



The State of Ontario's Indebtedness

Warning Signs to Act

edited by Jason Clemens
and Niels Veldhuis

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Executive Summary

Jason Clemens and Niels Veldhius

The essays collected for this publication are designed to provide readers and particularly those in Ontario a better sense of where the province's debt stands today, the expectations for the future, and warnings about the likely costs of inaction. Part of the motivation for this publication was the lack of genuine response to the much-heralded report of the Commission on the Reform of Ontario's Public Services,¹ or what became known as the Drummond Report, named after the chair of the commission, Donald Drummond. Simply put, the conclusions of the Drummond Report should have been a wake-up call for the Ontario Government regarding the immediate need for reform of the province's spending. Instead, the government has chosen to try to simply slow the rate of growth in spending over the next few years without any serious reform.

Ontario or California: Which Is Really in Worse Shape?

The first essay in the publication assesses the current state of indebtedness in Ontario compared to California. The essay was a collaborative effort with Marc Joffe of Public Sector Credit Solutions in San Francisco, California. The Golden State was selected as a point of comparison because it garners so much media attention for its deficit and debt. Table 1 below summarizes the various points of comparison between Ontario and California with respect to bonded debt.

Please note that the measure of indebtedness used for comparison was bonded debt rather than the more usual measure of net debt. US states generally do not complete financial reports in the same rigorous manner as Canadian provinces, which means net debt statistics are actually not readily available for California. Bonded debt is a fair representation of indebtedness and captures almost all of Ontario's outstanding debt.

As summarized in table 1, Ontario is in a worse position than California on every metric of indebtedness. Ontario's bonded debt is almost two thirds larger than California's even though California is a much larger jurisdiction in terms of both the size of its economy and its population. This is reflected in the fact that,

1. Report is available at <<http://www.fin.gov.on.ca/en/reformcommission/>>.

Table 1: Ontario and California Debt Comparisons

Indicator	Ontario	California
Total Bonded Debt (As of 2010-11)	\$236.6 billion	\$143.9 billion
Bond Debt-to-GDP	38.6%	7.7%
Bond Debt Per Capita	\$17,922	\$3,833
Interest Expense	\$9.5 billion	\$5.5 billion
Interest Expense-to-Revenues	8.9%	2.8%

as a share of the economy, Ontario's bonded debt (38.6%) is over five times larger than that of California. In addition, Ontario's per-capita bonded debt is over four-and-a-half times that of California. The cost of bonded debt (i.e., interest costs) is also much higher in Ontario both in dollar terms and as a share of revenues. Indeed, Ontario spends over three times the amount of revenue on interest costs as California. This is revenue extracted from the economy that is not used for programs or income support but rather to pay the cost of previous borrowing.

Simply put, across every comparable measure available, Ontario's indebtedness is markedly worse than California's. For those Ontarians who look at California in puzzlement over its inability to solve its deficit and debt challenges, this essay strongly encourages them to look inward at the severity of their own indebtedness.

Looking over the Horizon: What the Future Likely Holds for Ontario

To buttress the existing warnings about the likely path of deficits and debt in Ontario, particularly as forecast by the Drummond Report,² noted University of Calgary economist Ronald Kneebone along with his colleague Margarita Gres were asked to forecast future deficits and debt based on both the status quo and alternative policies for Ontario.

Kneebone and Gres begin their essay by examining and explaining how Ontario arrived at the status quo, specifically how net debt in the province grew from 14% of GDP in 1990-91 to 35% of GDP in 2010-11. This is an important recognition because the failures of the past impose costs today in the form of interest payments on accumulated debt, payments that in 2011-12 amounted to over \$10 billion. In addition, understanding the failures of the past provides lessons for the future.

2. One of the main points of attention from the Drummond Report was the conclusion that the province would likely not hit their deficit and debt targets. Indeed, the conclusion regarding the likely outcome of the province's status-quo combination of spending, taxing, and borrowing policies was that, instead of a balanced budget in 2017-18, the province would likely face a \$30.2 billion deficit with net debt reaching 51% of GDP.

According to the analysis completed by Kneebone and Gres, the increase in the province's net debt as a share of the economy was the result of three factors. First, the onset of the 2008-09 recession meant that the primary balance for Ontario's budget, that is the difference between revenue and program spending before accounting for debt charges moved from a positive balance to a negative one. This meant that even before debt charges were accounted for the province was in deficit.

Second, a series of one-time spending commitments on infrastructure and electricity market restructuring added to the province's debt. Third and finally, in every year since 1990-91, the interest rate demanded by those buying Ontario's debt exceeded the rate of growth in the economy with the result that the burden of debt, measured as a fraction of provincial GDP, would be pushed higher without strong counter-measures in the form of lowered spending and/or higher taxes. According to Kneebone and Gres, these three factors are the main explanations for the increase in the province's debt since 1990-91. Understanding the sources of the province's debt accumulation is critical in terms of implementing future reforms.

Kneebone and Gres then present a series of forecasts regarding future deficits and debt. They first calculate a projection of Ontario's future debt based largely on a set of status-quo assumptions. The assumptions they make in their forecast of the future are based on current market conditions and patterns of taxation and spending consistent with what was observed during the 10-year period prior to the onset of the latest recession. They conclude that given this established pattern of fiscal behaviour Ontario's net debt will reach 66% of GDP by 2019-20, a level they argue is consistent with the 51% (and rising) calculation of the net debt ratio estimated for 2017-18 in the Drummond Report. Kneebone and Gres conclude that this is "clearly not sustainable", both because of the nominally high debt-to-GDP ratio but, most importantly, because of the steep upward trajectory of net debt beyond 2019-20 (see figure 2.2 on page 32).

Critically, Kneebone and Gres then calculate a series of alternative debt projections based on the government reducing the rate of growth in different categories of spending. For example, Kneebone and Gres calculate that net debt in the province would decline from 66% under the status quo by 2019-20 to 55% if the provincial government can reduce the rate of growth in health care spending to match increases in income. This means reducing the annual rate of growth in health care spending from 7.2% to 4.0% over the next number of years.

The forecast debt-to-GDP ratio falls further to just 40% by 2019-20 if the provincial government reduces the growth rate for education spending to increases in income in addition to the restraint on health care. This is an important addition since over the past decade average annual spending increases for education in Ontario have outstripped increases in health care: roughly 10.0% compared to 7.2% per year.

A final forecast assumes all spending growth by the province is reduced to increases in income (4% annually). The debt burden (debt-to-GDP) peaks at 37% of GDP under this scenario in 2016-17 and then begins to decline.

There are two key insights offered by Kneebone and Gres. First, their conclusions corroborate the findings of the Drummond Report in terms of the likely and worrying accumulation of debt in Ontario if status-quo policies are continued. Specifically, Kneebone and Gres estimate that under status-quo policies Ontario's net debt will reach two-thirds (66%) of GDP by 2019-20, with a worrying upward trajectory that would continue beyond that year. Second, the province can still avert these debt levels by implementing and maintaining strict but not draconian limits in the rates of increase in spending in the future.

Could Ontario Be the Next Greece?

The final essay by economist, senior fellow of the Fraser Institute, and Lakehead University Professor, Livio Di Matteo, examines and contrasts the experiences of Ontario and Greece as a method by which to ascertain whether the crisis situation in Greece might be the future of Ontario if proactive actions are not taken. Greece is an intriguing point of comparison not only because of the country's high-profile debt crisis but also because it is a small country that exists in a larger currency union and has a population similar in size to Ontario's.

Tellingly, Greece's net debt-to-GDP stood at 37% in 1984, exactly where Ontario's net debt as a share of the economy (GDP) stands today. As anyone who has seen a newspaper in the last year knows, Greece's net public debt has spun out of control, reaching 163% of GDP in 2011. In some ways, Greece offers Ontario a cautionary tale of what not to do with public finances and debt. Put differently, the Greek example provides demonstrable consequences to Ontarians if the status quo and inaction are the policies pursued with respect to Ontario's deficit and debt.

The evolution of each jurisdiction's net debt is worth noting. Ontario's net debt-to-GDP ratio in 1981 was about half that of Greece, 10.5% compared to 24.4%. Since 1981, both Ontario and Greece have experienced marked increases in their net debt-to-GDP ratios. For Ontario, the net debt-to-GDP ratio was stable during the 1980s, increased dramatically during the early 1990s and then leveled off. It then started to increase again in 2007 and reached 37.2% in 2011. Over the course of 30 years, Ontario almost quadrupled its net debt-to-GDP ratio.

Greece experienced dramatic increases in its net debt-to-GDP ratio in the 1980s, climbing from 24.4% in 1981 to 67.7% by 1991. It then also leveled off for a number of years and began to rise again after the mid-1990s. Its increase since 1998 has been much steeper than it was during the 1980s with a further acceleration since the onset of the financial crisis in 2007.

While interesting, the description of the evolution of debt in Ontario and Greece does not explain why each jurisdiction has arrived at their current level of indebtedness. One of the key insights of Prof. Di Matteo is the unsustainable

nature of spending in both Ontario and Greece when compared to available revenues, resulting in deficits and accumulated debt. It is this insight—the unsustainability of current spending given revenues—that is vital to understanding the need for reform of spending in Ontario.

During the three decades from 1981 to 2011, Ontario recorded only eight surpluses while Greece ran a deficit every year. The key, however, is the trend in spending and revenues. As Professor Di Matteo explains, in both Ontario and Greece, the trend lines for revenue and expenditure over this time period are diverging rather than converging. In other words, according to Di Matteo's analysis, the long-term trend is towards larger deficits and thus debt accumulation rather than smaller deficits or even surpluses. The trend in Greece was markedly worse than that of Ontario, which in large measure explains the current debt crisis in Greece.

Di Matteo concludes that the evidence indicates that both Ontario and Greece face structural deficits, meaning that regardless of the state of economy (expansion, recession, and so on) both jurisdictions face deficits because their current spending even adjusted for the business cycle exceeds their revenues. Both jurisdictions have experienced a long-term imbalance between their revenues and expenditures and not terribly consistent efforts to narrow the gap between revenues and spending.

Herein lies the cautionary tale from Prof. Di Matteo's essay, particularly when combined with the results from the Kneebone and Gres's forecasts. Greece's public finances are in peril today because of their inaction over the course of two, even three, decades. They now face a combination of difficult measures including large-scale spending reductions in order to regain some measure of sustainability in their public finances. Warning signs have abounded in Ontario that the current set of fiscal policies is not sustainable. Inaction or insufficient reforms could place Ontario on a path wherein down the road it might also experience a fiscal crisis of Greek proportions. While not there yet, the pain and severity of reform needed in Greece should inform Ontarians about the benefits of proactive reform now before a crisis evolves.

1. Ontario and California

A Fiscal Comparison

Jason Clemens, Niels Veldhuis, and Marc Joffe

Anyone following news from the United States has likely heard or read commentaries stating that the State of California is a fiscal basket case inching closer and closer to bankruptcy. In 2009, the California's Treasurer, Bill Lockyer, called California's budget "a fiscal train wreck" (Steinhauer, 2009, Nov. 1: A-30). The following year, Chris Whalen, Managing Director of Institutional Risk Analytics, predicted that the state would default on its bonds and be forced to request a bailout from the US federal government (Alden, 2010).

While Ontario's deficit and debt receives relatively little media coverage compared to California's, its fiscal condition is substantially worse than that of California, the largest and most populous state in the United States. This essay compares Ontario and California across a wide range of fiscal measures and discusses some of the important differences in government rules regarding deficits and debt. The main purpose of this essay is to provide measures regarding the seriousness of Ontario's deficit and debt using California as a comparison. Standardized data are used wherever possible to avoid technical differences between the two jurisdictions.¹

The essay begins with an analysis of Ontario's current fiscal situation and prospects for the future. A similar analysis for California is then presented. A contrast of the two governments based on comparable data is then summarized.

1. Most of the data for Ontario are derived from the province's public accounts for the fiscal year ended March 31, 2012. California's fiscal year ends on June 30 and its public accounts equivalent—called the Comprehensive Annual Financial Report (CAFR)—had not appeared at the time of writing. Consequently, most of the California data is as of June 30, 2011, although we were able to obtain data as at June 30, 2012 in certain cases.

1. Ontario's Fiscal Position

In the last fiscal year completed, 2011-12, Ontario recorded a deficit of roughly \$13.0 billion, representing 2.0% of GDP. This was down from a little over \$14.0 billion (2.3% of GDP) in the previous year. However, the Ontario government now expects the 2012-13 deficit to increase to \$14.4 billion, representing 2.2% of GDP (Government of Ontario, 2012). The current year's deficit will be the fifth consecutive year of deficit, which began in fiscal 2008-09. The result of the five deficits has been an accumulation of debt amounting to \$52.7 billion (TD Economics, 2012b).

Figure 1.1 illustrates the size of Ontario's deficit for 2011-12 and 2012-13 relative to the other Canadian provinces as a share of provincial GDP. Along with Manitoba, Ontario recorded the largest deficit in 2011-12 at 2.0% of GDP. Ontario was one of only four provinces to record a higher deficit in 2012-13 compared to 2011-12. Indeed, Ontario is expected to experience the largest deficit as a share of the economy (2.2%) among the provinces in 2012-13 (figure 1.1).

The Ontario government's October update forecast deficits of \$12.8 billion and \$10.1 billion for 2013-14 and 2014-15, respectively (Government of Ontario, 2012). In fact, the government does not anticipate a balanced budget until fiscal year 2017-18. And, as noted in a recent Toronto Dominion Bank report, this future balance assumes that legislation restricting increases in employee compensation will be enacted, fully implemented, and kept in place for the next five years (TD Economics, 2012a). Ontario's multi-year term forecast contrasts with those of other provinces, all of whose projections reflect plans to achieve balance by 2015 (TD Economics, 2012b).

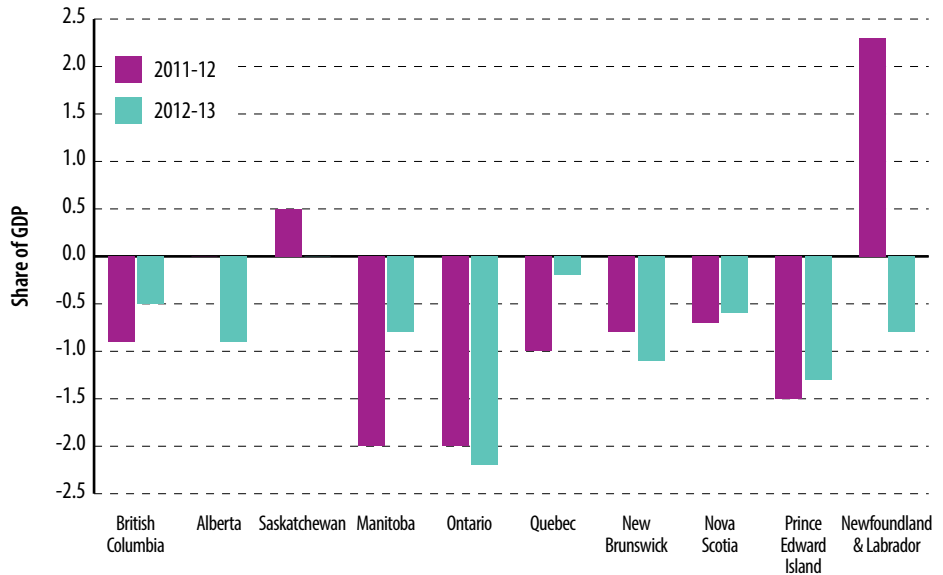
Ontario's persistent deficits have led to the accumulation of a substantial stock of debt. As of March 31, 2012, Ontario's net debt, which is a measure of total debt minus financial assets, stood at \$235.6 billion or 36.9% of GDP. Figure 1.2 illustrates the growth in Ontario's net debt since 1990-91. In nominal terms, the province's debt, net of financial assets stood at \$35.4 billion in 1990-91 and has since grown to \$235.6 billion, an increase of 571.4%.

