

April 2014



# Canadian Government Debt 2014

A Guide to the  
Indebtedness  
of Canada and  
the Provinces

**\$1.2 trillion**  
Direct debt

**\$2.9 trillion**  
Other liabilities

by Milagros Palacios,  
Hugh MacIntyre,  
& Charles Lammam

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## A Guide to the Indebtedness of Canada and the Provinces

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## Executive summary

With Canadian governments having returned to deficit-financed spending, the growth in direct government debt has re-emerged as a serious public policy issue in Canada. Consider that the net direct debt of all three levels of government increased from \$872.2 billion to \$1.2 trillion between 2007/08 and 2011/12.<sup>1</sup> As a percentage of gross domestic product (GDP), the total net direct debt burden increased to 68.0 percent from 55.7 percent over this period. With the federal and provincial governments planning ongoing deficits for the foreseeable future, a further expansion in direct debt may still come.

While discussions about government indebtedness typically focus on direct debt, this narrow approach misses a large portion of total government liabilities. A more complete picture of the state of government indebtedness must not only consider direct debt but also debt guarantees, contingent liabilities and contractual commitments, and unfunded program obligations. Debt guarantees are issued by governments on behalf of privately held companies and government business enterprises (Crown corporations). Contingent liabilities are potential claims, which may become actual depending on the outcome of uncertain future events, while contractual commitments are the government's legally binding contracts to pay for future services rendered or goods provided. Unfunded liabilities include programs that provide future benefits, such as Old Age Security, the Canada and Quebec Pension Plans, and Medicare, which governments have committed to providing but which are currently not fully funded.

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<sup>1</sup> Net debt is gross debt (the total stock of securitized liabilities owed by a government) minus financial assets. Net debt is the appropriate focus for analysis because it measures liabilities that have been adjusted for the financial resources that a government holds.

## The size and growth of total liabilities

When liabilities other than direct debt are included, the total liability of Canadian governments (federal, provincial, and local) increases dramatically. In 2011/12 (the latest year for which an estimate is possible), the total liability summed to \$4.1 trillion, up 20.9 percent from \$3.4 trillion in 2007/08. Total government liabilities of \$4.1 trillion translate into \$117,948 for every Canadian citizen, \$243,476 for each income taxpayer, or 230.2 percent of GDP.<sup>2</sup>

All provinces, except Saskatchewan, have total liabilities as a percentage of GDP in excess of 150 percent. For instance, if the government of Quebec or Nova Scotia taxed 100 percent of all income generated, it would still take them more than two and a half years to pay off all their debt and cover all program obligations. Taxpayers in provinces that contribute a relatively large share of federal revenues are responsible for a disproportionately large amount of federal indebtedness. In Alberta, taxpayers on a per-capita basis face the largest total liabilities (all government levels included) at \$147,641, followed by Ontario taxpayers (\$121,117) and Quebec taxpayers (\$119,354). Taxpayers in Prince Edward Island face the smallest total all-government liabilities per capita at \$89,736, followed by Manitoba (\$92,708) and New Brunswick (\$93,809).

## The most pressing concern— unfunded liabilities of government programs

The largest portion of total liabilities, and one that does not receive nearly enough attention, is made up of the unfunded liabilities of government programs such as the Canada Pension Plan (CPP), Old Age Security (OAS), and Medicare. These programs are generally unfunded in the sense that the estimated future stream of contributions falls short of the expected future payouts of benefits. In total, unfunded liabilities of the CPP, OAS, and Medicare grew from nearly \$2.0 trillion in 2007 to \$2.2 trillion in 2011 (11.1 percent growth over the period).

At their inception, the CPP, OAS, and Medicare systems were based on the assumptions that the age mix of the population, rate of economic growth, and wage increases of the 1960s would continue indefinitely. It was considered favourable social and economic policy to transfer a small amount of

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<sup>2</sup> In this case, a taxpayer is defined as someone who submitted a taxable personal income tax return. A taxable return is one where a tax filer paid \$2 or more in taxes net of tax exemptions and other tax expenditures. In the 2011 tax year there were 16.6 million income taxpayers (CRA, 2013).

money from a large group of younger workers to benefit a small group of relatively poor retirees. These assumptions were entirely wrong. Demographic changes will continue to undermine the ability of these programs to provide the intended level of benefits at the current rate of taxation.

Growing unfunded liabilities have important implications for future generations of Canadians, since they could face reduced benefits, tax increases, or both. In addition, the size of unfunded liabilities calls into question the structure of programs using contributions of current workers to pay out benefits to retirees. This includes programs like OAS and Medicare that are paid solely out of general government revenue.

### Summing up—where do we go from here?

Governments must recognize the extent of the liabilities that exist for Canadian taxpayers. This means acknowledging not just accumulated direct debt but also the enormous program obligations and other liabilities. An important part of acknowledging the problem would be for governments to regularly report on the unfunded liabilities of programs, particularly those that will be affected by an aging population. This would improve transparency and encourage a debate on the viability of the various programs that currently maintain unfunded liabilities. The end result may require restructuring or reforming the program obligations to take into account the impact of future demographic change in Canada. Governments must also be vigilant not to assume new and larger unpaid obligations, and they must be prudent in forming policies to deal with those that already exist.<sup>3</sup>

Although unfunded liabilities make up the largest portion of total government liabilities, direct debt is likely to be a growing problem as deficits continue into the medium term. Along with restructuring program obligations, governments should make balancing their budgets a more immediate priority. Otherwise, the annual deficits currently planned for the foreseeable future will simply add to the existing stock of government debt.

