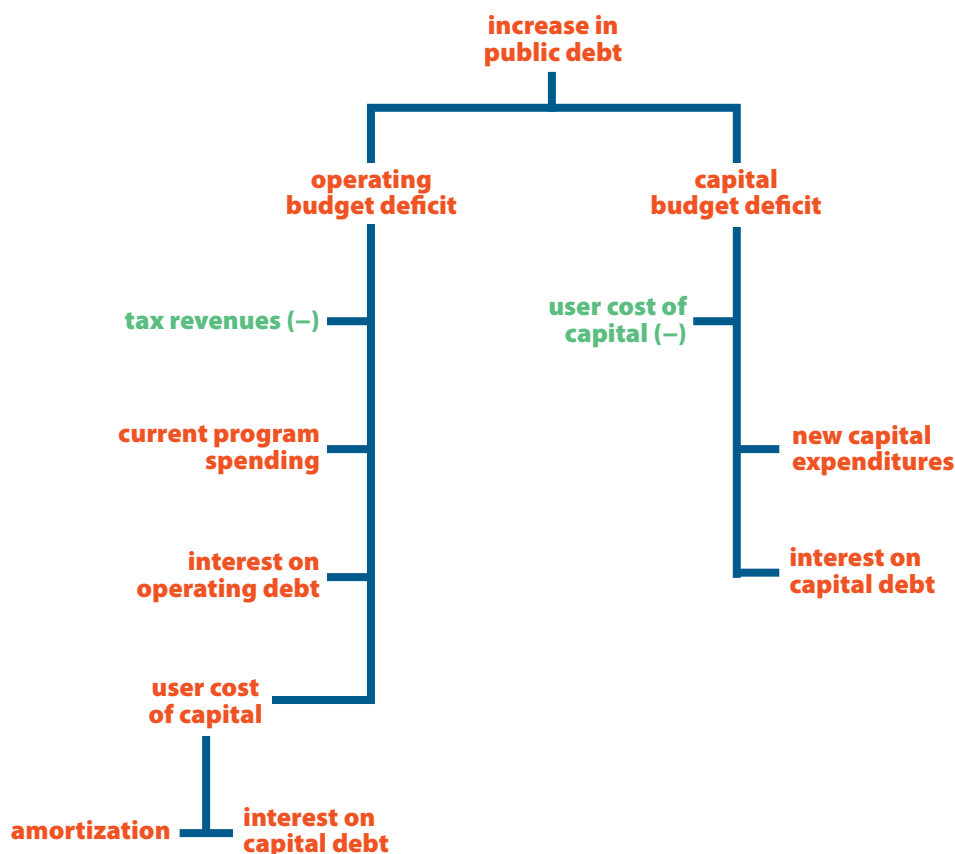
There are two important details to note about the three equations of capital budgeting given above. First, the user cost of capital vanishes when the operating budget deficit and the capital budget deficit are added together to give the actual increase in debt. The user cost of capital is therefore simply an accounting device for assigning, in an economically meaningful way, the change in total debt to the outcomes of current spending and capital expenditures. Second, when the government reports its operating budget deficit in the *Public Accounts* or budget

during the transition to the new steady state and it must invest those surpluses in financial assets to help pay for the higher future spending levels. The combination of fully financing the initial expansion of capital with debt while also generating surpluses for financial investments leads to a net amount of initial borrowing that is less than the initial amount of capital investment. In fact, it is common for governments to hold debt and financial assets at the same time. Whether they should do so depends on interest rates, administrative costs, and cash flow considerations. Hence, while the authors' conclusions are correct, their analysis does not contradict the principle of capital budgeting. Wen (2014) discusses the implication of the government's financial investments for the operating and capital budgets. 7. If the operating budget is negative, then this is referred to as a surplus. If it is zero, it is called a balanced budget.

documents, there is no line item called the “user cost of capital”. Instead, the amortization part of the user cost of capital is added as a non-cash expense to the expenses of the various ministries. The interest cost reported in the government’s operating budget is the interest on total government debt. But recall that the operating budget deficit already contains the interest on the operating debt and the user cost of capital contains the interest on capital debt. Adding the operating debt with the capital debt is by definition the total debt. Hence, the officially reported operating budget is logically consistent with charging the operating budget with the user cost of capital. For these reasons, the difference between the change in public debt and the officially reported operating deficit yields a deficit that can be attributed to new capital expenditures exceeding the user cost of capital.