Figure 1.3 illustrates the growth in net debt in Ontario by comparing it to the growth in the economy (GDP) as well as growth in the population (plus inflation). As indicated in figure 2, net debt in Ontario increased by 571.4% between 1990-91 and 2012-13. The provincial economy, meanwhile, expanded by 133.1% during this period. Put differently, the expansion of net debt in Ontario outpaced growth in the economy by a factor of four.

Increases in net debt were also larger than the increases in population (31.2%) or the price level (55.0%). Simply put, the increases in net debt over this time period outpaced all comparative measures, indicating the seriousness of the province's debt accumulation.

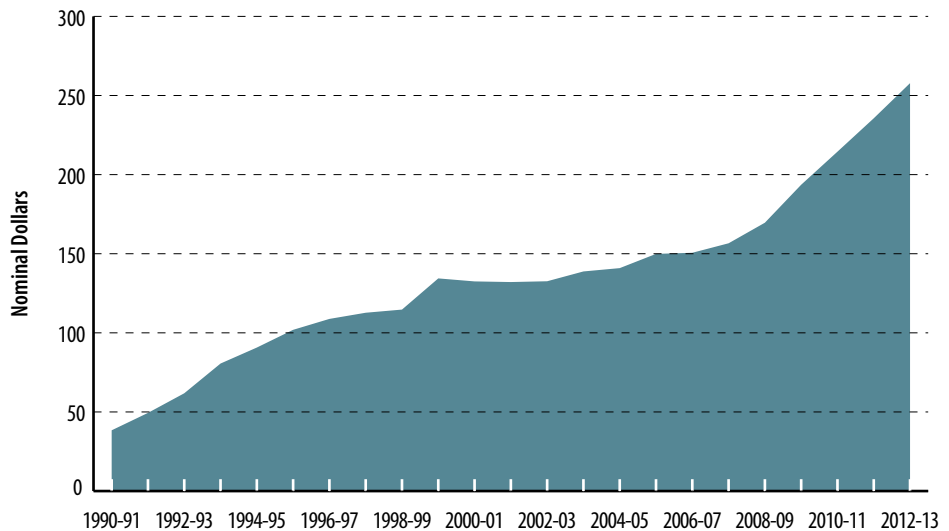
Figure 1.4 illustrates the ratio of net debt-to-GDP (size of the economy) for the Canadian provinces for last fiscal year (2011-12) as well as the expected ratio for the current fiscal year, 2012-13. According to forecasts, Ontario's net

Figure 1.1: Canada—Provincial Deficits as a Share of GDP (2011-12, 2012-13)



Source: TD Economics, 2012b.

Figure 1.2: Ontario Net Debt, Nominal (1990-91–2012-13)

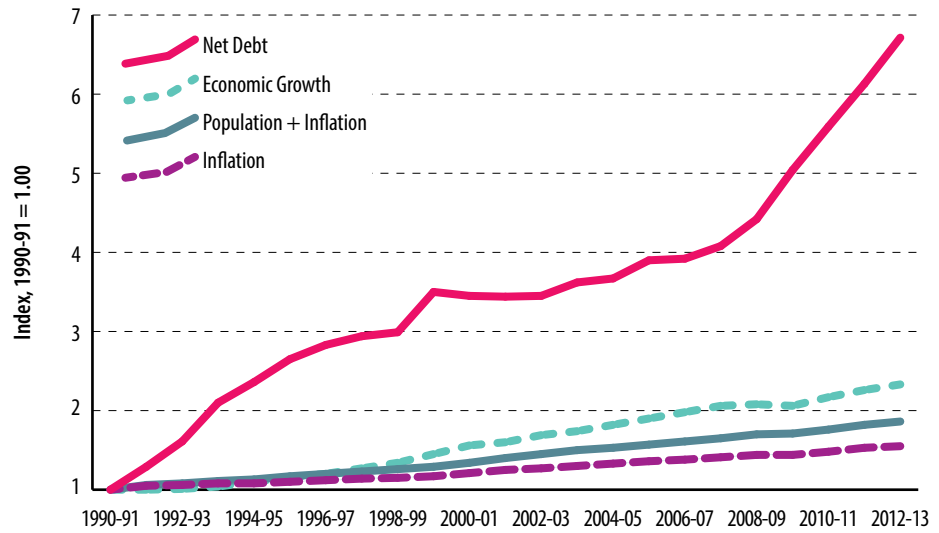


Source: TD Economics, 2012b.

debt-to-GDP ratio is Canada's second highest at 39.1% of GDP (2012-13) (TD Economics, 2012b). Only Quebec has a higher rate at 51.5% of GDP. Quebec, however, is running much smaller deficits than Ontario, which means that if current trends hold, Ontario's debt-to-GDP ratio will eventually exceed that of Quebec.

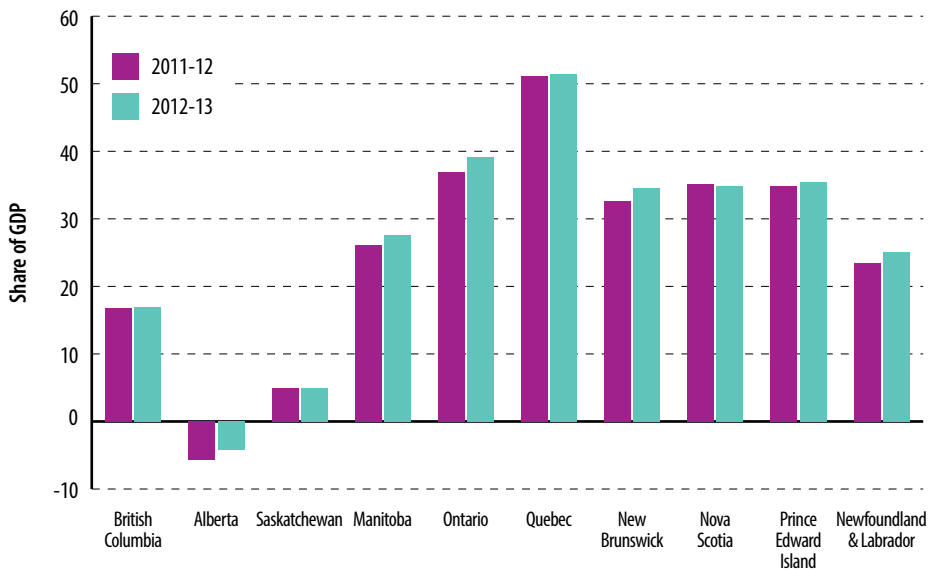
The most recent provincial budget for Ontario projects that the ratio of net debt-to-GDP will continue to increase over the next two years, reaching 41.2% in 2014-15 (Government of Ontario, 2012). The government expects

Figure 1.3: Ontario—Comparative Growth as an Index, 1990-91 = 1.00 (1990-91–2012-13)



Source: Statistics Canada, 2011, 2012a, b, d; Ontario, Ministry of Finance, 2012a, b, c.

Figure 1.4: Canada—Provincial Net Debt as a Share of GDP (2011-12, 2012-13)



Source: TD Economics, 2012b.

this ratio to begin declining thereafter, based on the government’s compensation restraints and other fiscal measures. However, if these measures are not fully effective or if another recession arises, the ratio of net debt to the economy could substantially exceed the projections. Indeed, the Drummond Commission calculated that net debt-to-GDP would reach 50.7% by 2017-18, based on the current status-quo policies (Drummond Commission, 2012).

It is worth considering the conclusions and recommendations of this blue-ribbon commission, led by a former senior bureaucrat in the federal department of finance and later chief economist for TD Bank, Donald Drummond.² On the severity of the province's deficit and debts, the Commission concluded that "[u]nless policy-makers act swiftly and boldly to prevent such an outcome, Ontario faces a series of deficits that would undermine the province's economic and social future" (Drummond Commission, 2012: 1). The Commission also projected the future of the province's deficits and debt if current policies are unchanged: "The resulting projection indicated that the deficit would more than double to \$30.2 billion in 2017–18 and net public debt would reach \$411.4 billion, equivalent to just under 51 per cent of the province's GDP" (Drummond Commission, 2012: 2). The Commission recommended a complete overhaul of public services in the province in order to better match public spending with available resources. To date, very few, if any of the recommendations made by the Commission have been seriously considered, let alone implemented.

The final component of Ontario's fiscal policy to consider is the cost of interest payments, which are the expenses incurred regularly by the provincial government to service existing debt. The government expects to incur \$10.6 billion in interest costs in the current fiscal year (2012-13). This is up slightly from \$10.1 billion in 2011-12. The government expects interest costs to increase further to \$11.2 billion in 2013-14 and to \$12.3 billion in 2014-15 (Government of Ontario, 2012). These costs are resources subtracted from revenues collected by the government that cannot be used for direct service provision or income transfers. They are simply the costs of previous borrowing.

More telling of the cost of interest charges, however, is their share of revenues. In 2011-12, 9.2% of revenues were allocated for interest charges. The government expects this to increase to 10.1% by 2014-15 (Government of Ontario, 2012). Put differently, the Ontario government expects to allocate one of every ten dollars of revenue simply to service past debt within the next two years. This expectation assumes that low interest rates will continue. Any increase in interest costs beyond the optimistically low assumption used by the government would result in an even higher share of revenues being consumed by interest costs.

As the Drummond report, a number of bank analyses, and independent reports (e.g., Beckman, Hodgson, and Steward, 2012) have demonstrated, Ontario's fiscal position is not only worrying but in many ways worsening. Its current plan calls for continued deficits for the next five years, rising debt in nominal terms for the next five years, increasing debt as a share of the economy for the next two years, and rising interest costs.

2. A copy of the Drummond Commission's report is available at <<http://www.fin.gov.on.ca/en/reformcommission/chapters/report.pdf>>.

2. California's Fiscal Position

Stating the Obvious—US States Are Different from Canadian Provinces

Before delving into the state of finances in California, it is worth noting some important constitutional differences between California and Ontario. Unlike the provinces in Canada, US states have their own constitutions distinct from the national constitution, which embody state-specific constitutional rules that can restrict the fiscal powers of the respective state governments.³ Of particular interest for this essay is the constitutional requirement in many states including California for a balanced budget. Canadian provinces, on the other hand, do not have stand-alone constitutions. However, many provinces have implemented statutory requirements for balanced budgets.⁴ The primary difficulty with a statutory or legislated balanced budget is that successor governments can repeal such laws if fiscal conditions change or if the successor government has different views of deficits and debt.

Seven Canadian provinces, including Ontario, enacted balanced budget legislation between 1995 and 2002 to limit debt accumulation. In 1999, the Ontario government passed two pieces of legislation, The Taxpayer Protection Act and The Balanced Budget Act (Canadian Taxpayers Association, 2004). Effective April 2001, the Ontario laws required a balanced annual budget but allowed for several mitigating exceptions. Furthermore, the law imposed substantial salary reductions on Executive Council members if expenditures exceeded revenues by more than one percent (Ontario E-Laws, 1999).

Ontario was in surplus when the balanced budget requirement took effect. Small surpluses were recorded by the government in 2001 and 2002. In 2003, the government incurred a \$5.5 billion deficit. The government followed up the 2003 deficit with a planned \$2.2 billion deficit in 2004. The legislature then repealed the Balanced Budget Law and replaced it with the Fiscal Transparency Act of 2004. According to the new statute, the Executive Council must target a balanced budget, but can run a deficit when prudent fiscal policy necessitates (Ontario E-Laws, 2004). The new law made no provision for Executive Council salary reductions in the event of deficit. As such, while the Fiscal Transparency Act contains a balanced budget requirement, it is easily circumvented by a sitting legislature and not enforceable by any other government branch.

California, like 48 other US states, has a constitutional mandate for a balanced budget (National Association of State Budget Officers, 2008). The

3. One of the constitutional restrictions on California, of which most people are unaware, is the priority status of interest payments. Specifically, the California constitution prioritizes interest payments ahead of all other expenditures, which provides a real sense of security to bondholders that they will indeed receive payments. No such guarantee exists with respect to Canadian provinces.

4. For a more thorough discussion of constitutional versus statutory limits on deficits and debt, as well as spending more broadly, please see Clemens et al., 2004; for information on the effectiveness of the various balanced budget laws in Canada, see Simpson and Wesley, 2011.

requirement for balanced budgets in the United States is fairly well known. However, what is generally misunderstood or unknown, even in the United States, is that most balanced budget requirements including the one in California only applies to the annual operating budget, which in California is referred to as the General Fund. The General Fund includes most tax revenues along with most discretionary spending such as expenditures on Medicaid, education, transportation, prisons, and the like. In addition to its General Fund, however, California has two other funds for state-level spending: (1) the Special Fund and (2) the Bond Fund.⁵ The Special Fund encompasses spending where taxes, fees, and levies are specifically earmarked and designated for certain types of spending. In other words, the spending in these funds have dedicated revenues and zero discretion in terms of how the money is spent. The Bond Fund, as the name implies, refers to spending that is financed by General Purpose Bonds of the State of California. The proceeds from the bond issues are used to finance earmarked expenditures. For 2012-13, spending in the General Fund (\$91.3 billion) represents 64.1% of total spending by the state (California State, Dep't of Finance, 2012). The remainder of the spending, a little over one third, is done within the Special Fund (27.7%) and the Bond Fund (8.2%).

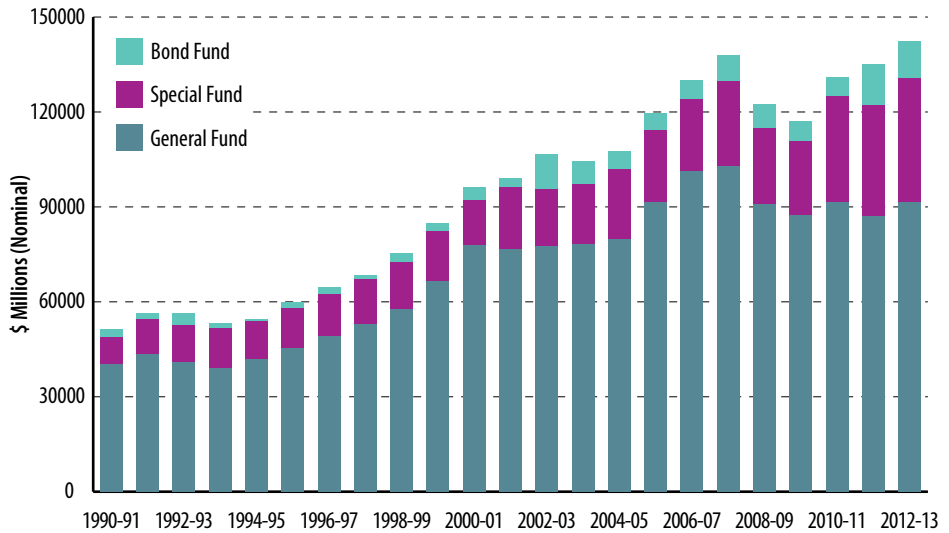
Figure 1.5 depicts spending in California beginning in 1990-91 by type of fund. General Fund spending is clearly the dominant component of total spending by the state of California. It has increased from \$40.3 billion in 1990-91 to \$91.3 billion in 2012-13, which is a decline from its peak of \$103.0 billion realized in 2007-08. Interestingly, though, much larger percentage increases have occurred in the other funds, which have offset, at least to some extent, the reductions in General Fund spending.

Figure 1.6 illustrates spending increases in California beginning in 2000-01 as an index for all three funds. In other words, figure 6 depicts spending in any particular year as a ratio of spending in 2000-01. For instance, if spending in 2000-01 were \$1.00 and spending in 2012-13 were \$2.00, the index presented in figure 6 would be 2.00. The lower line in figure 6 depicts spending in the General Fund. Since 2000-01, spending in the General Fund has increased by 17.0%. The decline from its 2007-08 peak is also evident.