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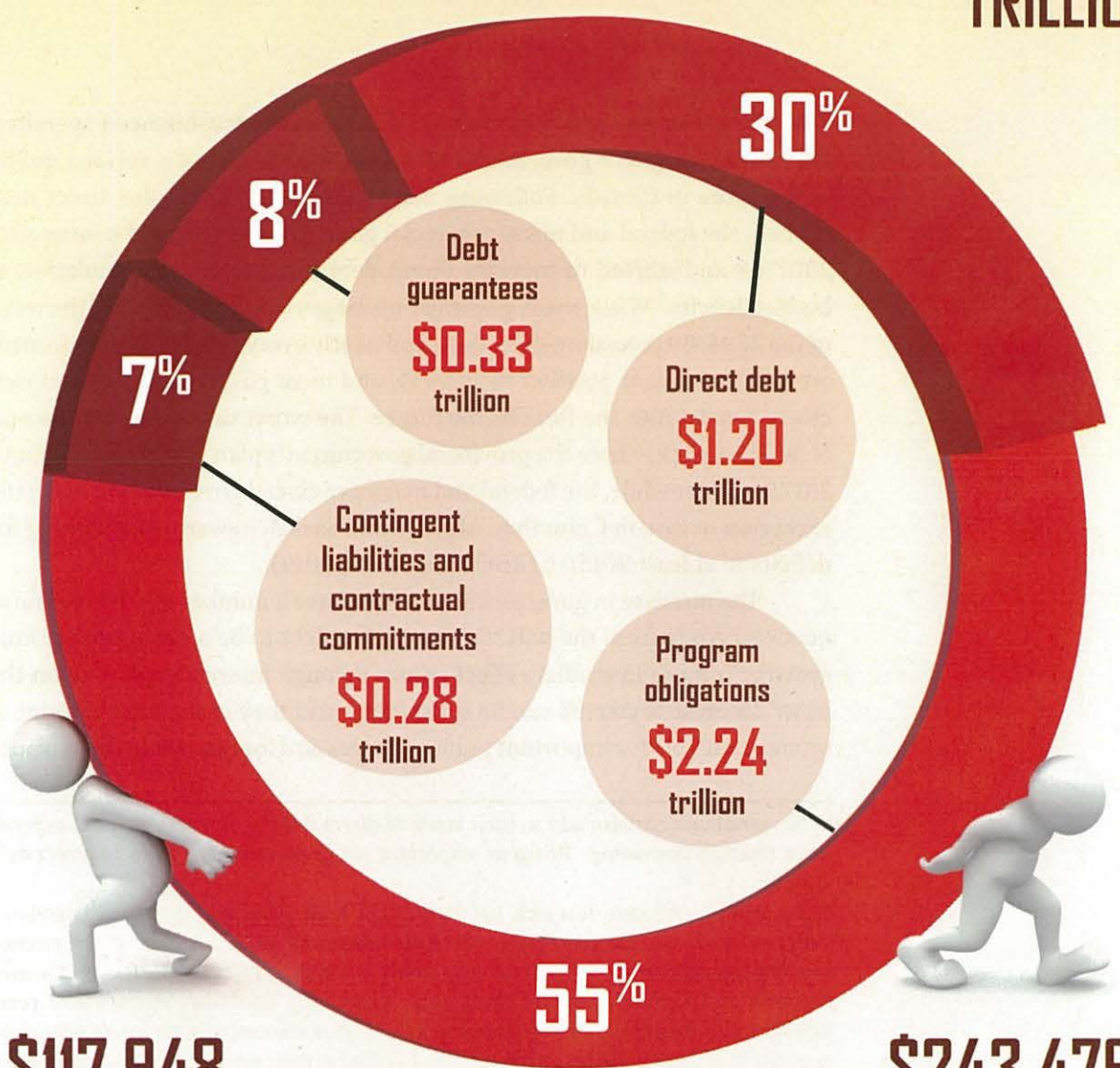
<sup>3</sup> The federal government should be lauded for announcing reforms to OAS, but the trouble is that the reforms are too timid, as a large unfunded liability remains. The OAS reforms primarily concerned the age of eligibility. Specifically, the age of eligibility for the OAS pension benefit and the Guaranteed Income Supplement will gradually increase from 65 to 67 over six years, while the eligibility age for the Allowance is set to increase from 60 to 62.





# Total Indebtedness of Canada's Governments =

**\$4.1**  
TRILLION



**\$117,948**  
per person

**\$243,476**  
per taxpayer

**\$ 230%**  
of the economy  
(GDP)

## Government liabilities—what are they?

With Canadian governments having returned to deficit-financed spending, the growth in direct government debt has re-emerged as a serious public policy issue in Canada. Following many years of reducing the direct debt burden, the federal and many provincial governments reversed course after 2007/08 and started to increase direct debt through the accumulation of budget deficits.<sup>1</sup> While many governments began running deficits in the wake of the 2008/09 recession, the federal and nearly every provincial government are still in a deficit position in 2013/14, and most governments expect deficits to persist into the foreseeable future. The worst cases are Ontario and New Brunswick, where the provincial governments plan to run a deficit until 2017/18. Meanwhile, the federal and many provincial governments (with the exception of British Columbia, Alberta, and Saskatchewan) are planning for deficits to at least 2015/16 (RBC Economics, 2014).

The increase in government debt can have a number of adverse consequences. Aside from the potential for higher debt to be a drag on economic growth,<sup>2</sup> a more immediate effect comes through interest payments on the debt.<sup>3</sup> Interest payments can be substantial, and they reduce the amount of money available for important public services and for tax relief. The purpose

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1. Governments can also add to their stock of direct debt by financing capital expenditures through borrowing. This is an important yet under-reported form of direct debt growth.