Figure 1 provides a visual representation of the structure of the public-sector financial reporting model. The increase in public debt and the operating budget deficit are provided in the government’s financial reports, while the capital budget deficit is not explicitly reported but can be calculated as the difference between the increase in (net) public debt and the operating deficit.

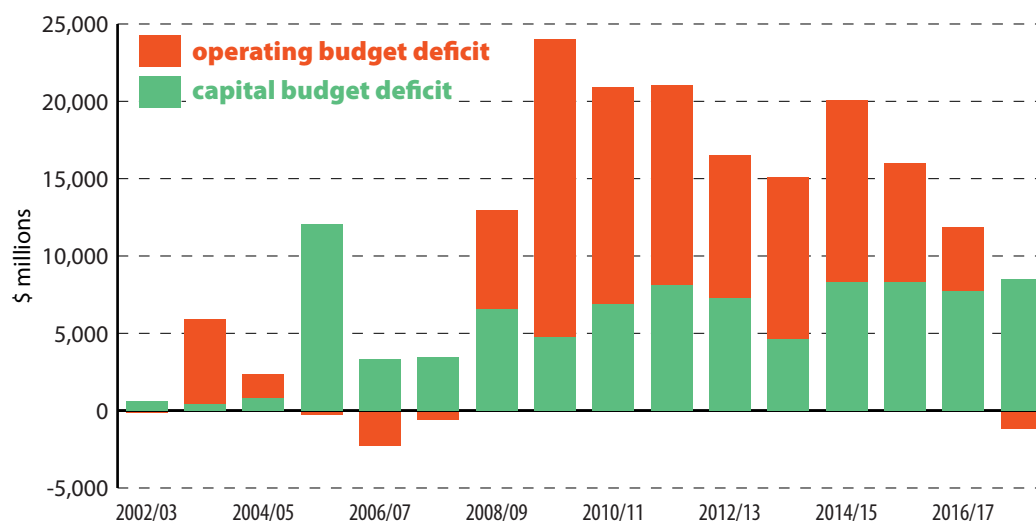
Figure 1: The structure of the public sector financial reporting model



Results of the analysis

Figure 2 charts the contribution of the operating budget deficit and the capital budget deficit to the change in public debt for each year from 2002/03 to 2017/18.⁸ The numbers for 2014/15 to 2017/18 are the government's budget projections. The contribution of the operating budget deficit each year is shown by the red part of the bars while the capital budget deficit is the green component. It is clear that in most years up to 2014/15 the preponderance of the increases in debt is attributable to the operating budget deficit. The biggest annual increase in public debt over the period occurs in 2009/10, when the debt jumped by 14% in a single year.⁹ It is only starting in 2015/16 that the change in debt ceases to be driven mostly by operating deficits, according to the government's fiscal plan, which may or may not materialize as planned.

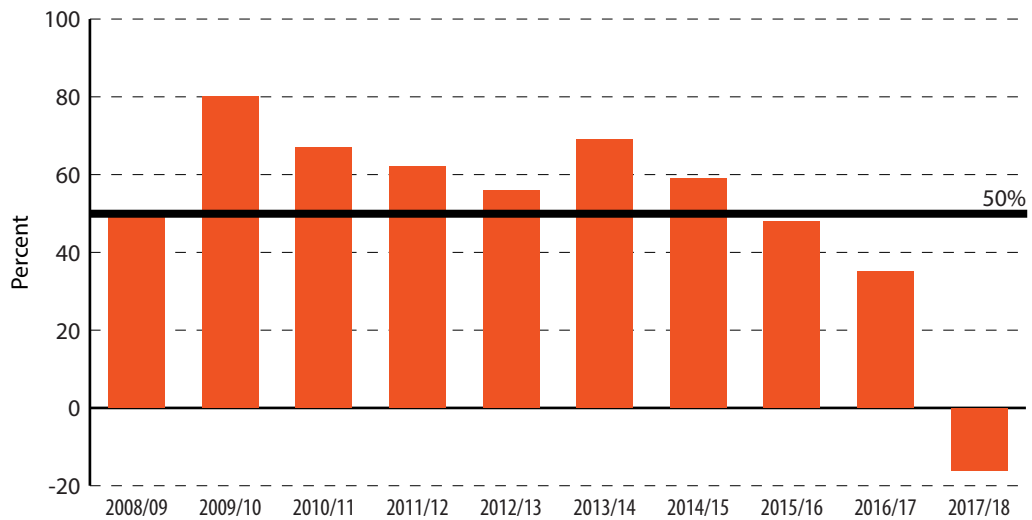
Figure 2: Annual change in public debt (\$ millions), 2002/03–2017/18