Spending in the other two funds has clearly increased at much higher rates than spending in the General Fund. For example, spending in the Special Fund as of 2012-13 is 182.1% higher than in 2000-01. Similarly, spending in the Bond Fund is now 167.9% higher than in 2000-01. Clearly, increased spending in these two funds has offset both the slower growth in the General Fund and to a lesser extent the reductions in General Fund spending that began in 2008-09 (see figure 1.5).

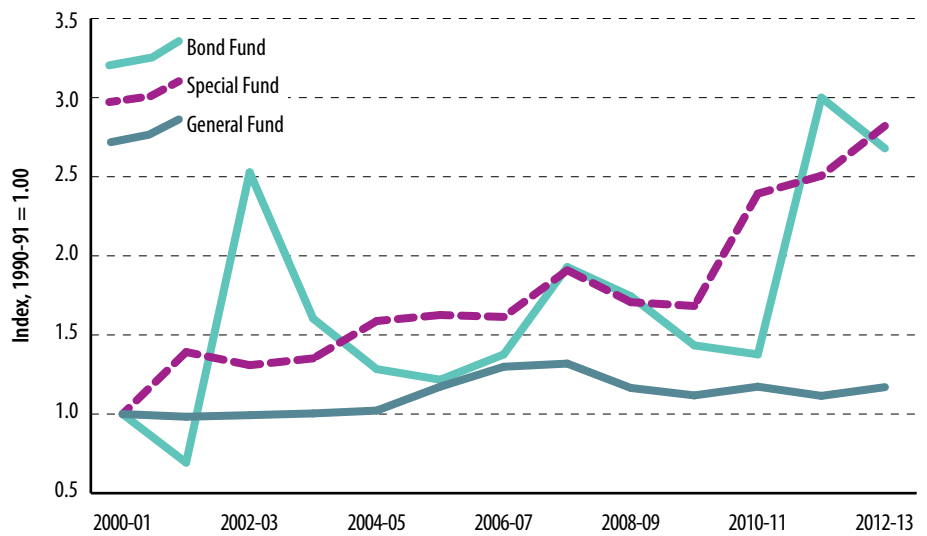
5. For additional information and clarification, see the California Department of Finance at <<http://www.dof.ca.gov/>>.

Figure 1.5: California State Spending by Fund, Nominal Dollars (2011-12, 2012-13)



Source: California State, Department of Finance, 2012: .

Figure 1.6: California—Growth in Spending by Fund as an Index (2000-01 = 1.000)



Source: California State Government, Department of Finance, 2012.

The implication of these additional spending funds is that, while California has a constitutional requirement to balance its operating budget, the scope for debt accumulation is much greater than most people are aware, including Californians themselves.

State of the Golden State's Finances

US state financial disclosures are more complex than those for Canadian provinces. Further, state budget data is more difficult to reconcile against audited

financial reports than in Canada. Discussions of US state finances generally refer exclusively to the General Fund, in which most tax revenues are collected and from which most discretionary expenditures are allocated. However, as already discussed, this ignores a substantial portion of total state-level spending. In California and other states, for example, the General Fund does not include governmental activities financed by federal assistance, gasoline tax revenue and other special fund revenues. Governmental activities, in turn, exclude proprietary funds and separately reporting component units.

California's proprietary funds include: electric power, water resources, public building construction, state lottery, unemployment programs, and the California State University system. Separately reporting components include: the University of California system, state compensation insurance fund, California Housing Finance Authority, and the Public Employees' Benefit Fund administered by CalPERS (the California Public Employee Retirement System).

Finally, California's financial reports show revenues and expenditures at some levels of consolidation, but not at others.⁶ The reports do show beginning and end-of-year net assets at most reporting levels. Net assets refer to the difference between total assets and total liabilities, and thus the annual change in this magnitude serves as a rough proxy for deficits. But, because the change in net assets from year to year includes depreciation and other accounting adjustments, it varies somewhat from the difference between revenues and expenditures.

Table 1.1 is derived from the state's most recent *Comprehensive Annual Financial Report* (CAFR) (California State Controller's Office, 2011) and shows various measures of California's deficit. In fiscal year 2010-11, the most recent year for which final data is available, the expenditures across all state governmental funds exceeded revenues by \$2.6 billion (line 3 in table 1). Although this number is roughly analogous to Ontario's operating deficit, it does not reflect the results of several separately reporting units of government. These funds and components were in surplus during the 2011 fiscal year, reducing the need for debt issuance. Total debt outstanding increased by \$0.8 billion during that year. While the full fiscal 2011-12 financial report has yet to be published, preliminary figures from the state treasurer's office indicate that California state government took on an additional \$2.8 billion of bonded debt in the most

6. State budgets are typically shown on a cash basis or according to some other non-GAAP reporting standard. California's budget reporting uses a Budgetary/Legal basis described in its Comprehensive Annual Financial Report (CAFR). The US Government Accounting Standards Board (GASB) mandates use of the modified accrual accounting basis for audited financial statements. Under modified accrual accounting, taxes and other revenues are recorded as they become due (presuming they are measurable and expected to be collected within 12 months) and liabilities are recorded when they are incurred. Capital assets are depreciated over their useful life. These conventions are similar to the standards of the Canadian Public Sector Accounting Board (PSAB) employed in Ontario's financial statements.

Table 1.1: Various Measures of California's Deficit

	Surplus (Deficit)	
	2011	2012(p)
General Fund Revenues Less Expenditures (Budgetary/Legal Basis)	2,154	(1,429)
General Fund Revenues Less Expenditures (Modified Accrual Basis)	3,048	
All Governmental Fund Revenues Less Expenditures (Modified Accrual Basis)	(2,625)	
Change in Net Assets, Government Funds	(3,545)	
Change in Net Assets, Proprietary Funds	330	
Change in Net Assets, Government-Wide	(3,215)	
Change in Net Assets, Separately Reporting Component Units	2,890	
Change in Net Assets, Government-Wide Plus Separately Reporting Components	(325)	

Source: California State Controller's Office, 2011.

recent fiscal year.⁷ As of June 30, 2011, California had \$143.9 billion in bonded debt,⁸ which is 8% of Gross State Product (state GDP). In 1982, the state's debt-to-GDP ratio was about 2%. Thus the state's debt burden has been rising steeply, but from a very low base.

3. Fiscal Comparisons

The concept of net debt is not used in US public accounting so a different metric is required to compare the debt burdens of Ontario and California. A readily available measure is the value of bonds and comparable debt instruments outstanding. This is referred to as bonded debt. Table 2 and figures 7 to 10 summarize a series of comparative statistics for bonded debt in Ontario and California. Figure 7 illustrates the nominal value of bonded debt for Ontario and California as of the fiscal year-end for 2010-11. Recall that while Ontario

7. These deficit levels are quite different from those shown in newspaper headlines. For example, in May 2012, news reports referred to a \$15.7 billion deficit in the state's 2012-2013 budget. This amount, which applied only to the General Fund, included \$7.6 billion accumulated deficit carried forward from previous years and did not include spending cuts subsequently approved by the state legislature.

California does not provide a multi-year budget forecast similar to that of Ontario but the State Treasurer reports intended bond issuance for the next two fiscal years. In the most recent report, new bond issuance was forecast to be \$5.3 billion in fiscal 2013 and \$7.4 billion in fiscal 2014. These numbers do not include new revenue bonds or bonds issued by separately reporting component units. On the other hand, they will be offset by several billion dollars in bond redemptions over the two fiscal years (Lockyer, 2012).

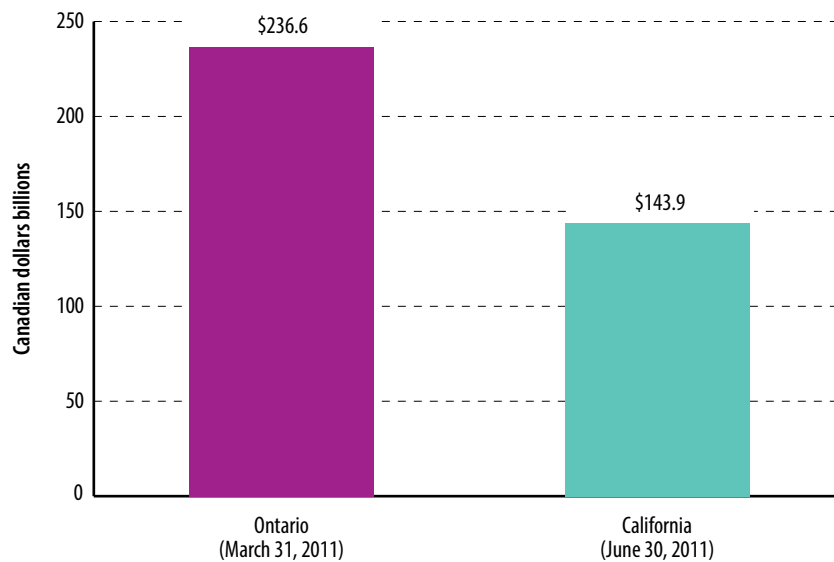
8. For comparability with Ontario, this total includes revenue bonds and debt of separately reporting components. Using a narrower definition of state debt applied by rating agencies, California's Debt/GDP ratio is about 5% (Lockyer, 2012).

Table 1.2: Comparison of Debt in Ontario and California

As of	Ontario March 31, 2011	California June 30, 2011
Bonded Debt (\$ 000's)	236,629,145	143,909,112
Population	13,203,479	37,543,381
GDP (\$M)	612,494	1,877,568
Bonded Debt Per Capita	17,922	3,833
Bonded Debt/GDP Ratio	38.6%	7.7%
Interest Expenditure (\$ 000's)	9,480,000	5,467,766
Total Revenue (\$ 000's)	106,658,000	195,337,050
Interest/Revenue Ratio	8.9%	2.8%

Sources: Ontario—Ontario, Ministry of Finance, 2012b; Statistics Canada, 2012a; Ontario Economic Accounts (<http://www.fin.gov.on.ca/en/economy/ecacctts/analytical.html>). California—California State Controller's Office, 2011; California, Department of Finance; US Bureau of Economic Analysis; author's calculations.

Figure 1.7: Ontario and California—Total Bonded Debt



Sources: Ontario—Ontario, Ministry of Finance, 2012b; Statistics Canada, 2012a; Ontario Economic Accounts (<http://www.fin.gov.on.ca/en/economy/ecacctts/analytical.html>). California—California State Controller's Office, 2011; California, Department of Finance; US Bureau of Economic Analysis; author's calculations.

Note: California figures are converted to Canadian dollars.

has data available for 2011-12, California does not, so older data for 2010-11 was used for comparative purposes. Ontario's bonded debt as at the end of fiscal 2011-12 was \$236.6 billion.⁹ California's bonded debt as at the end of 2010-11 was \$143.9 billion.¹⁰ Ontario's bonded debt, therefore, was 64.4% higher than that of California as of 2010-11.

However, an absolute comparison of debt understates the effective difference because California's economy and population are roughly three times larger than Ontario's. Thus, the gap in terms of debt per capita and the debt-to-GDP ratio is much higher than the absolute comparison (table 1.2). Figure 1.8 illustrates the value of per-capita bonded debt in the two jurisdictions. California's bonded debt, as of fiscal 2010-11 stood at CA\$3,833 compared to Ontario's per-capita bonded debt of \$17,922. In other words, Ontario's per-capita bonded debt was over four-and-a-half times as high as California's.

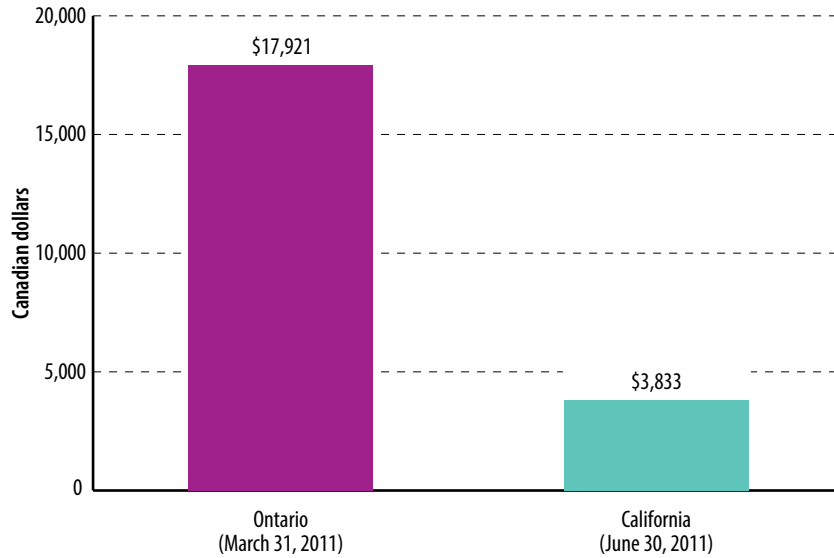
Most telling of the differences in bonded debt, figure 1.9 illustrates the value of bonded debt in both jurisdictions as a share of the economy (GDP). This is the critical measure because it highlights differences in the ability of each jurisdiction to manage and service the debt with available resources. As of fiscal 2010-11, California's bonded debt represented 7.7% of its economy while Ontario's bonded debt represented 38.6% of GDP. This is a stunning difference in the burden of bonded debt, particularly given the attention and concern focused on the California compared to Ontario.

The cost of debt is the annual interest imposed on government. These charges create a wedge between the resources extracted by the government (revenues) and the actual goods and services and income transfers that the government can provide. While Ontario and California face similar average interest rates for their debt, the large difference in the stock of debt means equally large differences in interest costs. Figure 1.10 illustrates the interest expenses incurred by each government as a share of their revenues for 2010-11. California's interest charges consumed 2.8% of state revenues in 2010-11 while Ontario's interest charges consumed 8.9% of provincial revenues.

⁹ In addition to its bonded debt, the province had \$47.3 billion in other liabilities resulting in total liabilities of \$304.6 billion. These liabilities were offset by \$69.0 billion of financial assets, yielding the \$235.6 billion net debt reported earlier.

¹⁰ California data is reported in US dollars. For comparative purposes, the nominal dollar values were converted to Canadian dollars based on the conversion rates as at June 30, 2011: USD 1.0380; March 31, 2012: USD 1.0013; and June 30, 2012: 0.9837.

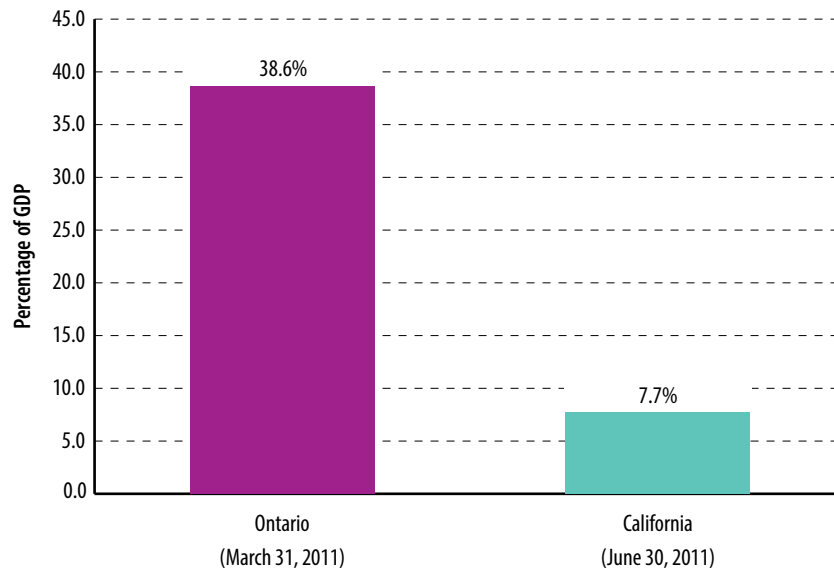
Figure 1.8: Ontario and California—Bonded Debt per Capita



Sources: Ontario—Ontario, Ministry of Finance, 2012b; Statistics Canada, 2012a; Ontario Economic Accounts (<http://www.fin.gov.on.ca/en/economy/ecaccts/analytical.html>). California—California State Controller's Office, 2011; California, Department of Finance; US Bureau of Economic Analysis; author's calculations.