2. Empirical economic research has found that high government debt is correlated with low economic growth. One of the most influential papers examining the connection between government debt and economic growth is by Harvard professors Carmen Reinhart and Kenneth Rogoff (2010). After examining 44 countries over 200 years, Reinhart and Rogoff found that higher public debt is associated with lower economic growth. While a calculation mistake was uncovered in their original analysis, their initial finding about the connection between high public debt and low economic still held after the appropriate correction was made. For information on how Professors Reinhart and Rogoff responded to the detected error and the resulting criticisms of their work, see Reinhart and Rogoff (2013, April 25). Other research has also found that government debt is negatively related to growth (see Égert, 2012; Cecchetti et al., 2011; Kumar and Woo, 2010; Checherita and Rother, 2010).

3. Debt levels do not solely determine the magnitude of interest payments; the interest rate, or the cost of borrowing, also has an impact. Canadian governments are currently borrowing at historically low rates. If interest rates were to rise, borrowing costs would rise accordingly, and impose even further pressure on government budgets.

of this study is to provide Canadians with an accessible account of the total liability of each of the provinces and the federal government.<sup>4</sup> While the attention is usually focused on deficits and direct debt, this paints an overly optimistic picture of total government indebtedness. That is, direct debt receives most of the attention at the expense of other types of liabilities.

A liability can be either a debt or an obligation and, in the context of government finance, the distinction between the two is critical. Governments must repay debts (e.g., the money owed to bondholders) or they default on their loans. Governments can eliminate or reduce obligations through statutory changes that cancel or change the coverage of programs. These program obligations include the promises to pay benefits under the Canada and Quebec Pension Plans, Old Age Security, and Medicare.<sup>5</sup> To reiterate: obligations are not debt; they are promises to perform certain duties or pay a stream of benefits in the future. Throughout this study, liability refers to debts plus obligations.

### Categories of government liabilities

Total government liabilities can be placed in four categories: (1) direct debt, (2) debt guarantees, (3) contingent liabilities and contractual commitments, and (4) program obligations. Before examining each category, it is important to distinguish between gross and net debt. Gross debt refers to the total stock of securitized liabilities owed by a government. Statistics of gross debt are used to determine the total debt burden to taxpayers. Gross debt minus financial assets equals net debt. Net debt is the appropriate focus for analysis because it measures liabilities that have been adjusted for the financial resources that a government holds. Two jurisdictions may have the same amount of gross debt but, if one has a greater stock of financial assets (cash and securities), it will have a smaller net debt. For comparative purposes, we use statistics for net debt throughout this report, since financial assets ultimately reduce the burden of gross debt.

#### 1. Direct debt

Direct debt refers to the accumulated debt incurred by a government and its agencies, and constitutes a direct legal contract. The government enters into a contract with creditors to obtain funds for current financing in exchange

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4. The terms 'total liability' and 'indebtedness' are used interchangeably throughout this study.

5. In 2012, the federal government implemented changes to Old Age Security that reduced this program obligation. It did this by increasing the age at which one becomes eligible to collect related benefits.

for regular interest payments and repayment of the principal at some future date. Direct debt represents the amount that governments are legally bound to repay or face default.

## 2. Debt guarantees

Debt guarantees are issued by governments on behalf of privately held companies and government business enterprises (Crown corporations) to stabilize those companies, provide capital, or lure firms to locate within a specific region by offering preferential financing. In the event that the firm fails, a debt guarantee would become a claim on government revenues—direct debt.

The principal problem with debt guarantees is that they create distortions in the marketplace. Firms rejected in the marketplace by entrepreneurs and investors use debt guarantees and subsidies to secure financing for ongoing operations or expansion. Government intervention eliminates the discipline of the marketplace that allows profitable firms to flourish while forcing unproductive firms to improve or fail. Governments actively divert investment capital away from firms that the market favours towards firms that the government favours.

## 3. Contingent liabilities and contractual commitments

### *Contingent liabilities*

Contingent liabilities are potential claims that may become actual depending on the outcome of uncertain future events. Examples are lawsuits against a government that have not been settled, and the potential necessity of remediating environmentally contaminated sites. The contingent liabilities to which the relevant government can affix a value are included in this report; those that the government cannot reasonably assess are not included.

### *Contractual commitments*

The nature of government activity results in some large multi-year contracts and obligations. These are called contractual commitments because the government has a legally binding contract to pay for future services rendered or goods provided. Operating and capital leases are examples of contractual commitments. Governments can enter into long-term agreements with private firms that provide office space for government operations, such as Air Care testing centres and liquor distribution branches in British Columbia. Major contractual commitments that are estimated by governments are included in this report.

#### 4. Program obligations

Obligations are the largest component of total liabilities, but unfortunately they do not receive the most attention. This category of liabilities generally consists of programs that Canadian governments have committed themselves to providing but that are not considered entitlements. In most cases, these programs, unlike direct debt, can be reduced or eliminated by changing or eliminating the relevant program. The main obligations that Canadians are familiar with are the Canada and Quebec Pension Plans, Old Age Security, and Medicare (Canada's public health care system). Program obligations are either paid out of general government revenue or have specific dedicated funding sources such as payroll taxes. If, at any point, one of these programs has a shortfall between the future stream of funding and future obligations, it has an unfunded liability.<sup>6</sup> It should be noted that the estimates of program obligations in this report include the current net financial position of the Canada and Quebec Pension Plans.<sup>7</sup>

##### *Canada and Quebec Pension Plans*

The Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP) are largely pay-as-you-go systems, where today's contributions are used to pay for the benefits of today's recipients.<sup>8</sup> For ease of presentation, only the CPP is discussed below—the CPP and QPP are similarly structured, so comments about the CPP also apply to the QPP.<sup>9</sup> In 1997, amendments to the CPP transformed it into a partial accumulated-benefits system. That is, increases in the contribution rate (5.85 percent in 1998) were accelerated to reach 9.9 percent by 2003 in order to increase the amount in the CPP reserve fund.<sup>10</sup>

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6. A detailed explanation of the methodology used to determine the extent of unfunded liabilities is presented in a later section. For the purposes of calculating total government liabilities, estimates of the unfunded liabilities of the Canada and Quebec Pension Plans, Old Age Security, and Medicare system are used.