Sources: The data for net public debt are from the *Public Accounts* for 2002 to 2005 and the historical revision provided in table 2.28 in *Ontario Budget 2014* for the years 2005/06 to 2014/15. The projection of debt for 2015/16 and 2016/17 is from Ontario Ministry of Finance, 2014c.

8. These are the nominal values—that is, unadjusted for inflation.

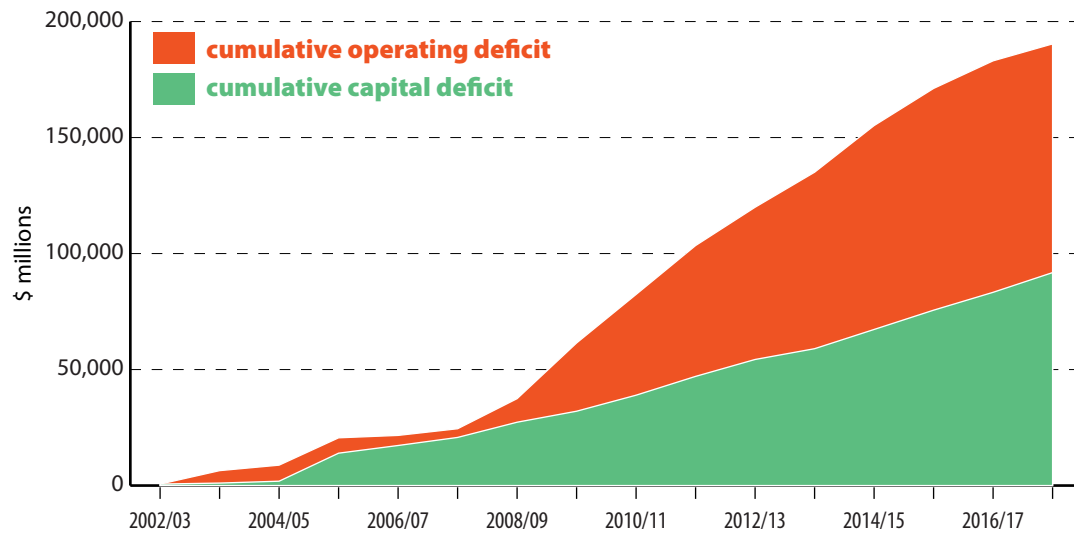
9. The increase in debt in 2005/06 is an artifact of the government's restatement of public debt in 2005/06 to include the net debt of hospitals, school boards and colleges, to make it consistent with the Public Sector Accounting Board standards. Changing the starting year for the study to 2005/06 only strengthens the conclusions.

Figure 3: Share of the operating deficit in the increase in debt, 2008/09–2017/18

Sources: *Ontario Public Accounts*, various years; Ontario Ministry of Finance, 2014c.

Figure 3 elaborates on the previous graph by showing the share of the operating budget deficit in the amount of debt increase each year from 2008/09 (when the debt began rising steeply) to the last year of the government's fiscal plan (2017/18). The operating budget deficit accounted for 80% of the increase in debt in 2009/10 and for more than half in every year since 2008/09 up to 2014/15.

Figure 4: Change (\$ millions) in net debt and cumulative operating and capital deficits, 2002/03–2017/18



Sources: Ontario Public Accounts, various years; Ontario Ministry of Finance, 2014b, c.