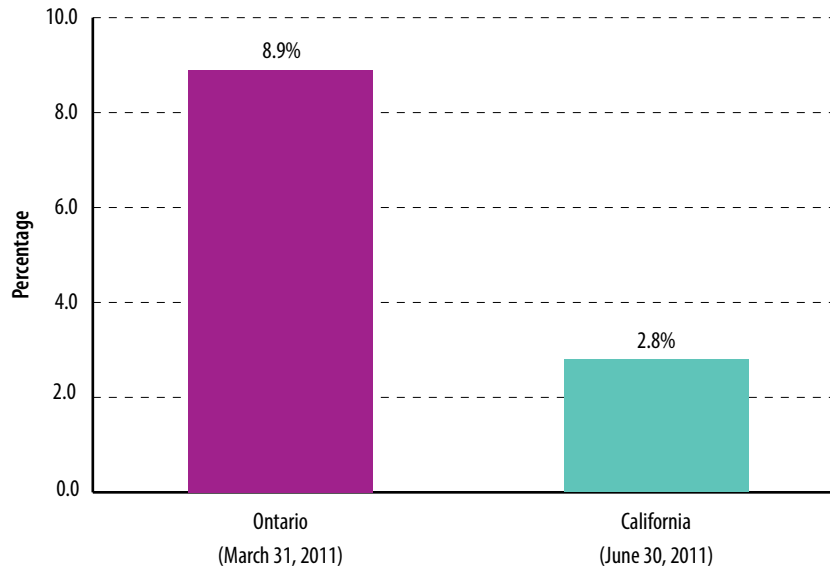
Note: California figures are converted to Canadian dollars.

Figure 1.9: Ontario and California—Bonded Debt as Share (%) of GDP



Sources: Ontario—Ontario, Ministry of Finance, 2012b; Statistics Canada, 2012a; Ontario Economic Accounts (<http://www.fin.gov.on.ca/en/economy/ecaccts/analytical.html>). California—California State Controller's Office, 2011; California, Department of Finance; US Bureau of Economic Analysis; author's calculations.

Figure 1.10: Ontario and California—Interest Expense as Share (%) of Revenues



Sources: Ontario—Ontario, Ministry of Finance, 2012b; Statistics Canada, 2012a; Ontario Economic Accounts (<http://www.fin.gov.on.ca/en/economy/ecacctts/analytical.html>). California—California State Controller's Office, 2011; California, Department of Finance; US Bureau of Economic Analysis; author's calculations.

Conclusion

California has faced critical scrutiny by the media and financial markets with respect to deficits and debt. However, the measures employed in this essay repeatedly demonstrate that Ontario's fiscal situation is significantly worse than that of California. Ontario's bonded debt is almost two-thirds larger than California's even though the Golden State has a larger economy and population, which is illustrated by a per-capita bonded debt in Ontario (\$17,921) that is more than four-and-a-half times higher than California (\$3,833). Most telling of the difference in debt is that Ontario's bonded debt is 38.6% of the provincial economy compared to 7.7% for California. Clearly, Ontario is in a more precarious and risky situation than California with respect to its deficit and debts.

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2. The Past and Future of Ontario's Public Debt

Ronald D. Kneebone and Margarita Gres

Understanding government finances can be challenging. The need for governments to respect accounting conventions makes it difficult for taxpayers—those who must ultimately pay the government's bills—to wade their way through balance sheets, reconciliation statements, and budgetary addenda. But it is important for taxpayers to understand their government's budget because hidden within its covers is information that reveals what is the likely path of the taxes they will be asked to pay and the future generosity (or stinginess) of the public services they hope to enjoy.

The purpose of this essay is to lay out, in as simple a manner as we can, an explanation of how the Ontario government budget has evolved in the past and how it may evolve into the future. We acknowledge at the outset that our projections into the future will be inaccurate. That is less an indictment of our abilities as it is a recognition that the future can never be forecast perfectly. This is particularly true of government budgets because those budgets reflect the choices of Ontarians, expressed through the democratic process and implemented (perhaps imperfectly) by their elected representatives, and those choices and preferences change over time. What's more important, drivers of budget outcomes—interest rates, economic growth rates and inflation—are wont to change in unexpected ways. The recent world financial crisis and its impact on the viability of industries that were previously thought to be solid foundations for future economic growth—such as Ontario's automotive sector—is a telling example. Consider as well the budgetary impacts of unexpected and unpredictable natural catastrophes, such as the hurricane that swept through the northeastern United States recently, and one develops a healthy respect for forecasters.

We begin by providing a framework for understanding government budgets. It involves some arithmetic but the equation we introduce is less important than the basic ideas that it represents. We explain these ideas as simply as possible. We then apply that explanation to the Ontario government's fiscal history as described in its public accounts. This application will reveal the role played by various sources of debt accumulation and in so doing provide clues to what the future may look like. Finally, we turn to the speculative part of our exercise by looking into the future.

A Framework for Understanding the Budget

At their most basic, government budgets are simple matters. Governments spend on publicly provided goods and services such as health care, and they raise taxes from citizens via the personal income tax, sales taxes, and other sources. When spending exceeds the amount raised in taxes the government incurs a deficit, which it needs to finance by issuing bonds and thereby adds to its outstanding debt. When tax revenue exceeds spending, the result is called a surplus. A surplus allows the government to accumulate financial assets or retire previously accumulated debt. Replace the word "tax" with "income" and the word "government" with "household" in the above narrative, and you have a good description of how we all budget in our personal lives. Like a household, then, governments face a budget constraint; they can only spend what they are able to collect in tax revenue or raise by borrowing.

The amount we borrow as households is limited by our ability to repay our debts. The most important consideration for determining our ability to carry debt is our income: the greater our income, the more debt we are able to carry. Also important is the interest rate we pay on our debt: as interest rates increase we find it more difficult to finance our debts and so we tend to cut back. All of this is true of governments as well; their budgeting problem is not substantially different from ours. However, unlike any real-world household, a government is infinitely lived and therefore never needs to pay off its debt. In addition, the economy of a country is continually growing, apart from recessionary periods, so that its government can sustain an ever-growing amount of debt so long as that debt does not outpace economic growth by too much for too long.

These insights have prompted economists to evaluate the performance of government budgets in part by examining how they deal with restrictions placed on them by some basic arithmetic. These evaluations revolve around the following equation:

$$\frac{D}{GDP} = \left(\frac{S - T}{GDP} \right) + \left(\frac{1 + R}{1 + G} \right) \left(\frac{D_{-1}}{GDP_{-1}} \right)$$

So, what does this say? It says, first of all, that the amount of debt held by a government (D) should be evaluated as being big or small by comparing it to the government's ultimate source of income in that year—our collective incomes or what economists call Gross Domestic Product (GDP).¹ We will refer to the measure of debt relative to GDP (D/GDP) as the government's *debt burden*. The right-hand side of this equation describes the factors that cause the size of the government's debt burden to grow or shrink.

The first consideration is described by the first term in brackets on the right hand side of the equation. This measures the difference in what the government spends on programs (S)—health care, social assistance, and education are the big three—and what the government collects by way of tax revenue (T). The difference, called the *primary balance*, is evaluated as being big or small by comparing it to our collective income, GDP .

If the primary balance is positive (if $S > T$), it is said to be in deficit and as the equation shows it causes government debt to grow. If it is negative ($S < T$), the primary balance is said to be in surplus and this causes government debt to shrink. The primary balance will play an important role in the discussion that follows. The size of the primary balance reflects choices the incumbent government makes with respect to spending and taxation. It is the main tool by which governments can cause the level of debt to become more or less of a burden on the economy and a constraint on future fiscal choices.

The second factor influencing the size of the debt burden is described by the equation's last term. This term defines the influence on the debt burden of choices made in previous years. The size of that influence is the product of two factors. The first is the size of the debt burden incurred in previous years (D_{-1}/GDP_{-1}). This is important for the government in the current year because it must meet the obligation to pay interest on that debt. The interest rate it must pay is represented by R . The equation confirms what is intuitively obvious: a higher interest rate (R) and a larger debt incurred in previous years (D_{-1}/GDP_{-1}) will increase the current debt burden (D/GDP).

The second term on the right hand side of our equation also confirms something else that is intuitively obvious. Since we measure the burden of debt relative to our collective income, the faster our income grows the smaller our debt burden becomes.² In our equation, the rate of growth in our collective income is represented by G and, since it appears in the denominator, a larger value decreases the debt burden.

Whereas the size of the primary balance reflects choices the incumbent government makes with respect to spending and taxation, the size of the second term on the right-hand side of our equation represents the limits placed on

1. Your bank manager makes a similar comparison when she calculates how serious your debt load is; she compares it to your income.

2. Your bank manager is always very pleased to hear your income has grown. The news tends to make her more accommodating of your requests for additional loans.

the current government by all previous governments and by the state of the economy. As can be seen from the equation, if R is larger than G , the current government must deal with an inheritance—previously accumulated debt—that is causing the debt burden to grow over time. When the growth rate of our collective income exactly equals the interest rate paid on public debt, the relative debt burden on the economy remains unchanged, apart from any impact from a primary balance that is positive or negative.

This framework for understanding the budgetary choices of governments highlights the following conclusions. First, the choices that a government makes with respect to spending (S) and taxes (T) are limited by the state of the economy at the time it takes office. In particular, if interest rates (R) are high relative to the rate of economic growth (G), then the current government must moderate spending and/or increase tax rates in order to deal with an inherited debt that yields a growing debt burden. If, on the other hand, interest rates (R) are low relative to the rate of economic growth (G) then the incumbent government has more freedom to choose levels of spending and taxation. Indeed, in this economic environment they may be able to afford to spend more than they collect in tax revenue and still reduce the debt burden.

Ontario's Past

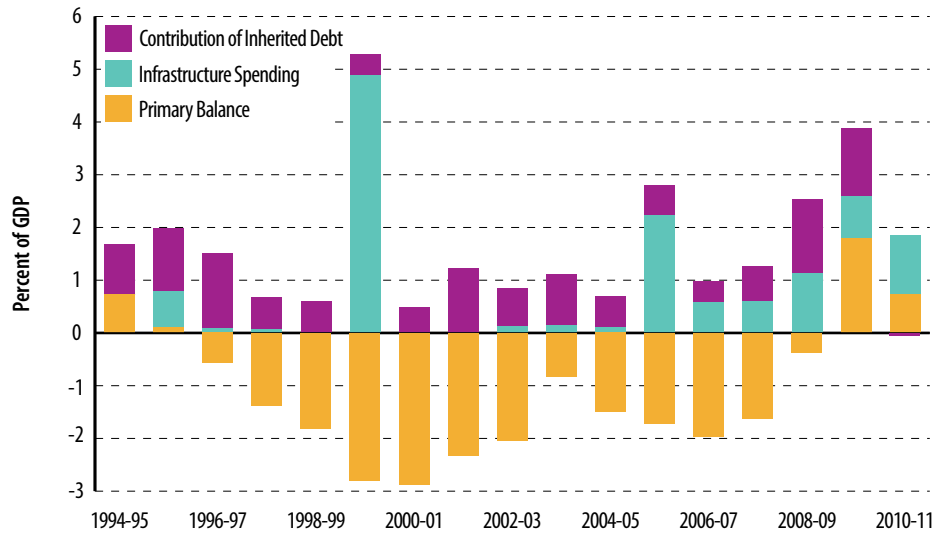
In fiscal year 1990-91, the government of Ontario had a net debt equivalent to 14% of Ontario's GDP (Ontario Financing Authority, 2012). By the end of fiscal year 2010-11, that debt had grown to 35% of GDP. Relative to the collective incomes of Ontarians, then, the government's debt had increased two-and-one-half times. Figure 2.1 uses our equation to identify the sources of change in Ontario's debt burden over the period 1994-95 to 2010-11.³

The height of the stacked bars above the zero line measures the increase in the government's debt ratio (D/GDP) that occurred in each year. Thus, in 1999-2000, for example, the government's debt ratio increased by just over 5 percentage points. The figure identifies three sources of debt accumulation.

The purple bars identify the increase in the debt ratio due to the last term in our debt equation. As discussed above, this is the increase in the debt ratio that is due to the net influences of the interest rate and the growth rate of the economy acting on previously accumulated debt. The fact that these bars almost all lie above the zero line indicates that throughout this period governments in Ontario had to deal with the reality that the interest rates paid

3. These calculations are based on financial data contained in the Ontario government's Public Accounts (Ontario Ministry of Finance, various years). Changes in accounting rules limit the length of time we can use earlier figures on a comparable basis. The interest rate that we use in our calculations is an average of the interest rates paid by the government on many different types of debt of various terms to maturity. It is calculated by dividing debt servicing costs by the amount of debt from the previous year. Data on Ontario's GDP is reported on a calendar year (CY) basis whereas budgetary data are reported by fiscal year (April 1 to March 31). We calculate a fiscal year (FY) version of GDP using the formula $FY_t = 0.25 \times CY_t + 0.75 \times CY_{t-1}$.

Figure 2.1: Ontario—Annual Contributions to the Debt Ratio (1994-95–2010-11)



Source: Ontario Ministry of Finance, various years.

on its debt have exceeded the growth rate of the economy ($R > G$).⁴ That is, throughout this period governments were dealing with the fact that financing the debt charges on previously accumulated debt was pushing the current level of debt ever higher relative to income.

Dealing with the purple bars requires that the government set tax rates and establish spending programs that result in a primary surplus.⁵ This in turn requires that the government collect more in taxes than it spends on programs. In figure 2.1, the contributions of primary balances to changes in the debt burden are represented by the height of the orange bars.

For the most part, the orange bars have been below the zero line since 1994-95. This indicates that for most of this period governments were making fiscal choices with respect to taxes and program spending that were causing the debt burden to fall. In 2000-01, for example, the primary balance was such as to reduce the debt burden by nearly 3 percentage points. This more than offset the fact that interest rates and the growth rate of the economy were acting to increase the debt burden by about 0.5 percentage points (as represented by the height of the purple bar).

From 1996-97 to 2007-08, the government maintained primary balances that were sufficient to offset the growth in debt burden caused by the economic environment and the fact it needed to deal with the debt inherited from previous governments. As a consequence, the debt burden was

4. 2010-11 was the only year in which R was less than G . The difference in the values in that year was so small that the height of the purple bar is barely discernible.

5. In terms of our equation, we need the first term in that equation—the primary balance—to take on a negative value.

reduced more or less steadily over this period. Things were looking good. Unfortunately, two challenges to maintaining a low debt burden would arise.

One challenge that presented itself was the latest recession. Beginning in 2008-09, the recession reduced tax revenue (T) and increased spending on programs (S) such as social assistance. By 2009-10 this caused the orange bars to move above the zero line indicating the primary balance was now contributing to increases in the debt burden. The second challenge to keeping the debt burden low was spending on infrastructure and restructuring the electricity market. The largest of these considerations was the absorption of \$20.9 billion of stranded debt in 1999-2000 to facilitate the privatization of Ontario Hydro.⁶ Other investments in infrastructure included the costs associated with bailouts of the auto sector during the recent recession.