7. Government employee pension plans and provincial Workers' Compensation Boards could also have unfunded liabilities. However, figures for federal and provincial direct debt in this report are drawn from the Public Accounts, which already include government employee pension plan liabilities. In addition, in most provinces the Workers' Compensation Boards have a policy to be fully funded or to make financial adjustments if they are not. As a result, they are not covered in this report.

8. A small portion of the CPP benefits are funded by a dedicated fund managed by the Canada Pension Plan Investment Board, but, as of December 31, 2009, the pay-as-you-go component covers 92 percent of CPP obligations (OSFI, 2012).

9. Although the CPP and QPP are similarly structured, the contribution rate (payroll tax) is not the same.

10. While the acceleration of increase in the contribution rate has attracted the greatest public attention, other reforms also provided significant savings. For example, savings came from freezing the basic exemption at \$3,500, which effectively increases the pool

From inception, the target for the reserve fund was to be large enough to provide two years of benefits. The new target is for the reserve fund to be large enough for five years of benefits. The Canada Pension Plan Investment Board was created to invest and manage funds in the reserve. While these alterations have improved the CPP system, it is still essentially a pay-as-you-go system in which benefits paid to each generation are financed from the contributions of the following generation.

#### *Old Age Security*

Old Age Security (OAS), including the OAS pension benefit, the Guaranteed Income Supplement (GIS), and the Allowance for spouses, is paid for out of the federal government's general revenue. It has no stock of assets or even a specific funding source set aside to pay for its benefits. In 2012, the federal government announced changes to the OAS program starting in April 2023. Specifically, the age of eligibility for the OAS pension benefit and the GIS will gradually increase from 65 to 67 over six years, while the eligibility age for the Allowance is set to increase from 60 to 62.<sup>11</sup>

#### *Medicare*

Medicare is a provincial responsibility and is funded by both the provincial and federal levels of government. The provinces, however, pay for the bulk of Medicare spending. Like the OAS, Medicare is paid for out of general revenue. It has no stock of assets or a specific funding source set aside to pay for its benefits.

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of individuals who contribute to the CPP each year.

11. For a discussion of the OAS reform, see Clemens et al. (2013).

## Government liabilities—how much?

### Estimates of total government liabilities

**Table 1** presents all four categories of liabilities for each of the provinces and territories, the federal government, and Canada as a whole. Local government liabilities are included in the provincial data.<sup>12</sup> Due to limited data for estimating program obligations at the time of writing, the data in table 1 and in most of the report focuses on the 2011/12 fiscal year.

On direct debt, Alberta is the only province with financial assets greater than gross debt. As a result, Alberta has negative direct net debt, or net assets, of \$12.8 billion. Direct debt is highest in Quebec and Ontario, Canada's two most populous provinces, totalling \$211.6 billion and \$246.4 billion respectively. Estimates of provincial and territorial debt guarantees show that Quebec makes the largest use of debt guarantees and thus is potentially on the hook for more than \$40.0 billion—approximately \$6.9 billion more than Alberta (\$33.1 billion). In addition, Quebec has the largest total government liability among the provinces at \$680.2 billion, followed closely by Ontario (\$671.6 billion). Alberta taxpayers face the third largest total liability (\$203.2 billion).

Table 1 shows two important results. First, direct debt, while the most often discussed type of liability, gives an incomplete picture of total government liabilities. Direct debt in Canada (all inclusive) accounts for a mere 29.5 percent of total government liabilities. Program obligations make up the majority (55.4 percent) while debt guarantees constitute 8.2 percent and contingent liabilities and contractual commitments make up the remainder (6.8 percent). Second, separating provincial and federal liabilities does not account for the true indebtedness of each province. For example, while Alberta should

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12. Presenting both provincial and local data gives a more accurate representation of the total debt for which taxpayers in each province are responsible. In other words, provinces with a high concentration of spending authority at the local level and thus the possibility of large local government deficits and debt can appear to have lower liabilities than other provinces if only provincial figures are used. On average, local net debt represents about 12.8 percent of the total combined provincial and local net debt.

**Table 1: Total government liabilities, 2011/12 (\$ millions)**

	Direct debt	Debt guarantees	Contingent liabilities and contractual commitments	Program obligations	Total government liabilities
British Columbia	40,340	42	1,881	117,066	159,329
Alberta	(12,824)	33,131	31,607	151,262	203,176
Saskatchewan	2,769	7	7,319	25,376	35,470
Manitoba	16,967	432	2,213	24,993	44,604
Ontario	246,438	8,418	52,773	364,007	671,635
Quebec	211,615	40,008	39,151	389,388	680,161
New Brunswick	11,456	185	3,566	14,390	29,597
Nova Scotia	14,909	269	9,868	19,584	44,630
Prince Edward Island	2,117	38	787	2,558	5,499
Newfoundland & Labrador	9,729	1,300	1,704	10,721	23,454
Yukon Territory	(214)	10	635	862	1,294
Northwest Territories & Nunavut	1,369	245	2,103	2,341	6,058
<b>All Provinces/Territories</b>	<b>544,669</b>	<b>84,084</b>	<b>153,608</b>	<b>1,122,546</b>	<b>1,904,906</b>
<b>Federal Government</b>	<b>651,535</b>	<b>249,928</b>	<b>123,529</b>	<b>1,120,770</b>	<b>2,145,762</b>
<b>Canada (all inclusive)</b>	<b>1,196,204</b>	<b>334,012</b>	<b>277,137</b>	<b>2,243,316</b>	<b>4,050,668</b>

Notes: Provincial data include local government liabilities.