Figure 4 graphs the growth in debt and both the cumulative operating and capital deficits starting in 2002/03. From 2009/10 to 2014/15, most of the run up in debt—about 66% of it—is attributable to operating budget deficits. From 2002/03 to 2017/18, \$99 billion or 52% of the \$190 billion that Ontario will have added to its debt is from the operations side. While temporary operating deficits are common during recessions, it is expected that they be counter-balanced with other periods of operating surpluses. However, Ontario has accumulated a massive operating debt even over the 16-year horizon depicted in figure 4. Excessive program spending for operations rather than building for the future is the main source of Ontario's debt trouble. Had capital spending been the main cause of the debt rise then, at least, future generations of taxpayers would have the benefit of more investments in future service delivery.

2 Fiscal Sustainability in Ontario

The question of fiscal sustainability asks whether the government's tax and spending policies can be maintained in perpetuity without incurring a substantial risk of default on the public debt.¹⁰ To answer this question, Section 2 applies two indicators of sustainability.

First measure of sustainability

One measure of fiscal sustainability compares the government's projected debt in 2017/18 with its debt in 2001/02.¹¹ This approach is based on the following observations. If each year a government were simply to sell new bonds to roll over its maturing debt and to cover the annual interest owed, then this plan would be regarded as unsustainable by financial markets. The situation would resemble a consumer who uses a revolving door strategy of continually using one credit card to meet the required payments on another credit card. The consumer would eventually default because the amount of interest owed keeps growing.¹² Thus, the sustainability of fiscal policy can be gauged by whether the growth in debt over many years exceeds the compound interest rate on government bonds. This question can be examined by viewing a graph of the present value of government debt. Present value calculations apply a discount factor, based on the interest rate on government debt, to convert the observed debt into an equivalent value at the initial year of the analysis. If the present value of government debt at the end of the horizon exceeds the value at the start, then the debt has grown faster than the compound interest. In that case, the debt trajectory over the period is unsustainable and a correction to fiscal policy is required to put the government back on a sustainable track.¹³

10. This is an informal definition that gets to the core of the issue. Wen (2014) provides a more technical exposition based on the so-called no-Ponzi game rule.

11. Specifically, the comparison is between debt on March 31, 2002 and March 31, 2018. The accumulation of debt between these dates is determined by the change in debt over the fiscal years from 2002/03 to 2017/18.

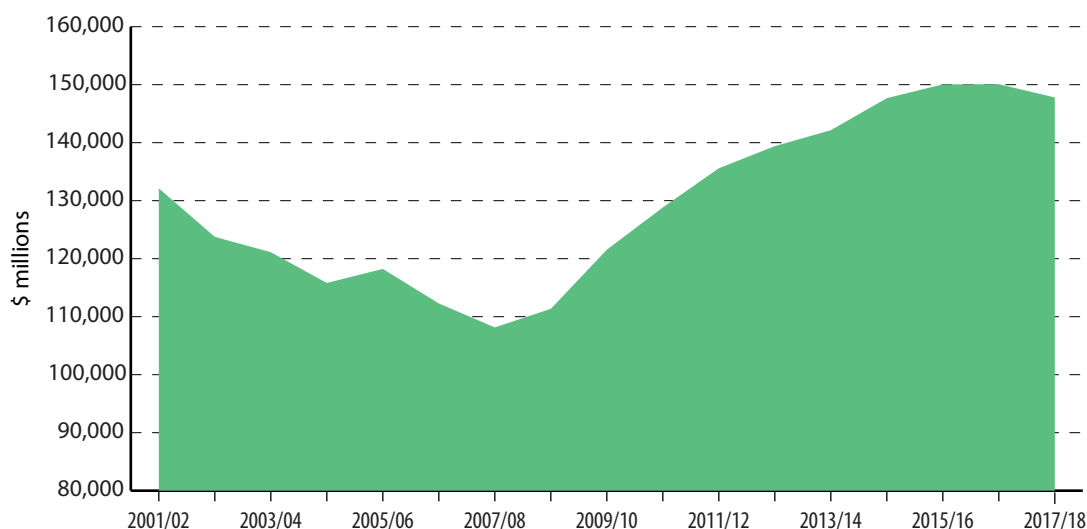
12. More precisely, the growth in interest payments is exponential, as the interest is compounded into the principal each period. Note, too, that the picture does not change if the consumer is able to repay out-of-pocket some of the principal while simultaneously paying for new expenditures with credit, such that the end-of-period debt equals or exceeds the beginning-of-period debt with interest. Again, the debt would keep growing period after period in an unsustainable way.