The influence of spending on infrastructure and restructuring the electricity market on the debt burden is represented in our figure by the green bars. Every year does not show a green bar because these spending decisions are not part of what is defined as program spending (S). Program spending represents on-going spending commitments mainly on health, education, and social services. Infrastructure spending and charges due to electricity market restructuring are one-off spending decisions. The absorption of debt to facilitate the privatization of Ontario Hydro added nearly 5 percentage points to the government's debt burden. The other one-off spending commitments would contribute nearly another 7 percentage points of debt burden by the end of 2010-11.⁷

Ontario's Future

At its current level of 35%, Ontario's debt burden is by no means huge. However, a more useful assessment of the situation should be based not on current conditions but on what the future is likely to bring. Anyone who makes a forecast must make some assumptions. Fortunately, our budgetary framework requires relatively few assumptions.

We assume that, from now until fiscal year 2019-20, Ontario's GDP will grow at 4%. This is a bit slower than the average rate of growth experienced over the decade prior to the recession (4.8%) and reflects our belief that Ontario is still recovering from the recession. We will assume the government will be able to pay an average interest rate of 5% on its outstanding debt. That is lower than what it has paid over the decade prior to the recession (7%), but reflects an assumption on our part that debt bearing higher interest rates

6. The \$20.9 billion figure is reported in Drummond Commission, 2012. The figure reported in the Public Accounts grew slowly over time from the initial figure of \$19.4 billion reported in 1999-2000 (Ontario, Ministry of Finance, 2012a, b, c).

7. Our task in this paper is only to identify the source of change in the government's debt burden. It is not to evaluate the choices the government made. Whether the government received a good return on its investments in the auto sector and its restructuring of the provincial electricity market is well beyond the scope of this essay.

is being replaced by lower-interest-rate debt.⁸ The difference between these values ($R > G$ by 1 percentage point) is smaller than the average difference during the 10 years prior to the recession and so we assume conditions that would cause the debt burden to grow at a slower rate than if we were to use average values from the past decade.

We assume that own-source revenues (the sum of personal and corporation income taxes, HST revenue, and other smaller sources) grow at 5% per year. This is slightly slower than the rate of growth in the 10 years prior to the onset of the recession (6%) and so again reflects our belief that full recovery from the recession is not yet complete.⁹ Federal cash transfers are estimated to grow at 5% per year; considerably slower than what has been experienced lately. This reflects our expectation that the federal government will follow through on its policy to restrain the growth in health-related and other transfers. Broadly speaking, our assumptions with respect to revenue growth are consistent with there being no new taxes and no increases in existing tax rates.

On the spending side, we assume all categories of program spending grow at the rates they did during the 10 years prior to the onset of recession. Thus spending on health is assumed to grow at 7.2% per year, spending on education and training at 10% per year, spending on social services at 3.4%, and spending on all other programs at 6.2%. Finally, we presume there are no further one-off spending increases to fund infrastructure projects, industry bail-outs, or further efforts at restructuring the electricity market.

The orange line in figure 2.2 shows the implication of these assumptions for the government's debt burden. The recent rise in the debt ratio, a rise that began in 2007-08, is slated to continue and reach 66% by 2019-20.¹⁰ If this were to occur, then the government's debt burden, as measured by the ratio of debt to GDP, will have increased by nearly 5 times since 1990-91. This is clearly not sustainable. It is not sustainable because it is a very high level of debt for a provincial government to carry but, most importantly, it is unsustainable because the debt burden is on a steep upward trajectory.

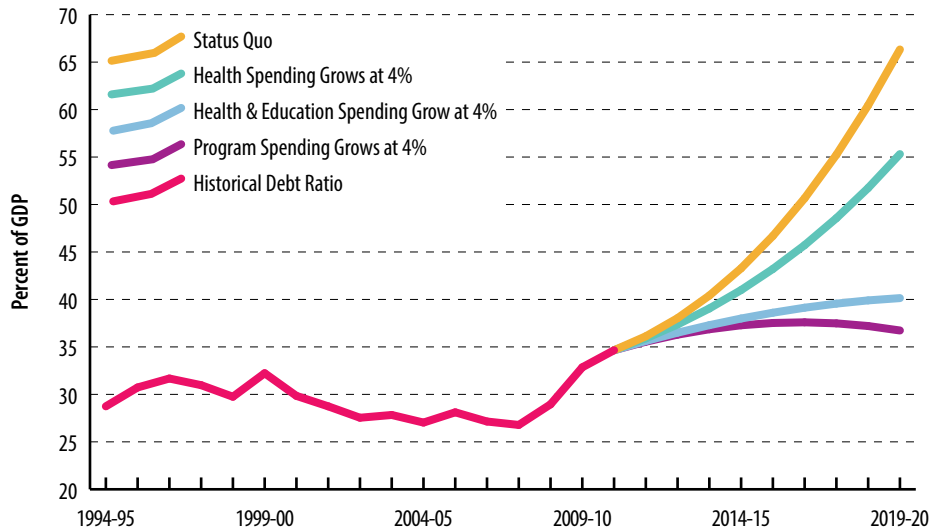
What can be done? As noted earlier, changing the size of the primary balance—the difference between program spending (S) and tax revenue (T)—is the method by which a government can influence the size of its debt

8. Our assumptions with respect to G and R are similar to those employed in the Drummond Report, which in turn are consistent with private-sector forecasts.

9. Our assumption that the rate of growth in own-source revenues is about one percentage point faster than the assumed rate of growth in GDP is consistent with what was observed in the 10-year period prior to the recession when the difference averaged 1.2 percentage points.

10. The Drummond Report predicts that by 2017-18 the debt ratio will, if the government makes no changes to what was announced in its 2011 budget, pass 51% and continue to rise. Based on slightly different assumptions about how quickly budget variables grow, we estimate that by 2017-18 the debt ratio would be slightly higher, at 55%. Our estimate showing the debt ratio increase by another 11 percentage points of GDP in just two more years (by 2019-20) is consistent with the rate of growth in the debt ratio predicted by the Drummond Report.

Figure 2.2: Alternative Scenarios for Ontario's Debt Burden (1994-95–2019-20)



Source: Ontario Ministry of Finance, various years; authors' calculations.

burden. Any number of combinations of policies can be considered. They all involve increasing tax rates that would put revenue on a faster growth path and/or reducing the rate of growth in program spending. We consider just three possible approaches.

Slowing Healthcare Spending

In the 10 years prior to the onset of the recession, spending on healthcare in Ontario grew at an annual average rate of 7.2%. Because this was considerably faster than the average rate of growth in GDP over the same period (4.8%), healthcare spending was eating up an increasing proportion of Ontarians' collective income. In our forecast leading to a debt ratio of 66% by 2019-20, we assumed income would grow at 4%. If we were to assume that healthcare spending could be kept to that same 4% rate of growth (while we maintain all of our other assumptions), then the trajectory for the debt ratio would, as shown in figure 2.2 by the green line, slow down considerably. By 2019-20, the debt ratio would have grown to "only" 55%; an 11 percentage point improvement over the base case. It is important to emphasize that, while holding healthcare spending to an annual increase of 4% would be a noticeable change from the 7.2% annual growth rate of recent history, it is also only a reduction in the rate of increase, not a cut to healthcare spending.

Slowing Health Care and Education Spending

Although in most provinces healthcare spending has grown at the fastest rate, in Ontario spending on education has been the growth leader. In the 10 years prior to the recession, spending on education grew at an average annual rate of 10%, more than twice the rate of growth in GDP. Our next scenario shows

what would happen were spending on both healthcare and education restricted to grow at the same rate as GDP. Not unexpectedly, this has a dramatic effect on the growth trajectory of the debt ratio. As shown in figure 2.2 by the blue line, the debt ratio rises to only 40% by 2019-20 and most importantly reaches a peak in another few years.

Slowing All Program Spending

Our last scenario is to assume all categories of program spending grow at the same rate as GDP (4%). Figure 2 shows that this approach results in the debt burden peaking at 37% in 2016-17 and then falling slowly thereafter (purple line in figure 2.2). This broad program of spending control therefore effectively stops the growth of the debt burden.

Conclusion

Since 1990-91, the debt of the government of Ontario—that is, the debt borne by the citizens of Ontario—has increased by two-and-one-half times relative to the collective incomes of Ontarians. We have provided a framework that helps to explain the sources of increase in the burden of debt—a burden measured by debt relative to income. Applying our framework to the history of debt accumulation from 1994-95 to 2010-11, we found that the government has had to deal with an economic environment that was forcing its debt burden higher. The government's setting of tax rates and design of spending programs was generally effective in offsetting this influence. Harmful to its efforts were very large one-off spending increases to fund infrastructure projects and a restructuring of the electricity market and to bail out the automobile sector during the past recession.

Looking ahead, the government needs to introduce changes into its spending and revenue choices. We forecast that leaving tax rates unchanged and continuing to spend on programs at the same rate as it did in the ten years prior to the past recession would cause the debt burden to rise rapidly. This is not sustainable. We have, therefore, considered the implications of some alternative scenarios.

We limited our attention to three scenarios, all of which involve slowing the rate of program spending. Limiting the rate of growth in health and education spending is the key. A broader program of spending restraint hastens the day when the debt burden stops increasing and can begin to fall. Indeed, we show that a broad program of spending restraint can stop the growth in the debt burden almost in its tracks.

None of our scenarios assumed a change in tax rates. The reason is that we do not believe increases in tax rates are necessary to curb growth in the debt burden. Our suggestions for spending restraint, while challenging, are entirely feasible and sufficient on their own. In all cases, we ask that program spending be restricted to grow at our assumed rate of growth in GDP (4% per year). How challenging would this be?

To answer that, we need to recognize that government programs support an ever-growing population. Ontario's population grows at about 1.2% per year. On a per-capita basis, therefore, our restriction on program spending constrains growth to 2.8% per year per person. We should also pay attention to the fact that the prices of everything we buy—and this is true for government as well—increase every year. Assuming, as is common in these sorts of projections, an annual rate of inflation of 2%, our policy prescription to restrict growth in spending to 4% per year is equivalent to asking that growth in spending be limited, in inflation-adjusted per-capita dollars, to 0.8% per year.¹¹ We are not, in other words, suggesting draconian cuts to spending. Even adjusting for inflation and population growth, spending can continue to grow. All we are suggesting is that the rate of growth be at a level consistent with the rate of growth in Ontarian's collective income. It turns out that this is all that is required to halt the rapid growth in the burden of debt carried by Ontario's taxpayers.

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11. This compares to the 4% annual rate of growth in inflation-adjusted per-capita spending over the 10-year period prior to the recession.

3. Ontario and Greece

A Comparative Study of Public Debt

Livio Di Matteo

Even Greece, the poster child for rampant debt, carried an Ontario-style debt load as recently as 1984.

Don Drummond (2012), *Commission on the Reform of Ontario's Public Services*

1. Introduction

Greece is burdened by a massive fiscal crisis rooted in rampant debt: it has lost its fiscal freedom and become a slave to its public debt. The result has been cuts to its public spending and services and a decline in the quality of life. Greece is an intriguing fiscal comparison to Ontario in that it is a small country with a population approximately the size of Ontario's. Indeed, in the wake of the Drummond Report on Ontario's fiscal situation, invariably the statement surfaced in media debate and discussion that Ontario was on the road to becoming the next Greece (Ferguson, 2012, Feb. 17; *Maclean's*, 2011, Oct. 17).

It is a stretch to argue that Ontario is akin to Greece in terms of its fiscal problems given its generally high level of credit worthiness, high per-capita GDP and economic development, stable financial institutions and political culture, and membership in the Canadian federation. Toronto is not Athens and Lake Ontario is not the Aegean and comparing the fiscal situations of Ontario and Greece is comparing apples with oranges. Nevertheless, it is instructive to look at Greece for lessons on where not to go with debts and deficits.

In 2011-12, Ontario had a net debt of \$235.6 billion and it is expected to reach \$293.3 billion by 2014-15 (Ontario Ministry of Finance, 2012a). The IMF has estimated that Greece in 2011 had a net public debt of 355.8 billion Euros. By 2015, assuming the current measures of financial assistance, austerity, and deficit control are successful, the IMF provides estimates showing that Greece's net debt may decline to about 331.0 billion Euros (International Monetary Fund, 2012). This would still leave Greece with an estimated ratio of net debt to GDP of 151%.

Ontario in 2011 had a net ratio of debt to GDP of about 37% and it may exceed 40% in the not-so-distant future. Greece in 1984 had a net-debt-to-GDP ratio of 37%, which reached 66% by 1994 and in 2011 sat at 163%.¹ In some respects, Ontario is where Greece was in the 1980s and Greece offers lessons of what not to do with the public finances.

Public debt in Greece has practically tripled in about a decade, putting it in a league of its own for the ratio of net public debt to GDP (table 3.1). Indeed, Greece makes Japan's net-debt-to-GDP ratio of 127% look almost fiscally responsible. When Ontario is put in this international league of comparisons it actually looks quite respectable, though the comparison is in some respects inappropriate given that Ontario is a province of Canada rather than a sovereign state. Indeed, if one combines Canada's and Ontario's net-debt-to-GDP ratios, one gets another perspective on the total net debt burden facing the average Ontario citizen—a combined net-debt-to-GDP ratio of about 70%.

Comparing Ontario with Greece is a valuable exercise because it allows for an illustration of what some of the consequences could be if Ontario fails to address its debt situation. Indeed, at least one recent study suggests that, amongst Canada's provinces, Ontario has the highest probability of default over the course of the next 30 years (Joffe, 2012). Such a scenario is considered extremely unlikely and alarmist by most analysts.² Moreover, Ontario in its spring 2012 budget has started taking the steps needed to address its fiscal situation so it is implausible that it will take a future trajectory that mirrors Greece. Nevertheless, what has happened to Greece illustrates what happens when naïve good intentions rather than fiscal responsibility dominate public policy. The road to debt, like the road to hell, is paved with good intentions.

2. Ontario and Greece: Some Quick Comparators and Context

Greece is a sovereign nation within the quasi-federal European Union with a full national range of expenditure functions while Ontario is a province of the Canadian federation with a constitution laying out areas of separate and shared jurisdiction. Both jurisdictions are part of currency unions with Ontario using the Canadian dollar and Greece, the Euro. Ontario has always been part

1. Figures for Ontario are from Ontario Ministry of Finance, 2012; figures for Greece are from International Monetary Fund, 2012.

2. The only Canadian province to default—stop paying the interest on its bonds—was Alberta in 1936 (Boothe and Edwards, 2003). Newfoundland also defaulted during the 1930s but at the time was a British Territory. The federal government did provide loan assistance to Alberta, Manitoba, British Columbia, and Saskatchewan during the 1930s (Joffe, 2012: 40) and this precedent has fueled the assumption that the federal government will assist a province in the event of a debt crisis as a lender of last resort. It should be noted that there is some debate over what role the federal government would play in the event of a provincial default. According to the Conference Board of Canada, the federal government has no legal obligation to make payments on provincial debt (Hodgson, 2011).

Table 3.1: An International Comparison of Public Debt in 2011

	Greece	Ontario	Canada	USA	Spain	Italy	France	Germany	UK	Japan
General Gov't Net Public Debt (billions nat. curr. units)	356	238	573	12,117	611	1,573	1,605	1,441	1,180	593,171
Net Public Debt (US\$ billions)**	495	235	567	12,117	851	2,190	2,234	2,006	1,888	7,432
Per Capita Net Public Debt (US\$)	44,242	17,570	16,451	38,842	18,436	36,124	35,412	24,533	30,132	58,147
Net Public Debt to GDP Ratio (%)	163.3	37.2	33.3	80.3	56.9	99.6	80.4	56.1	78.3	126.6
Population (millions)	11.2	13.4	34.4	311.9	46.153	60.626	63.087	81.777	62.644	127.819
Nominal GDP per Capita (US\$)	27,073	48,239	50,436	48,387	32,360	36,267	44,008	43,742	38,592	45,920

Sources: International Monetary Fund, 2012. For Ontario, 2011 US exchange rate 0.98906920 (Bank of Canada); for Euro, average daily exchange rate for 2011 is 1.392 (European Central Bank); for UK pound, 2011 exchange rate is 1.60 (Eh.NET); for Japanese Yen, 2011 exchange rate used is 79.81 yen per US dollar (IMF).

of the Canadian federation while Greece is a relatively recent addition to the European Union whose origins lie in the 1957 Treaty of Rome and the creation of the European Economic Community.³

While there are differences in language, culture, and history, Ontario and Greece are both considered advanced in terms of their economic development. Table 3.2 presents a set of economic and demographic indicators comparing the two jurisdictions. Ontario is less densely populated than Greece given that it has seven times the land area but only 1.2 times the population. Exports make up a much larger share of Ontario's economy than is the case for Greece and Ontario is also more dependent on a single trade partner than Greece, with three quarters of its exports going to the United States. Ontario's unemployment rate is also much lower than that of Greece. In terms of demographic indicators, Ontario has a slightly higher birth rate and a slightly lower death rate than Greece and slightly higher life expectancies at birth.