Local government debt for each province is estimated by using the national figures of assets and liabilities from the Government Finance System and distributing the proportion of total local assets and liabilities to each province based on the average proportion in the last five years from the now terminated Financial Management System (2003/04 to 2007/08). The difference between assets and liabilities is net debt.

Program obligations for Quebec include the unfunded liability of the Quebec Pension Plan, which is estimated at one-third of the unfunded liability of the Canada Pension Plan.

Sources: Statistics Canada (2010a, 2010b, 2014); Federal and Provincial Public Accounts (various years); Office of the Superintendent of Financial Institutions (various years); calculations by the authors.



be commended for having net assets, provincial taxpayers are still responsible for their portion of federal liabilities. Since federal liabilities are ultimately the responsibility of taxpayers in each of the provinces, they are allocated to each province according to the share of federal tax revenues collected from each province. (See Appendix 1 for more details on methodology.)

**Table 2** presents total government liabilities by province with federal liabilities allocated to the provinces according to their share of federal tax revenues. Including the share of federal liabilities in the provincial calculation dramatically changes the total liability that taxpayers face in each province. Ontario's total liabilities increase from \$671.6 billion to more than \$1.6 trillion, the largest among the provinces. Quebec (\$955.8 billion) and Alberta (\$559.6 billion) follow Ontario recording the second and third largest total liabilities, respectively. Alberta's direct debt increases from -\$12.8 billion (a net asset position) to \$97.3 billion when its portion of the federal debt is included.

**Table 2: Total consolidated government liabilities, 2011/12 (\$ millions)**

	Direct debt	Debt guarantees	Contingent liabilities and contractual commitments	Program obligations	Total government liabilities
British Columbia	125,587	32,742	18,044	288,207	464,580
Alberta	97,324	75,384	52,491	334,389	559,587
Saskatchewan	21,247	7,095	10,823	60,992	100,157
Manitoba	35,166	7,413	5,664	66,133	114,376
Ontario	511,505	110,097	103,029	881,803	1,606,435
Quebec	329,268	85,139	61,458	479,880	955,745
New Brunswick	21,934	4,205	5,553	39,183	70,876
Nova Scotia	29,170	5,739	12,572	49,861	97,342
Prince Edward Island	3,979	752	1,140	7,054	12,925
Newfoundland & Labrador	17,535	4,295	3,184	27,305	52,319
Yukon Territory	414	251	754	2,492	3,911
Northwest Territories & Nunavut	3,074	899	2,426	6,016	12,415
<b>Canada (all inclusive)</b>	<b>1,196,204</b>	<b>334,012</b>	<b>277,137</b>	<b>2,243,316</b>	<b>4,050,668</b>

Notes: Federal liabilities are allocated to each of the provinces based on a 5-year average of the provincial contribution to federal tax revenues. Canada Pension Plan assets, liabilities, and unfunded liabilities are distributed using a 5-year average of the contributions from each jurisdiction to the Canada Pension Plan.

Previous editions of this paper used provincial debt guarantees calculated using Statistics Canada's Financial Management System (FMS), but data is only available up to 2007/08 because FMS has been terminated. The average annual growth of the last five years of FMS data was used to generate a rough estimate of the provincial debt guarantees from 2008/09 to 2011/12. Debt guarantees make up 8.23 percent of the total all inclusive national indebtedness and ranges among the provinces from 0.02 percent in Saskatchewan to 16.31 percent in Alberta.

Program obligations for Quebec include the unfunded liability of the Quebec Pension Plan, which is estimated at one-third of the unfunded liability of the Canada Pension Plan.

Sources: See table 1.

There is, of course, an obvious problem with comparing absolute figures of total liabilities. Absolute figures do not take into account the differences in the size of the population or economy of the Canadian jurisdictions. Two indicators used to compare the relative indebtedness of the provinces and federal government are total liabilities per capita and total liabilities as a percentage of gross domestic product (GDP). **Table 3** presents the relative figures for each of the four liability categories (as in table 2, federal liabilities are allocated to the provinces).

Relative measures of total liabilities produce rather striking results. Among the provinces, Saskatchewan records the smallest direct debt per capita (\$19,925) while Quebec's per-capita direct debt is the largest at \$41,119. Likewise, direct debt as a percentage of GDP ranges from 28.9 percent in Saskatchewan to 95.4 percent in Quebec. Even more worrisome are figures for total government liabilities. On a per-capita basis, Albertans face the largest total liabilities at \$147,641 among the provinces, followed by Ontarians (\$121,117) and Quebecers (\$119,354). Prince Edward Islanders face the smallest total government liabilities per capita at \$89,736, followed by Manitobans (\$92,708) and New Brunswickers (\$93,809). All Canadian provinces except for Saskatchewan have total liabilities as a percentage of GDP in excess of 150 percent. If the governments of Quebec and Nova Scotia taxed 100 percent of all income generated, it would still take them more than two and a half years to pay off all their debt and cover all program obligations.