13. The decline in the present value of the debt is a necessary but not a sufficient condition for fiscal sustainability, because over a long time horizon the present value of the net debt should approach zero.

Results of the first measure of sustainability

Figure 5 shows Ontario's debt from 2001/02 to 2017/18 in terms of present value from the standpoint of March 31, 2002, using the weighted average interest rates on the government's debt. The present value of the debt declined between 2001/02 and 2007/08, but by March 31, 2018 it will be about 12% higher than on March 31, 2002. Hence, Ontario's projected debt in 2017/18 is at a level that is equivalent to what it would have been if the government had added another 12% to its 2001/02 debt level and then fully rolled over its debt and interest every year for 16 years. This fails the requirement for sustainability. At some point, the creditors will come knocking if the government keeps borrowing to meet its bills. This is the reason that Ontario's credit rating was downgraded in 2012 and the outlooks of the rating agencies were changed from stable to negative in 2014.

Figure 5: Discounted value (\$ millions) of net debt, 2001/02–2017/18



Sources: The data for net public debt are from the *Public Accounts* for 2002 to 2005 and the historical revision provided in table 2.28 in *Ontario Budget 2014* for the years 2005/06 to 2014/15. The projection of debt for 2015/16 and 2016/17 is from Ontario Ministry of Finance, 2014c. The graph depicts the present value of the debt from the standpoint of 2001/02.

Second measure of sustainability

Bond rating agencies assess the risk of government default based on many factors. These include the economic growth rate, which indicates the revenue potential of the tax base, and the interest cost of servicing the debt. A second measure of sustainability used to examine whether today's debt can be serviced on an ongoing basis without fiscal adjustments is based on the anticipated sizes of future budget surpluses and future rates of interest. For this purpose, the primary surplus is calculated, which is revenues minus program spending, including new

capital expenditures but excluding interest on debt. It is the money available both to meet interest payments and to pay down the debt.¹⁴ The government's debt level is sustainable when it is less than the sum of the expected future primary surpluses (in present value terms).

The anticipated size of future primary surpluses is assumed to equal a fixed proportion of provincial GDP, where that proportion is based on the historical evidence.¹⁵ Revenues and spending rise and fall with GDP but the underlying presumption is that the primary surplus moves in tandem with GDP on average over many years. The expected growth rate of the economy comes into play because it determines how fast GDP is expected to rise over time. A high rate of growth allows governments to generate larger surpluses even if the surpluses are a constant proportion of GDP. To gauge Ontario's capacity for generating primary surpluses in the future, the government's actual fiscal record from 2002/03 to 2013/14, and its budget plan up to 2016/17 are used.¹⁶ The average value of the primary surplus as a proportion of GDP observed from 2002/03 to 2017/18 is 0.07%, while the highest value attained during these years was 1.88%, achieved in 2002/03.

The average value of the primary surplus-to-GDP ratio is used to predict future primary surpluses. The interpretation is that, if the business cycles from 2002/03 to 2016/17 were to be repeated in the future, Ontario would achieve the same deficits and surpluses as before on average. Since the 15-year interval includes good and bad years of economic performance, this approach can be regarded as asking whether Ontario's debt reduction efforts in the good years were sufficiently prudent to offset the debt increases in the bad years. The unemployment rate averaged 6.6% in Ontario from 2002 and 2007, but averaged 7.9% from 2008 to 2013. Thus, the six years preceding the recession were relatively good compared to the next six years. Indeed, Ontario reduced its debt-to-GDP from 28% in 2001/02 to 26% in 2007/08. If the average of the primary surpluses, as a proportion of GDP,

14. The primary surplus can be negative (that is, a primary deficit). In that case, the government's debt increases by the size of the primary deficit plus the interest owed on the debt. A balanced operating budget implies a positive primary surplus.

15. An alternative is to use past performance to forecast revenues and program spending into the future, as in Kneebone and Gres (2013). The approach used here is agnostic about the paths of revenues and spending, but assumes that the government's ability to generate primary surpluses in the future is indicated by its ability to do so in the past.