In terms of the structure of government program spending, Ontario has a range of expenditures that is narrower than Greece as a result of the division of powers in the Canadian constitution, but both jurisdictions spend the largest shares of their budgets on health, education, and social welfare. According to the 2012 Ontario Budget (Ontario Ministry of Finance, 2012b), in 2012-13, Ontario will devote 42% of its program spending to health, 21% to education, 7% to post-secondary education and training, and 12% to children's and social services—these items together will account for 82% of its program spending.

3. Greece joined the EU in 1981 and adopted the Euro as its currency in 2001.

Table 3.2: Ontario and Greece—a Comparison

	Province of Ontario	Hellenic Republic of Greece
Capital	Toronto	Athens
Total Land Area (sq kms)	917,741	130,647
Population	13,372,996	10,767,827
Population Density (per sq km)	14.6	82.4
Birth Rate (per 1,000 pop)	10.5 (2010/2011 est)	9.1
Death Rate (per 1,000 pop)	7.0 (2010/2011 est)	10.8
Infant Mortality Rate (per 1,000 live births)	5.0 (2009)	4.9
Urban Share of Population(%)	85.0 (2006 census)	61.0
Male Life Expectancy at Birth	79 (2009 est.)	77.5 (2012 est.)
Female Life Expectancy at Birth	84 (2009 est.)	82.8 (2012 est.)
Nominal GDP Per Capita (\$US)	48,239	27,073
Labour Force (000s) 2011	7,302	4,959
Employment (000s) 2011	6,731	4,101
Unemployment Rate (%) 2011	7.8	17.3
CPI Inflation Rate 2011	3.1	3.3
Real GDP Growth Rate 2011	1.8 (estimate)	-6.9
Export-to-GDP Ratio 2011	50.70208675	9.3
Largest Trade Partner	USA (76.9% of exports)	Italy (9.6%)
Top Export	Motor vehicles & parts	Food and beverages

Sources: Central Intelligence Agency,2012; Ontario, Ministry of Finance, 2012, April; 2012b; Statistics Canada.

According to the Organisation for Economic Development and Co-operation’s *Government at a Glance* (OECD, 2011), social protection will occupy 37% of Greek government program spending, education, 8%, and health, 11%—these items collectively taking up 56% of program spending.

Ontario is the much wealthier jurisdiction in terms of per-capita output as, when converted into US dollars, Greece currently has about 60% of Ontario’s per-capita GDP (figure 3.1). Figure 3.1 presents an index of real per-capita GDP for Ontario and Greece for the period from 1981 to 2010 with Ontario in 1981

set at 100 and Greece set relative to Ontario.⁴ Both have trended upwards over time but the gap between the two narrowed somewhat between 2000 and the start of the world financial crisis in 2008.

When real per-capita GDP growth rates are compared, the results show that, despite the gap in the absolute level of per-capita output, overall growth rates over time have been comparable. Indeed, the average annual growth rate of real per-capita GDP from 1982 to 2010 was slightly higher in Greece at 1.4% compared to 1.2% in Ontario (figure 3.2). As Figure 3.2 illustrates, Ontario's average real GDP per-capita grew faster than Greece during the 1990s. However, between 2000 and 2010, Greece's average annual real per-capita GDP growth rate actually surpassed Ontario's. Since the mid-1990s, Ontario has seen declining rates of real per-capita GDP growth, making it a laggard within the Canadian federation (Di Matteo, 2010, Nov. 16).

Over the course of several decades, Ontario went from having a per-capita GDP well above the national average to one that is mid-ranked within the Canadian federation, making it no surprise that it is now receiving equalization payments. While Ontario's predicament has been partly due to global economic circumstances rooted in the international economic slowdown and an appreciating Canadian dollar, its economic policies have not always been of assistance. In particular, Ontario saw an increase in its electricity costs, an energy source that used to provide it with a competitive advantage.⁵ The combination of a recession and high electricity prices meant the energy intensive manufacturing duo of forestry in the north and manufacturing in the south were particularly hard hit in terms of employment losses.⁶

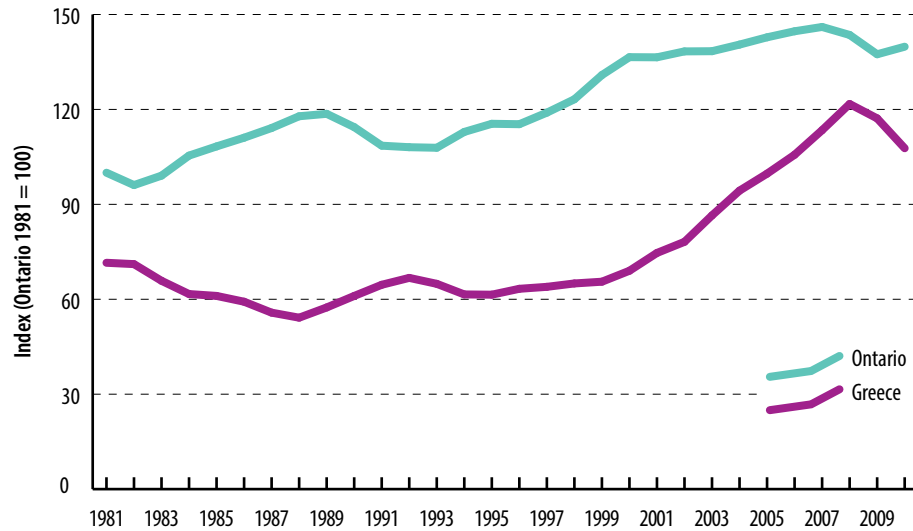
As for Greece, the higher economic growth prior to the onset of the global economic crisis can be attributed to increases in government spending in an effort to boost economic activity particularly around the hosting of the 2004 Olympics in Athens. However, much of this activity was funded by public-sector borrowing and ultimately contributed to Greece's fiscal woes once the economic crisis began in 2008. Since 2010, as a result of the global financial crisis and the impact of economic austerity designed to resolve Greece's budgetary

4. Greece had its index also set to 100 but then converted into an amount relative to Ontario based on the annual ratios of nominal purchasing power parity per-capita GDP. Over the period 1981–2011, this ratio averaged 65%.

5. It has been suggested that Ontario's Green energy initiative may have been a factor in driving up the cost of electricity in Ontario. Dewees (2012) argues to the contrary that the contribution of the Green Energy Act and renewable power to residential electricity prices has actually been relatively minor up to now, with the bulk of the increases driven by generation, transmission, and distribution costs.

6. The increases in electricity rates to commercial and non-residential users were particularly pronounced from 2000 to 2005 and then abated. Based on Statistics Canada's Electric Power Selling Price Index (Statistics Canada, 2011), between 2001 and 2005 electricity prices for the >5000 kW use category rose 5% in Manitoba, 5% in Quebec, and 65% in Ontario. The pattern was similar for the <5000 kW category that saw an increase between 2001 and 2005 of 1.5% for Manitoba, 2% for Quebec, and 65% for Ontario.

Figure 3.1: Ontario and Greece—Real per Capita GDP Index (Ontario 1981 = 100) (1981–2010)



Sources: Ontario—Statistics Canada, 2012, and implied PPP conversion rate for Canada from International Monetary Fund, 2012. Greece—International Monetary Fund, 2012.

Figure 3.2: Ontario and Greece—Average Annual Real per-Capita GDP Growth Rates



Sources: Ontario—Statistics Canada, 2012. Greece—International Monetary Fund, 2012.

and debt woes, Greece has been much harder hit than Ontario in terms of the drop in per-capita GDP as well as the increase in unemployment. Greece has been in recession for the last five years and it is predicted that 2013 will also see the economy contract with unemployment predicted to reach 24.7% in 2013 (*CBC News*, 2012, Oct. 1).

3. The Debt Story: Comparing Ontario and Greece

Between 1981 and 2011, Ontario's net debt⁷ grew from \$13.8 to \$235.6 billion, an increase of 1,607%. Over the same period, Greece's net debt grew an astounding 18,089% with much of the growth occurring since 1990.⁸ In the period since 1990, Ontario has acquired over 80% of its net debt, while for Greece the figure is 94%. In the period since 2000, Ontario has acquired 43% of its net debt and Greece 74%. For both jurisdictions, the last decade has witnessed a sharp escalation in the amount of public debt.

More important than the absolute value of net debt is its size relative to gross domestic product, as it provides an indicator of the economy's ability to bear debt. Despite the large absolute size of net debt in both Ontario and Greece, a comparison of the evolution of the net-debt-to-GDP ratio between Ontario and Greece shows the difference in the magnitude of the problem between the two jurisdictions.

As illustrated in figure 3.3, Ontario's net-debt-to-GDP ratio in 1981 was about half that of Greece at 10.5% compared to 24.4%. Since 1981, both Ontario and Greece saw their net-debt-to-GDP ratio evolve in distinct phases. For Ontario, the net-debt-to-GDP ratio was stable during the 1980s, increased dramatically during the early 1990s and then leveled off. It then started to increase again in 2007 and reached 37.2% in 2011. Over the course of 30 years, Ontario almost quadrupled its net-debt-to-GDP ratio. As for Greece, the 1980s saw a dramatic increase in the net-debt-to-GDP ratio, which climbed from 24.4% in 1981 to 67.7% by 1991. It then also leveled off for a number of years and began to rise again after the mid-1990s. Its climb since 1998 has been much steeper than during the 1980s with a further acceleration since the onset of the financial crisis after 2007.

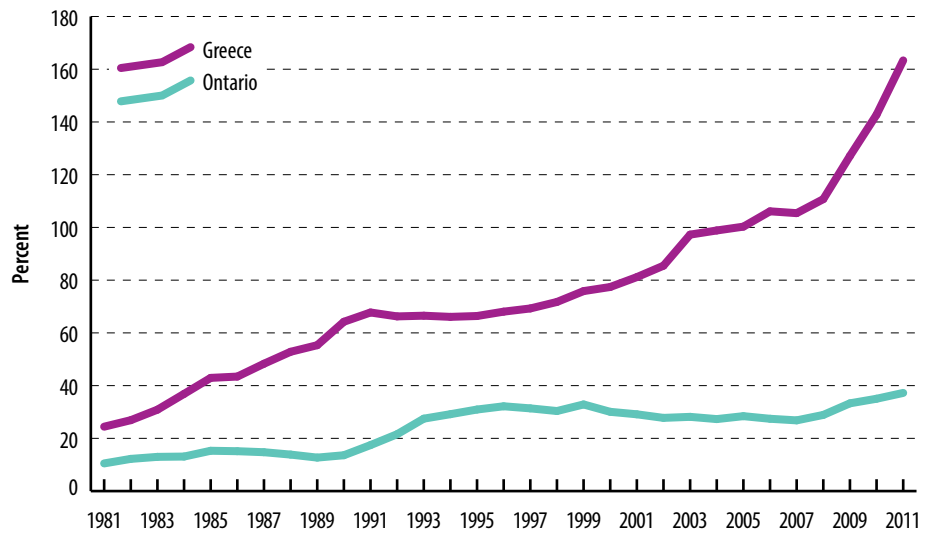
The analysis of debts and deficits in Ontario and Greece needs to be rooted in some basic public finance terminology and analysis.⁹ First, the difference between a government's outlays and receipts is the budget balance. A positive budget balance whereby receipts exceed outlays is a surplus whereas a negative budget balance whereby outlays exceed receipts is a budget deficit. The accumulation of deficits plus the interest paid over the years becomes the public debt and once financial assets owned are subtracted from the debt one has net debt. Deficits and debts are rooted in an imbalance between expenditures and revenues.

7. In general terms, net debt is the difference between the total value of liabilities of a government and the value of its financial assets.

8. Ontario net debt from Ontario Public Accounts and assorted Budgets Ontario, Ministry of Finance, various years). Greece's net debt data for calculation from International Monetary Fund, 2012.

9. There is a substantial literature dealing with public debt and fiscal deficits in Canada in the wake of the deficit problems of the 1980s and early 1990s. See Fortin, 1996a; Fortin, 1996b; Kneebone and McKenzie, 1999; Kneebone and Leach, 2001; and Kneebone, 1994.

Figure 3.3: Ontario and Greece—Net Debt-to-GDP Ratio (1981–2011)



Sources: Ontario—Statistics Canada, 2012; Ontario, Ministry of Finance (various years a) [Public Accounts of Ontario]. Greece—International Monetary Fund, 2012.

The distinction should also be made between what is known as a cyclical deficit and a structural deficit given that the economy and government finances move through the course of the business cycle.¹⁰ A structural deficit occurs when the budget balance is in deficit even if the economy is operating at its full output potential. A cyclical deficit occurs when an economy is in recession and not operating at its full potential and should be eliminated once an economic recovery begins. If a deficit is largely cyclical, then in a sense it is not as pressing a policy issue as fiscal balance will be restored once the recovery begins. However, a structural deficit will not be self-correcting with an economic recovery and requires actions to either raise taxes, reduce spending, or some combination thereof.¹¹

Ultimately, discussions of the public debt are about sustainability. Sustainability as used in public finance means having the money to pay for what you want to do both at present and into the future—in essence, *fiscal*

10. These concepts are sometimes also referred to as cyclically and non-cyclically adjusted deficits or full-employment budget balances (Dornbusch, Fisher, and Sparks, 1993: 442–469). See also Kneebone and Leach, 2001.

11. Along with the distinction between structural and cyclical deficit components, the argument has also been made that one should make the distinction in a deficit between current consumption and spending on capital and infrastructure as well as human capital such as health and education as these represent investments in the future (see, for example, Eisner, 1989). As well, this distinction extends to public debt as outlined by Antonio De Viti De Marco, who argues for a distinction between public debt incurred as part of capital projects, which represent an investment and bequeath assets to future generation, and debt incurred for current consumption (De Viti De Marco, 1936: 395–396). While such a distinction is significant, for the practical purposes of managing debts and deficits, payments to bondholders and debt service costs in general do not make a distinction between debt acquired to finance current consumption or capital spending.

sustainability. Fiscal sustainability requires that public spending not grow faster than the resource base. However, fiscal sustainability is more than simply a technical measure; it is a set of policy choices reflecting a society's preferences for public goods and spending as well as the willingness to bear the necessary taxes.¹² Fiscally sustainable public finances in the long run require decisions on spending and tax levels and are a policy choice.