**Table 3: Total consolidated government liabilities, per capita and as a percentage of GDP, 2011/12**

	Direct debt		Debt guarantees		Contingent liabilities and contractual commitments		Program obligations		Total government liabilities	
	<i>Per capita</i>	<i>Percent GDP</i>	<i>Per capita</i>	<i>Percent GDP</i>	<i>Per capita</i>	<i>Percent GDP</i>	<i>Per capita</i>	<i>Percent GDP</i>	<i>Per capita</i>	<i>Percent GDP</i>
British Columbia	27,913	58.4	7,277	15.2	4,010	8.4	64,058	134.0	103,260	215.9
Alberta	25,678	32.7	19,889	25.3	13,849	17.6	88,225	112.2	147,641	187.8
Saskatchewan	19,925	28.9	6,654	9.7	10,149	14.7	57,197	83.1	93,925	136.4
Manitoba	28,504	63.7	6,009	13.4	4,591	10.3	53,604	119.9	92,708	207.3
Ontario	38,565	78.1	8,301	16.8	7,768	15.7	66,483	134.7	121,117	245.4
Quebec	41,119	95.4	10,632	24.7	7,675	17.8	59,928	139.0	119,354	276.8
New Brunswick	29,032	70.1	5,565	13.4	7,350	17.7	51,862	125.2	93,809	226.5
Nova Scotia	30,885	76.5	6,077	15.0	13,311	33.0	52,793	130.7	103,066	255.2
Prince Edward Island	27,626	73.9	5,221	14.0	7,917	21.2	48,972	131.0	89,736	240.1
Newfoundland & Labrador	33,398	52.3	8,181	12.8	6,064	9.5	52,006	81.5	99,649	156.2
Yukon Territory	11,699	17.4	7,090	10.6	21,300	31.7	70,398	104.9	110,487	164.6
Northwest Territories & Nunavut	39,559	45.5	11,564	13.3	31,230	35.9	77,429	89.1	159,783	183.8
<b>Canada (all inclusive)</b>	<b>34,831</b>	<b>68.0</b>	<b>9,726</b>	<b>19.0</b>	<b>8,070</b>	<b>15.7</b>	<b>65,321</b>	<b>127.5</b>	<b>117,948</b>	<b>230.2</b>

Notes: See table 2.

Sources: Statistics Canada (2010a, 2010b, 2013a, 2013b, 2014); Federal and Provincial Public Accounts (various years); Office of the Superintendent of Financial Institutions (various years); calculations by the authors.

**Table 4** presents the growth rate of each category of liability from 2007/08 to 2011/12 (as in previous tables, federal liabilities are allocated to the provinces). Only two provinces have decreased their direct debt as a percentage of GDP over this period. Saskatchewan leads the way with a 25.8 percent reduction in direct debt as a percentage of GDP, followed by Newfoundland & Labrador, which reduced its share of direct debt in the economy by 11.1 percent. The rest of the provinces have seen an increase in their total direct debt as a percentage of GDP, ranging from 5.6 percent in Nova Scotia to 44.4 percent in Alberta. Although Alberta's provincial financial assets are greater than its liabilities, the provincial government has depleted its net assets by 48 percent over the last five years.<sup>13</sup>

The ratio of program obligations to GDP increased in three provinces from 2007/08 to 2011/12: British Columbia (by 1.1 percent), Ontario (by 0.7 percent), and Quebec (by 0.8 percent). Program obligations as a percentage of GDP decreased in the rest of the provinces, varying from -1.1 percent in New Brunswick to -21.6 percent in Saskatchewan.

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13. In just five years, the value of Alberta's provincial net financial assets has dropped from \$31.5 billion in the 2007/08 fiscal year to \$16.4 billion in 2011/12.

**Table 4: Growth in consolidated government liabilities as a percentage of GDP, 2007/08–2011/12**

	Direct debt	Debt guarantees	Contingent liabilities and contractual commitments	Program obligations	Total government liabilities
British Columbia	22.2	26.4	13.1	1.1	8.1
Alberta	44.4	26.7	(1.2)	(4.7)	5.4
Saskatchewan	(25.8)	(2.0)	(33.7)	(21.6)	(22.9)
Manitoba	18.0	17.4	28.8	(1.0)	6.6
Ontario	29.2	18.7	28.8	0.7	11.2
Quebec	17.6	1.1	37.0	0.8	8.0
New Brunswick	20.4	19.2	91.8	(1.1)	10.3
Nova Scotia	5.6	21.6	161.2	(1.7)	10.8
Prince Edward Island	12.7	16.8	207.7	(4.6)	8.3
Newfoundland & Labrador	(11.1)	5.7	90.2	(1.9)	(1.8)
Yukon Territory	51.0	(2.8)	144.3	(16.7)	2.1
Northwest Territories & Nunavut	100.2	12.8	28.7	(1.6)	20.2
<b>Canada (all inclusive)</b>	<b>22.0</b>	<b>15.2</b>	<b>48.9</b>	<b>(1.2)</b>	<b>7.5</b>

Notes and sources: See table 3.

**Table 5** presents an additional measure of total government liabilities: per income taxpayer, along with per capita and as a percent of GDP. In 2011/12, the total consolidated government liability per Canadian income taxpayer was \$243,476.<sup>14</sup>

**Table 5: Total consolidated government liabilities per capita, per taxpayer, and as a percentage of GDP, 2011/12**

	Per capita	Per taxpayer	% GDP
British Columbia	103,260	218,382	215.9
Alberta	147,641	297,389	187.8
Saskatchewan	93,925	194,294	136.4
Manitoba	92,708	186,262	207.3
Ontario	121,117	251,069	245.4
Quebec	119,354	249,642	276.8
New Brunswick	93,809	184,265	226.5
Nova Scotia	103,066	199,456	255.2
Prince Edward Island	89,736	162,318	240.1
Newfoundland & Labrador	99,649	193,032	156.2
Yukon Territory	110,487	214,680	164.6
Northwest Territories & Nunavut	159,783	416,458	183.8
<b>Canada (all inclusive)</b>	<b>117,948</b>	<b>243,476</b>	<b>230.2</b>

Note: Income taxpayer is someone who submitted a taxable personal income tax return. A taxable return is one where a tax filer paid \$2 or more in taxes net of tax exemptions and other tax expenditures.