16. The calculation of primary surpluses ends with 2016/17 because the estimate of amortization is not yet published for 2017/18 but it is required for the calculation. In determining the primary surpluses, the "Increase in Net Assets of Broader Public Sector Organizations" (BPSO) are treated as investments in capital until the fiscal year 2008/09. Beginning with 2009/10, this is no longer appropriate as the assets and liabilities of the BPSO were consolidated on a line-by-line basis with those of the province.

is too small to sustain the current debt level, then the fiscal policies of 2002/03 to 2016/17, broadly interpreted as a fiscal stance, are unsustainable and thus taxation or spending habits will need to change.

Another use of Ontario's history of primary surpluses is to ask whether the province's current debt level is manageable if future primary surpluses, as a proportion of GDP, were equal to the highest value observed in the past (that is, beginning with 2002/03). It is heroic to suppose that the ratio of primary surpluses to GDP in the future would be the highest previously observed but it is a useful indicator of the government's capability to pay its debt. It highlights the government's capacity for generating tax revenues and its leeway for reducing spending. Fiscal capacity is not unlimited because of the negative effects that high tax rates have on the economy: higher tax rates bring more revenues, up to some point, after which further increases in tax rates generate falling revenues—this is the so-called Laffer curve. Indeed, according to the estimates of Dahlby and Ferde (2012), Ontario's corporate income tax is already on the downward sloping portion of the Laffer curve. Thus, the highest previously observed primary surplus-to-GDP ratio may be indicative of a tax revenue boundary. On the flip side, the Ontario government can economize on spending through restructuring programs and/or reducing services. Of course, demonstrating the province's fiscal capability to overcome its mounting debt problem would not imply that the government's actual fiscal trajectory over the past 15 years was sustainable. It would simply show that there is ample opportunity for the government to return its fiscal policies to a sustainable path, whereby the debt is restrained going forward into the future.¹⁷ The test of the province's capability for managing its current debt level is entirely consistent with the view taken by Moody's bond rating agency, when it downgraded Ontario's credit rating in 2012. Moody's noted that Ontario's constitutional control over its tax policies and spending gave it sufficient room to maneuver so as not to require further downgrades at the moment (Moody's Investors Service, 2012, April 26). If, however, the province were to repeat history, and does not to use its fiscal policies to restrain its debt, then deeper downgrades are plausible.

Let us turn now to the results of examining if Ontario's accumulated debt from 2002/03 to the end of the government's fiscal plan is sustainable.

Results of the second measure of sustainability

The second test of fiscal sustainability requires the ratio of primary surpluses to GDP in the future to exceed the forecast gap between the real interest rate and the real growth rate of GDP multiplied by the current debt-to-GDP ratio (see Wen,

17. More specifically, the sum of the present value of expected future primary surpluses would balance the existing debt load.

2014). The Ontario Ministry of Finance's forecast for the average rate of 10-year government bonds over the period from 2018 to 2035, net of inflation, is 2.90%, while the government expects an average real GDP growth rate of 2.16% from 2018 to 2035, and a debt-to-GDP ratio of 39.40% in 2017/18 (Ontario Ministry of Finance, 2014c). As indicated above, the ratio of primary surpluses to GDP is 0.07%, if we take the average value over the years from 2002/03 to 2016/17, and 1.88%, if the highest value is used. Thus, the comparison is between, either 0.0007 (the historical average) or 0.0188 (the historical best), and the value of the calculation $(0.0290 - 0.0216) \times 0.3940$, which equals .0029. Therefore, the inequality test for sustainability clearly fails when future primary surpluses-to-GDP ratios mimic the historical average value. In other words, Ontario cannot repeat the fiscal policies that generated such modest average primary surpluses relative to GDP over the years from 2002/03 to 2016/17. However, the calculations also show that Ontario has ample revenue capacity or spending leeway to generate future primary surpluses that are large enough to balance the size of the provincial debt expected in 2017/18.

These results are not surprising. The fiscal policies since 2002/03 are widely regarded as unsustainable and have resulted in a rapid accumulation of provincial debt. At the same time, Ontario is a large economy with ample capability for generating primary surpluses through spending cuts or tax hikes to restore fiscal sustainability and restrain the debt. The only question is whether the Ontario government will have the political will to correct the course of fiscal policy, especially if the economy weakens or interest rates rise. The sustainability measure used in this section is simple and abstracts from demographic changes in Ontario. That is beyond the scope of this study, but the findings are consistent with projections of a detailed new study by the Conference Board of Canada, which does take into account the effects of demographic and technological changes on program spending. It concludes that reversing the tide of rising provincial debt will require substantial reductions in health and education spending compared to the last 10 years (Beckman et al., 2014).