Ultimately, what constitutes a structural deficit can also be viewed as a policy choice rather than a predetermined fate. After all, if one chooses to first enrich spending programs during an economic boom period because there is an expanding tax base and the economy later on goes into a downturn, then one can argue it is a cyclical deficit even though it is rooted in the prior structural change in spending structure. Fiscal sustainability entails a budgetary deficit over the course of the business cycle that does not raise the relative burden of the public debt on the economy as measured by the debt-to-GDP ratio.¹³ Given the long-term growth of the debt-to-GDP ratio in both Ontario and Greece, one can make the argument that both jurisdictions face fiscal sustainability issues, although those of Greece are much more serious.¹⁴

Figures 3.4 and 3.5 plot government total revenues and total expenditures for Ontario and Greece over the 1981 to 2011 period. During these 31 years, Ontario's revenues exceeded expenditures only eight times and linear trends fitted to revenue and expenditures show a widening gap in the trend lines over time between revenues and expenditures. Greece, experienced 31 consecutive deficits over this 31-year period with the absolute size of the deficits growing over time.¹⁵ The linear trends indicate that the gap between general government revenues and expenditures for Greece also grew dramatically. This evidence suggests a structural debt and deficit problem given the persistent long-term imbalance in both jurisdictions.

The problem has become particularly acute since 2000. The Ontario government's average annual growth rate of total revenue from 2000 to 2011 was 4.6% while total expenditures grew at a rate of 5.7%. Greek government

12. Fiscal sustainability also has intergenerational dimensions in terms of what the future benefits and costs current fiscal policies may have on future generations (Kotlikoff and Raffelhuschen, 1999).

13. Regarding a structural deficit, Kesselman writes: "Although there is no universally agreed definition, the concept is generally taken to mean a persistent gap between a government's expenditures and revenues. Some analysts take this as the gap that arises when the economy is operating at full capacity, while others focus on the gap that arises on average over the course of a business cycle" (Kesselman, 2002: 892).

14. It is also possible for an economy with economic growth to maintain a fiscal deficit and stabilize its debt-to-GDP ratio creating what can be referred to as a sustainable deficit. However, given rising debt-to-GDP ratios, at present neither Greece nor Ontario can be said to be characterized by such behaviour.

15. It should be noted that this deficit is based on total revenues and total expenditures including debt service. Another measure of the deficit is the primary deficit, which relates total revenue to expenditures net of debt service costs. When this measure is used for the period 1981 to 2011, revenues actually exceed program expenditures in Ontario most years with a primary deficit in only 12 out of 31 years. In the case of Greece, revenues are still smaller than expenditures most years with a primary deficit in 22 out of 31 years. The primary budget balance was in surplus in Greece for the period 1994 to 2002.

Figure 3.4: Ontario—Provincial Government Total Revenues and Expenditures, with Linear Trends (1981–2011)

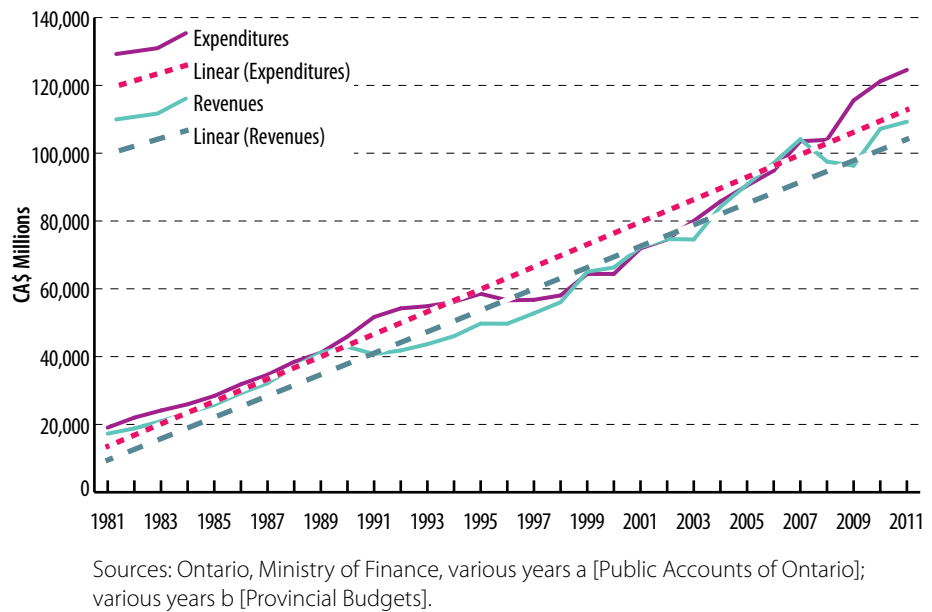
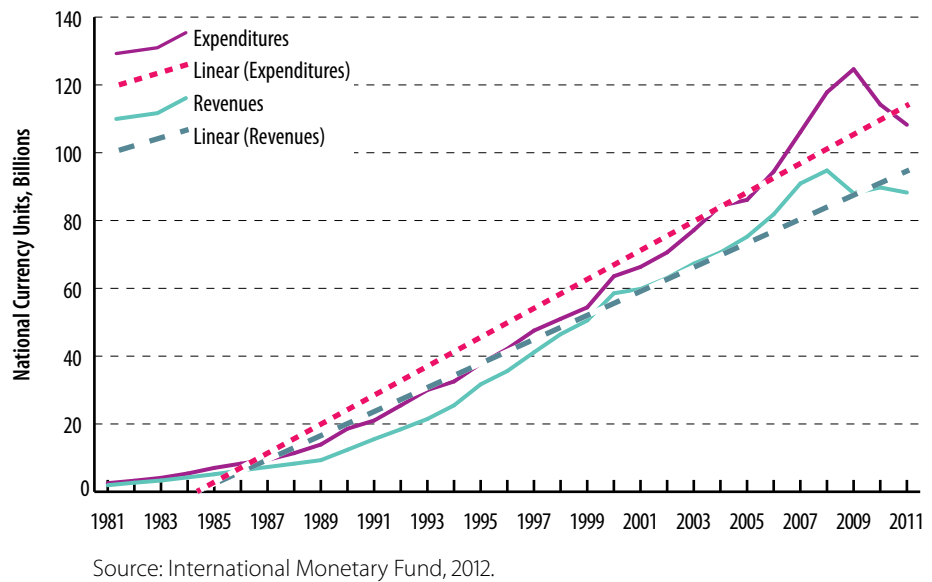


Figure 3.5: Greece—General Government Total Revenues and Expenditures, with Linear Trends (1981–2011)



revenues during the same period grew at an annual average rate of 4.9% but expenditures grew at 6.1%. This gap was also present in both jurisdictions during the relatively good economic times that prevailed between 2000 and 2007. During this period, total revenues in Ontario grew at an average annual rate of 6.1%, total expenditures at 6.2% and program spending alone grew at

7.5%. For Greece, total revenues during the period from 2000 to 2007 grew at an average annual rate of 7.7%, total expenditures at 8.8% and program expenditures at 9.6%.¹⁶

This evidence suggests that both Ontario and Greece face structural deficits whose impact has been recently magnified by cyclical factors resulting from the severity of the world economic downturn.¹⁷ However, given the fact that Greece has never balanced its budget over a 31-year period while Ontario has managed to balance it about 25% of the time, it can safely be argued that Greece has a larger structural deficit problem than Ontario.¹⁸ Both jurisdictions have experienced a long-term imbalance between their revenues and expenditures and not made very persistent efforts to narrow the gap between revenues and spending.¹⁹

Revenues greater than expenditures create a deficit and, like net debt, the relative burden of the deficit is related to the overall size of the economy. Figure 3.6 plots the deficit-to-GDP ratio for Ontario and Greece and illustrates how much worse Greece's deficits were relative to Ontario with respect to the size of the economy. Over the period from 1981 to 2011, Greece's deficit-to-GDP ratio averaged 8.2% while Ontario's averaged 1.4%. It is interesting to note that after the recession of the early 1990s, Greece's deficit-to-GDP ratio, like Ontario's, began to improve. However, starting in 2000, Greece again embarked on massive spending in excess of revenues and undid much of the improvement that had occurred. Essentially, joining the Euro in 2001 provided Greece with the opportunity to further expand its credit given it was able to borrow at lower rates. Ontario also benefitted from the low interest rates of the last decade.

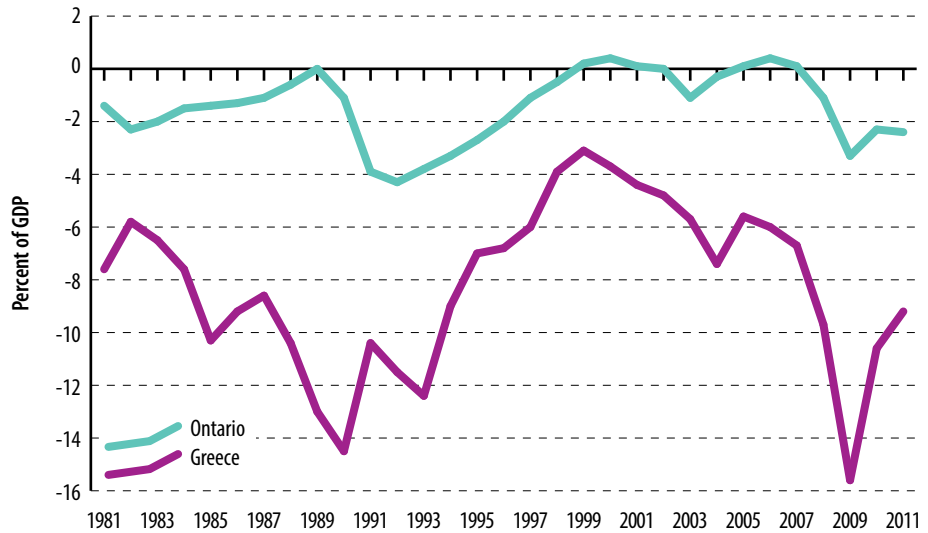
¹⁶ Calculated from data used in figures 3.4 and 3.5.

¹⁷ In the case of Ontario, the Conference Board argues that during the 2008-09 recession, Ontario opened up a substantial output gap that amounted to an accumulated output gap of 6.6% relative to its estimated potential growth path and expect that it will take until 2015 to close the gap between potential and actual output (Conference Board, 2012: 6). For Greece, the IMF World Economic Outlook Database shows that actual GDP in Greece was above potential GDP from 2004 to 2010 while in 2011 there was a negative output gap of -2.5%.

¹⁸ It is possible to construct estimates of the relative size of the structural deficit. For example, for 2011, the Conference Board estimated that Ontario had an output gap of approximately -3% of GDP. For the same year, Greece was estimated by the IMF to have an output gap of -2.5% of GDP. Assuming that the revenue-to-GDP ratio was where it was in 2007—prior to the downturn—for both jurisdictions (0.178 for Ontario and 0.400 for Greece) it is possible to apply these revenue ratios to an estimate of potential GDP in 2011 to estimate counterfactual government revenues if the economy was at full employment/potential output and, using actual expenditures for 2011, then estimate a counterfactual deficit that would account for the cyclical component. Such an approach produced a deficit estimate for 2011 of -\$7.5 billion for Ontario (compared to -\$15.3 billion) and -€18.9 billion for Greece (compared to -€19.9 billion). From this, one can conclude that in 2011, about half of Ontario's deficit is structural while this is the case for over 90% of Greece's deficit.

¹⁹ It should be noted that Kneebone and Leach (2001) have estimated that for the period from 1975 to 1995 almost all of the debt accumulation by provincial and local governments in Canada can be attributed to cyclically driven increases in spending and decreases in revenue. This suggests that the current deficit picture for Ontario may be quite different given the larger structural component.

Figure 3.6: Ontario and Greece—Deficit-to-GDP Ratio (1981–2011)



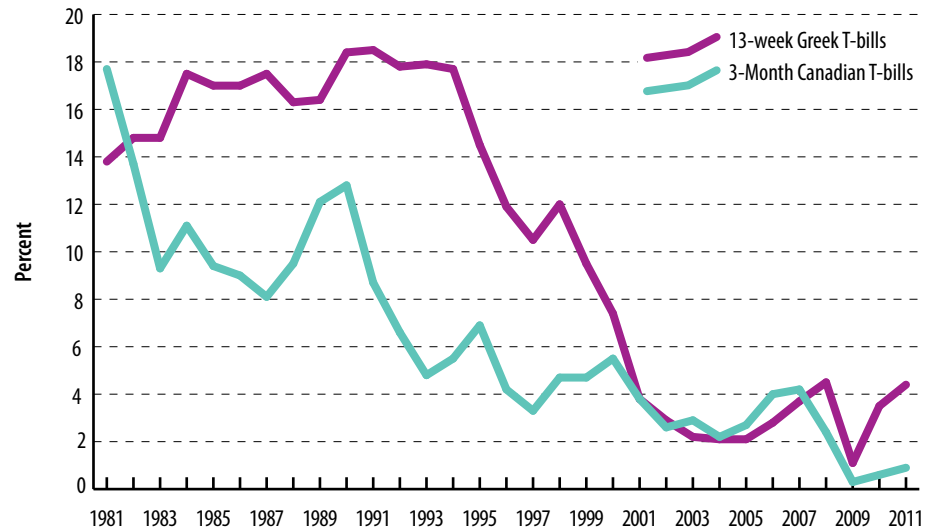
Sources: Ontario—Ontario, Ministry of Finance, various years a [Public Accounts of Ontario]; various years b [Provincial Budgets]; Statistics Canada, 2012.
 Greece— International Monetary Fund, 2012.

The importance of interest rates is revealed in figures 3.7 and 3.8. Figure 3.7 plots short-term interest rates on government debt while figure 3.8 plots the “effective” interest rate, defined as debt-service costs as a percentage of net debt. In essence, both Ontario and Greece have been able to live beyond their means and run substantial deficits and add to their debt because the cost of credit over the last 20 years has dropped substantially. Indeed, they both faced similar effective rates of interest on their public debt. The interest rates on government debt have fallen, making large debt levels that much more manageable particularly with modest to high economic growth. A key difference between Ontario and Greece over the last five years is that interest rates on Greek debt have now begun to rise while Ontario’s remain low.²⁰ While current rates are not like those of the 1980s, for Greece they mean substantial increases in debt-service costs given the mass of accumulated debt. According to the Ontario government, facing an effective interest rate of about 4.4% for 2011-12, an increase of 1 percentage point, would add about \$467 million to its debt-service expenditures on top of debt service costs of \$10.1 billion (Ontario Ministry of Finance, 2012b: 297).

Unlike other government expenditures, debt-service costs are difficult to reduce unilaterally and are the first thing that must be met out of government revenues—unless you default. As figure 3.9 shows, Greece devoted even larger

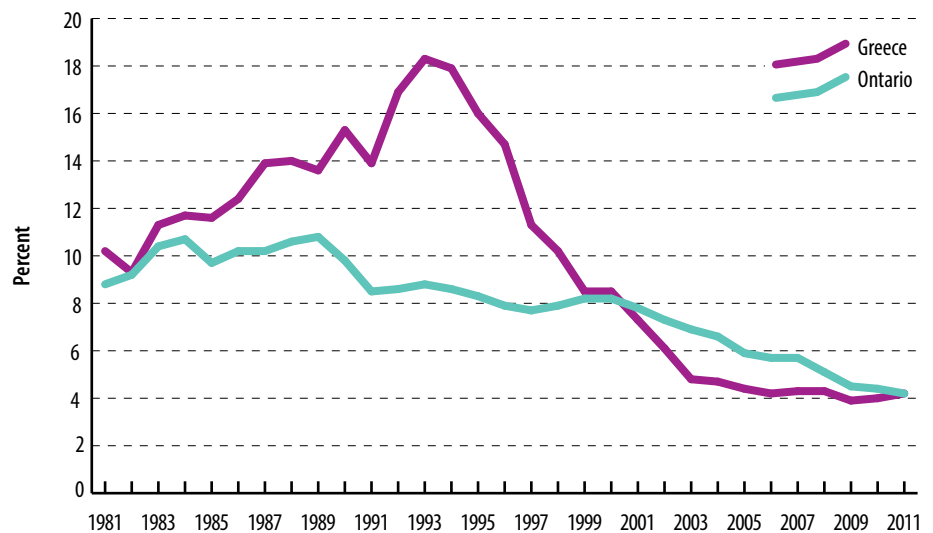
20. According to the OECD (2013), the long-term rate on Greek government bonds was 5.2% in 2009, 9.1% in 2010, and 15.7% in 2011. For Canada, the comparable rates were 3.2% in 2009, 3.2% in 2010, and 2.8% in 2011.