Sources: Statistics Canada (2010a, 2010b, 2013a, 2013b, 2014); Federal and Provincial Public Accounts (various years); Office of the Superintendent of Financial Institutions (various years); CRA (2013); calculations by the authors.

14. "Income taxpayer" refers to tax filers who submitted personal income tax returns in 2011/12 and paid \$2 or more in taxes net of tax exemptions and other tax expenditures. In the 2011 tax year, there were 16.6 million Canadian income taxpayers (CRA, 2013).

## Interest charges

Interest charges represent the cost of past consumption that has been financed through deficit spending and debt financing. **Table 6** shows the dollar amount and the share of government revenues allocated to interest payments for the federal and provincial governments. On the latter measure, the federal government pays more in debt charges than any provincial government. Provincial debt charges as a share of revenue vary considerably, from a low of 1.3 percent in Alberta to a high of 11.2 percent in Quebec. This expense to current taxpayers represents foregone tax cuts to service the costs of previous deficit-financed program expenditures and capital spending. Paying debt charges also means there are fewer government resources available for important spending programs like health care, education, social services, and infrastructure.

**Table 6: Government interest charges, by federal and provincial government, 2011/12**

	Interest charges (\$ millions)	Interest charges as % of revenue
British Columbia	2,383	5.7
Alberta	499	1.3
Saskatchewan	412	3.7
Manitoba	815	6.0
Ontario	10,082	9.2
Quebec	7,348	11.2
New Brunswick	662	8.5
Nova Scotia	843	9.4
Prince Edward Island	107	7.0
Newfoundland & Labrador	789	9.1
Federal Government	28,225	11.3

Sources: Federal and Provincial Public Accounts (various years); calculations by authors.



### **Summing up—total liabilities**

The level of total liabilities accumulated by Canadian governments is enormous. In 2011/12, total liabilities—including direct debt, debt guarantees, contingent liabilities and contractual commitments, and program obligations—amounted to \$4.1 trillion. This works out to \$117,948 for every Canadian citizen, \$243,476 for each income taxpayer, or 230.2 percent of GDP. At this level of liabilities, if Canadian governments taxed 100 percent of every dollar of income generated in a given year, it would take more than two years to pay back the debt and fully fund all programs.

## The most pressing concern—unfunded liabilities of government programs

The size and complexity of the unfunded liabilities associated with the Canada and Quebec Pension Plans (CPP/QPP), Old Age Security (OAS), and Medicare (Canada's health care system) warrant a special discussion.

Deficits and debts are intuitively simple concepts as people experience them in their personal everyday lives. While the method of calculating the CPP unfunded liability is far from simple or uncontroversial, it is at least reported on in official actuarial reports. However, the Medicare unfunded liability is not reported and rarely discussed. As for OAS, few people are aware of the size of the OAS program, much less its unfunded liability. Using Statistics Canada's micro-simulation model (the Social Policy Simulation Database and Model or SPSD/M) and detailed data from Statistics Canada and the Canadian Institute for Health Information, the authors have generated estimates of the unfunded liability of OAS and Medicare. The nominal unfunded liability estimates for the CPP, OAS, and Medicare from 2007 to 2011 are presented in [table 7](#). This section introduces the models and describes how Canada got its current burden of unfunded liabilities.

### Funding structure

The CPP/QPP, OAS, and Medicare can be thought of as insurance plans: individuals contribute to a program for a specified period of time and accumulate benefits that are to be received at a later date. The reality is that these programs are largely funded on a "pay-as-you-go" basis. That is, rather than accumulate funds in individual or even collective accounts for future payments, current contributions (taxes) are used to pay the benefits of current recipients.

The source of funds also varies among programs. The CPP and QPP derive their funding from direct payroll deductions. The OAS—including the OAS pension benefit, the Guaranteed Income Supplement, and the Allowance—is paid for out of the federal government's general revenue.

**Table 7: Summary of unfunded liabilities for major government programs (nominal \$ billions)**

	2007	2008	2009	2010	2011	Change, 2007-2011
Canada Pension Plan	657.7	691.4	748.0	758.7	792.3	20.5%
Old Age Security	446.4	468.3	478.9	482.2	494.4	10.8%
Medicare	859.1	879.3	882.9	887.2	894.7	4.1%
<b>Total</b>	<b>1,963.1</b>	<b>2,039.0</b>	<b>2,109.7</b>	<b>2,128.1</b>	<b>2,181.4</b>	<b>11.1%</b>

Notes: Data for previous years (2000-2001, 2003-2006, 2009, and 2012) were used to estimate CPP figures for 2007, 2008, 2010, and 2011. The statistical method used was a linear equation.

The unfunded liability of the Quebec Pension Plan is not included in this table.

In 2012, the federal government announced changes to the OAS program that will lead to a reduction in the program's unfunded liability. Specifically, the age of eligibility for the OAS pension benefit and the Guaranteed Income Supplement will gradually increase from 65 to 67 over six years, starting in April 2023, while the eligibility age for the Allowance is set to increase from 60 to 62. Even though the changes were announced in 2012, the unfunded liability estimates for OAS in this table incorporate the changes. Accounting for the changes reduces the unfunded liability of OAS in 2011 by 12.3 percent from \$563.8 billion to \$494.4 billion.

Sources: Office of the Superintendent of Financial Institutions (various years); calculations by the authors.

Medicare is a provincial responsibility, and is funded by both the provincial and federal levels of government; the provinces pay for the bulk of health care spending. Like the OAS, Medicare is paid for out of general revenue. Neither Medicare nor OAS has assets or even specific funding sources reserved to pay for the promised benefits.