Conclusion

Ontario's debt-to-GDP ratio is expected to reach 40% in 2014/15, compared to 28% in 2008/09, and it is projected to reach 51% by 2017/18 without substantial spending cuts (Ontario Ministry of Finance, 2012) or possibly 66% by 2019/20 (Kneebone and Gres, 2013). This study shows that most of Ontario's debt accumulation since the recession of 2008/09, about 66% of it, is attributable to current expenses exceeding revenues. Even over the longer time span of 2002/03 to 2017/18, operating deficits account for 52% of the increase in debt. Thus, despite significant provincial spending on infrastructure, borrowing to pay for capital expenditures is not the main driver of Ontario's debt balloon. Ontario's current plan to invest \$130 billion on infrastructure over the next 10 years will certainly strain against concerns about its mounting debt.

There are lessons to be learned from the analysis of Ontario's fiscal policies from 2002/03 to the present. It pays to be prudent during years of relatively good economic performance. Ontario ran primary surpluses from 2002/03 to 2007/08 and reduced the size its ratio of debt to GDP. Hindsight suggests that a larger reduction in the debt-to-GDP ratio during those years would have created a greater fiscal cushion when the recession hit in 2008/09. Governments should learn from the experience and act more prudently during years of strong economic performance. The benefits provided by government programs improve the lives of citizens and are fundamental to a society. However, the annual expenses incurred in delivering the benefits should normally be financed by taxation, not by debt. Debt financing should be used to pay for tangible assets that will provide services over many years. Paying for current expenses with debt is unfair to future generations of taxpayers. Even if the recession in 2008/09 challenged this logic, Ontario cannot afford to keep running operating deficits without encountering credit downgrades and rising debt service payments.

Achieving fiscal sustainability in Ontario will require significant spending cuts or tax increases. Empirical research by Alesina and Ardagna (2010) based on the experiences of OECD countries finds that fiscal adjustments achieved through spending cuts without tax increases tend to be more successful in lowering operating deficits and debt-to-GDP ratios than adjustments based on tax increases. They attribute this result to the reassurance provided to taxpayers by spending cuts that more severe adjustments will not be necessary later. Fiscal adjustments will

not be easy for Ontario as higher healthcare costs and lower revenues will ensue from the aging of the population, while interest rates are likely to rise (Beckman et al., 2014).¹⁸ Nevertheless, the province's long-term prosperity requires fiscal policy to be made sustainable.

¹⁸. See Veldhuis and Lammam (2012) for proposals on ways to reduce program costs in Ontario. See also Van Pelt et al. (2014) for a proposal on how the Ontario government could save up to \$1.9 billion per year by adopting British Columbia's model for funding and delivering K-12 education.

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About the author

Jean-François Wen

Jean-François Wen is a Professor of Economics and a Research Fellow at the School of Public Policy at the University of Calgary. He has published articles in leading journals on the effects of taxation and social insurance programs on economic performance and income inequality. He is a co-author of the textbook *Public Finance in Canada* and has served as a consultant for the World Bank and the International Monetary Fund concerning policy reforms in various countries.



Professor Wen was previously a faculty member of the School of Business and Economics at Wilfrid Laurier University and an economist at the Bank of Canada. He has a Ph.D. from Queen's University and holds the Chartered Financial Analyst (CFA) designation.

Acknowledgments

The author would like to thank Charles Lammam and three anonymous reviewers for insightful comments and suggestions. Any remaining errors or oversights are the sole responsibility of the author. As the researcher has worked independently, the views and conclusions expressed in this paper do not necessarily reflect those of the Board of Trustees of the Fraser Institute, the staff, or supporters.

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Date of issue

February 2015

ISBN

978-0-88975-333-4

Citation

Jean-François Wen (2015). *Ontario's Debt Balloon: Source and Sustainability*. Fraser Institute. <<http://www.fraserinstitute.org>>.

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