Figure 3.7: Canada and Greece—Short-Term Interest Rates on Government Debt (1981–2011)



Sources: Bank of Canada, 2012; Hellenic Republic, Ministry of Finance, 2012.

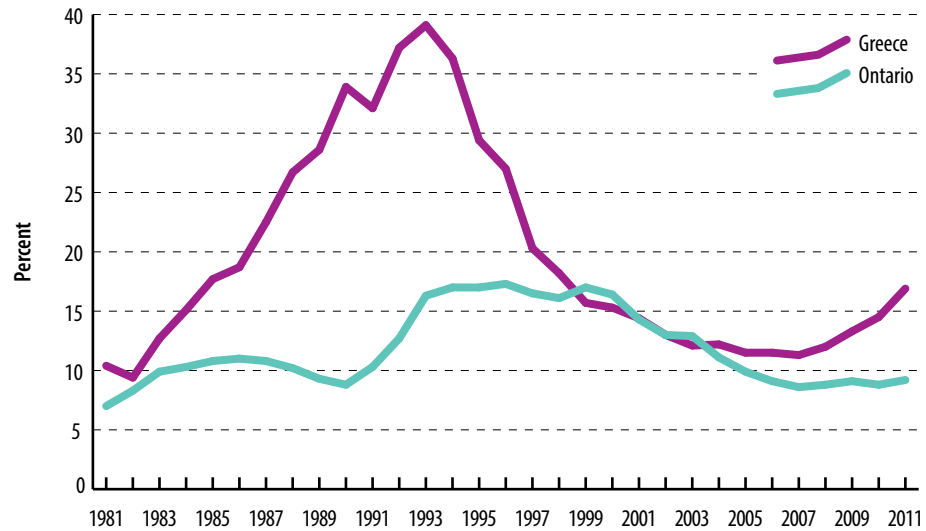
Figure 3.8: Ontario and Greece—Effective Interest Rates on Net Public Debt (1981–2011)



Sources: Ontario—Ontario, Ministry of Finance, various years a [Public Accounts of

shares of its government revenues to debt service in the past but they declined substantially after the early 1990s. By 1999, Ontario and Greece were devoting similar shares of government revenue to debt service and they continued to decline. However, since 2007, Greece saw a rising share of its government revenues going to debt service. In 2007, Greece devoted 11.3% of its government revenues to debt service while Ontario devoted 8.6%. By 2011, Greece’s share rose substantially to 16.9% while Ontario’s was up slightly to 9.2%. However,

Figure 3.9: Ontario and Greece—Debt Service as a Share of Revenue (1981–2011)



Sources: Ontario—Ontario, Ministry of Finance, various years a [Public Accounts of Ontario]; various years b [Provincial Budgets]; Statistics Canada, 2012.
Greece—International Monetary Fund, 2012.

if in 2011 Ontario paid an effective interest rate of 5% rather than 4% on its public debt, its debt service to revenue share would go from 9.2% to 11.5%.²¹

Ontario, like Greece, has been assisted by low interest rates and though it will not face the large risk premium Greece currently faces, it also cannot count on cheap money forever given that interest rates are at historic lows. Ontario, like other government jurisdictions in Canada and abroad, has benefitted from the fiscal dividend provided by low interest rates.²² A recent *Ontario Economic Outlook and Fiscal Review* has projected that interest rates are expected to rise gradually after 2012 (Ontario Ministry of Finance, 2012a). Moreover, as noted in the 2012 Ontario budget, the province has been able to lock in a substantial portion of its debt at fairly low interest rates.²³ In the case of Greece, a portion

21. According to Joffe (2012) based on historical evidence for the Canadian provinces, the default risk is quite high for a province if more than 25% of government revenue is being used to service the debt.

22. The fiscal dividend allowed for both tax reductions and spending increases. For example, Landon et. al (2006) use a panel of Canadian province-level data for the period 1988-89 to 2003-04 to test the hypothesis that health spending has crowded out other types of spending. They find no evidence that increased provincial government health spending resulted in lower spending on other government expenditure categories. Rising health spending as well as rising government expenditure on other categories was funded out of increasing revenues from a growing economy during this period and the fiscal dividend from debt reduction.

23. According to the budget: “The weighted-average term to maturity of long-term Provincial debt issued has been extended significantly over the past two years. In 2011–12, it was 13.0 years, slightly longer than 12.8 years for 2010–11, and much longer than 8.1 years for 2009–10” allowing the province to lock in the benefit of lower interest rates for a longer period (Ontario Ministry of Finance, 2012: 285). However, according to the debt maturity schedule in the Ontario 2012 Budget (p. 303), \$115.951 billion of debt is scheduled to mature over the next five years out of \$257.5 billion of debt outstanding.

of its public debt is expected to mature between 2012 and 2015, creating additional pressure on its fiscal situation given the spike in interest rates it faces due to its higher risk of default.²⁴

Greece's debt situation and fiscal crisis is not primarily rooted in the US subprime mortgage crisis but has longer-term roots in a historic imbalance between revenue and spending that was exacerbated after 2000. Greece had already acquired a substantial debt prior to joining the Euro in 2001 but membership in a new stronger currency allowed it to borrow even more, financed by the low interest rates then prevalent. Essentially, Greece was able to benefit from the general higher credit-worthiness of less indebted members of the Euro zone via its membership in the Euro despite its high net public debt. Indeed, the full extent of just how bad the debt and deficit situation had become was more fully revealed in 2009 by the new incoming government. According to one analyst, the

main responsibility for the debt crisis in Greece rests with the Greek governments and the existence of a weak political system that led to a constant mismanagement of the domestic economy adding government debt at a rate, which was much higher than the rest of the eurozone at a time that the level of the public debt has already been more than 100% of GDP. (Kouretas, 2010: 393)

Mismanagement of the economy is something that one can get away with during relatively good economic times but is more damaging once the economy begins to enter recession. Arghyrou and Tsoukalas (2011) argue that the Greek debt crisis was a result of the steady deterioration of Greek macroeconomic fundamentals over the period from 2001 to 2009 to levels that were not consistent with participation within the European Monetary Union (EMU). The unsustainable path for its fiscal finances led to a point where there was a non-credible commitment to the EMU by Greece without fiscal guarantees. This in turn fueled an increasing spread between the yields of Greek government bonds and of bonds issued by other EMU members.

While Greece's debt-to-GDP ratio was relatively low until the early 1980s, it was the Papandreou government in the 1980s that implemented new spending designed to raise economic activity and, ultimately, consumption levels via borrowing that has become unsustainable. As the debt grew, opportunities to bring it under control—such as the relatively higher economic growth between 2000 and 2007—were missed (Kouretas, 2010: 395). Indeed, the period from 2000 to the onset of the financial crisis saw substantial growth in public-sector

24. According to the Greek Public Debt Management Agency (2012), between 2012 and 2015 approximately €70 billion worth of bonds (on a debt of €355 billion in 2011) will come due for refinancing.

wages and increases in public spending but a continued gap between revenues and expenditures exacerbated by weak revenue growth as well as a weak tax collection system.²⁵ Once the financial crisis erupted, the large mass of debt generated rising debt-service costs as interest rates rose.

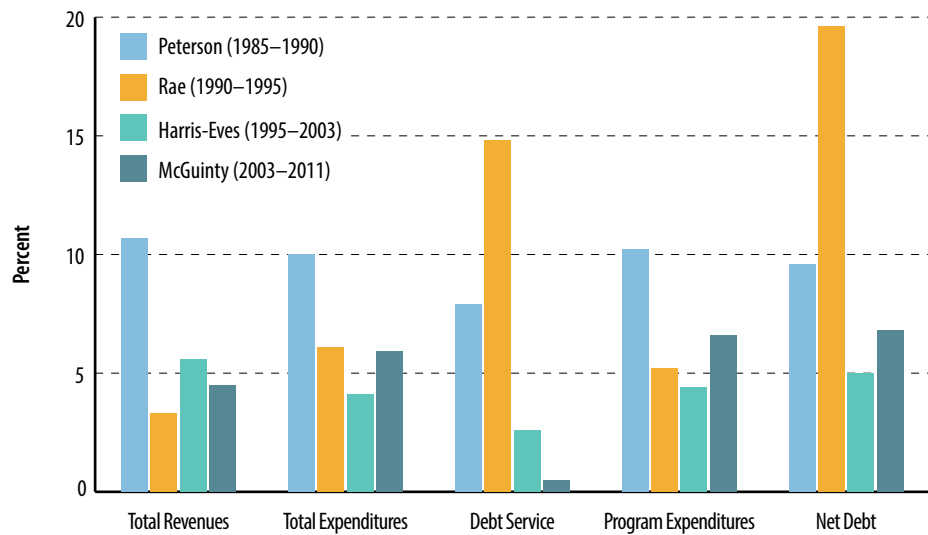
The ultimate result is a bailout by the European Union and the International Monetary Fund (IMF) under conditions of an austerity program involving cuts in government expenditures, tax increases, and reforms of Greece's pension system and labour market. However, Greece's economy continues to contract and the economic growth needed to help resolve its fiscal situation remains elusive. Moreover, the austerity program is a bitter pill to swallow, given that it is dictated by external authorities and has triggered disruptive protests and work stoppages. Indeed, as of October 2012, there had been 20 national work stoppages in the two years since the debt crisis erupted (*BBC News Europe*, 2012, Oct. 18).

Ontario's debt problem is also not a direct function of recent developments involving the world financial crisis but is part of a longer-run historic process of imbalance between revenue and spending that is not sustainable in the long run. While Ontario has on occasion been able to close the gap between revenues and expenditures, it has not been a persistent process. As figure 3.10 shows, it can be argued that, since 1985, the province's public finances have been sustainable in the sense that revenue growth rates have exceeded expenditure growth rates only twice—the Peterson era from 1985 to 1990 and the Harris-Eves era from 1995 to 2003. Both of those “sustainable” eras coincided with economic boom periods in Ontario, which made balancing the books relatively easy though the early part of the Harris-Eves period was also accompanied by austerity measures on the expenditure side. However, these “sustainable” eras still saw continued growth of the absolute size of Ontario's net public debt even if growth in the net-debt-to-GDP ratio was halted. Higher interest rates were a factor in driving up debt-service expenditures in both the Peterson and Rae eras while the Harris-Eves and McGuinty eras both saw a fiscal dividend from lower interest rates and debt service costs.

The early 1990s was a watershed period for Ontario as it acquired a particularly large mass of its debt between 1990 and 1995 and then continued to add to it. Over the entire period from 1990 to 2010, provincial government revenues rose from \$43 billion to \$107 billion, while total expenditures rose from \$46 billion to \$121 billion and net public debt rose from \$38.4 billion to \$214.5 billion. For 2012-13, net public debt is expected to reach \$257.6 billion (Ontario, Ministry of Finance, 2012b). The 2009 economic downturn has exacerbated a long-standing fiscal problem. While Ontario is not on the verge of requiring a bailout, it already receives federal transfer support in the

25. It should be stressed that another important difference between Ontario and Greece is that Ontario has a strong tax collection system with a high rate of compliance.

Figure 3.10: Ontario—Average Annual Nominal Growth Rates in Provincial Public Finance Variables, by Political Era (1985–2011)



Source: Ontario, Ministry of Finance, various years a [Public Accounts of Ontario]; various years b [Provincial Budgets].

form of equalization payments—a remarkable development for a province that considers itself the economic engine of the Canadian federation.

The period since 2000 in Ontario has also witnessed an expansion of public-sector employment and spending and a reduction in the private sector’s share of total employment. From 2000 to 2011, average annual total employment in Ontario grew by 15.8% but that of the public sector grew 38.1% while the private sector grew by 11.4%.²⁶ The Drummond Report points out the example of education where, since 2002-3, there has been a 6% decline in student enrollment but a 56% increase in per-pupil funding by the provincial government (Drummond, 2012: 204). In the case of health, Ontario government spending during the first decade of the 21st century increased at an average rate of 6.9% a year (Drummond Commission, 2012: 146)—well in excess of total government revenue growth. While education and health spending are important and can be considered an investment in the economy’s future, their expansion appears to have occurred in a fiscally unconstrained manner. The Ontario 2012 budget in the wake of the Drummond report marks the first concerted attempt in over a decade to wrestle down Ontario’s debt and deficit but whether it will be successful remains to be seen. To date, the action has not yet delivered strong action given the rancorous negotiations the provincial government faces in applying wage and cost restraint particularly in health and education.²⁷

26. Data sources: data series v2540574, v135027, Statistics Canada.

27. The 2012 Ontario budget was titled “Strong Action for Ontario”.

4. The Lessons

On the surface, a comparison between Ontario and Greece seems inappropriate. After all, Ontario's fiscal situation is not a tragedy of Greek proportions for three key reasons. First, it is a much wealthier jurisdiction with a larger per-capita GDP and therefore greater revenue to carry its provincial public debt load. Its revenue capacity has also traditionally been much more stable than that of Greece given the tradition of greater tax non-compliance in Greece. Second, unlike Greece, it still faces very low interest rates on its public debt, which makes its debt service costs still manageable despite its growing debt burden. Third, the cyclical component of its deficit is larger and, therefore, as the economy recovers one can expect greater improvements in its fiscal position compared to that of Greece.

However, Ontario, like Greece, has been in an imbalance between its total government revenues and expenditures for some time. Ontario, like Greece, has exhibited a long-term reluctance to address its fiscal situation. Ontario has had a period of relatively poorer GDP growth since 2000 and has ignored this constraint by continuing to spend more than it should. Similarly, during its low growth in the 1980s, Greece embarked on an expansion of its public spending and debt. However, when its economy was performing relatively better in terms of economic growth between the late 1990s and 2007, Greece continued to expand spending and run debts fueled by the economic steroid of low interest rates. The Greek model was, during bad times, to run deficits to boost economic growth but, during good times, to ramp up spending even more rather than use the opportunity to repair its public finances. As for Ontario, its past economic boom periods have not been used to place the province's net-debt-to-GDP ratio on a downward trajectory.

Understanding government finances can be complex and this complexity can mask the underlying reality of fiscal failure. In the end, the ultimate analysis is simple: a government cannot allow its expenditures to exceed revenues by a large margin indefinitely. While the urge to spend and run deficits is often justified by best of intentions, good intentions are insufficient if fiscal responsibility is not maintained. After all, boosting spending beyond the capacity to pay results in subsequent restraint and cuts to the very programs such spending was supposed to help. Ultimately, both Ontario and Greece have not been very responsible in managing their fiscal situations. Ontario, however, has the good fortune to be in a position where it can still restore its public finances to good health without the type of fiscal trauma currently underway in Greece.

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Acknowledgments

The editors and authors of the essays in this publication would like to express their thanks to Professor J. Rhys Kesselman of Simon Fraser University and an anonymous reviewer for their comments and suggestions. Any remaining errors or omissions are the sole responsibility of the authors. We would also like to express our gratitude to those who donated to the Institute's Ontario Prosperity Initiative, without whose donations this project would not have been possible.

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Date of Issue

January 2013

Citation

Clemens, Jason, and Niels Veldhuis, eds. (2013). *The State of Ontario's Indebtedness: Warning Signs to Act*. Ontario Prosperity Initiative. Fraser Institute. <<http://www.fraserinstitute.org>>.

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Nous envisageons un monde libre et prospère, où chaque personne bénéficie d'un plus grand choix, de marchés concurrentiels et de responsabilités individuelles. Notre mission consiste à mesurer, à étudier et à communiquer l'effet des marchés concurrentiels et des interventions gouvernementales sur le bien-être des individus.

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The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

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