### Analysis of unfunded liabilities

The foundation of the analysis of unfunded liabilities is the actuarial valuation, which assesses the ability of a program to finance the promised benefits for a specific time period given contribution rates, expected investment returns, and specific economic and demographic assumptions. The purpose of the valuation is to determine the current long-term deficit or surplus of program obligations of Canadian jurisdictions.

Unfunded liability estimates for OAS and Medicare are calculated using a model developed by researchers at the Fraser Institute (please see Appendix 1 for an explanation of how the model works). The Fraser Institute model was constructed because previous estimates of "unfunded liabilities" for OAS and Medicare by the Office of the Superintendent of Financial Institutions (OSFI) considered only the stream of benefits to be paid out and, therefore, greatly overestimated Canada's liabilities from these programs. To be accurate,

the previous estimates should be described as “estimates of future liabilities.” Calculating the present value of the future stream of benefits to be paid out, as the other models did, tells only part of the story. The other part is the funding for these programs. Although there are no explicit revenue streams attached to these programs, they do have a payment stream associated with them through general revenue. In order to perform a complete analysis of unfunded liabilities for OAS and Medicare, both the discounted stream of future benefits and the discounted stream of future contributions must be calculated. This analysis used a simulated tax to estimate the future contributions attached to these programs.

Actuarial valuations are extremely sensitive to their underlying assumptions. Both sets of estimates, OAS and Medicare, use the same basic assumptions from the compilation of the CPP estimate (OSFI, 2013); namely, a discount rate of 6.2 percent, price increases (measured by the consumer price index) of 2.2 percent, and a nominal rate of wage growth of 3.4 percent. Changes in these underlying assumptions can cause significant changes in the results. Actuaries normally conduct valuations every three years and modify assumptions, if warranted, based on new economic conditions. All past and current unfunded liability figures in this report make use of consistent assumptions.

At their inception, the CPP/QPP, OAS, and Medicare systems were based upon similar assumptions. It was assumed that the mix of ages in the population, the rate of economic growth, and the wage increases of the 1960s would continue indefinitely. It was considered favourable social and economic policy to transfer a small amount of money from a large group of younger workers to benefit a small group of retirees. These assumptions were entirely wrong. Birth rates have declined, income growth has slowed, and mortality rates have decreased. In 1956, the proportion of the Canadian population that was under 20 years of age was 39.7 percent, while the proportion of those 65 years and over was 7.7 percent (Statistics Canada, 2000). By 2013, the ratio of those under 20 years old to the total population had decreased to 22.3 percent and the ratio of those over 65 had increased to 15.3 percent (Statistics Canada, 2013b). Projections of these ratios for Canada predict that those under 20 will account for 21.4 percent of the total population by 2061, while those 65 years and over will account for 25.4 percent (Statistics Canada, 2010c). These demographic changes have undermined the ability of the retirement programs and the health care system to provide the intended level of benefits, and will continue to do so. Because of these demographic changes, the policy of transferring a small amount of money from a large group of younger workers to benefit a small group of relatively poor retirees has become, in fact, a policy of using large deductions from a smaller group of workers to sustain a larger group of retirees.

### Canada and Quebec Pension Plans

The CPP's unfunded liability was estimated at \$792.3 billion in 2011, 20.5 percent higher than in 2007 (\$657.7 billion).<sup>15</sup> The QPP is not included in the CPP estimates in table 7. Although the QPP does not have an official unfunded liability estimate, the authors provide a separate estimate based on the CPP since the two programs are similarly structured.<sup>16</sup> Based on the number and value of contributions in 2011, the QPP unfunded liability is roughly estimated at one-third the size of the CPP (OSFI, 2013; Quebec, Regie des Rentes, 2013).

### Old Age Security

OAS is one of the largest spending commitments the federal government has. In 2011/12, OAS spending was \$38.0 billion or 13.8 percent of total federal spending (Receiver General for Canada, 2013). Expenditures on OAS grew by 19.1 percent between 2007/08 and 2011/12 (Receiver General for Canada, 2013). The OAS's unfunded liability has grown by 10.8 percent between 2007 and 2011, from \$446.4 billion to \$494.4 billion.<sup>17</sup>

### Medicare

Spending on Medicare is the largest expenditure category in provincial budgets and, although difficult to determine exactly, a large expenditure in the federal budget. According to the Canadian Institute for Health Information (CIHI), Medicare spending was \$140.8 billion in 2011 and has grown by 25.3

15. The latest actuarial report on the Canada Pension Plan was as of December 31, 2012. Since 2011 figures are not available, this number was estimated using data presented in previous actuarial reports and assuming a linear projection. The data provided is under the closed group approach, which means that only current Plan participants are considered as well as benefits earned with respect to participation in the Plan on or before the valuation date. As at 31 December 2012, under the closed group approach, the actuarial liability of the Plan is equal to \$1,004.9 billion, the assets are \$175.1 billion, and the assets shortfall is equal to \$829.8 billion (OSFI, 2013: 48).

16. Despite being similarly structured, there are differences between the CPP and QPP. For instance, the QPP contribution rate since 2012 has been increasing by 0.15 percentage points each year, starting at 9.9 percent and to reach 10.35 percent in 2014. The rate is scheduled to reach 10.8 percent by 2017; the CPP contribution rate is still unchanged at 9.9 percent.

17. In its 2012 budget, the federal government announced changes to the OAS program, starting in April 2023, which will reduce the program's unfunded liability. Specifically, the age of eligibility for the OAS pension benefit and the Guaranteed Income Supplement will gradually increase from 65 to 67 over six years, while the eligibility age for the Allowance is set to increase from 60 to 62. Even though the changes were announced in 2012, the unfunded liability estimates for OAS in Table 7 retroactively incorporate these changes. Accounting for the changes reduces the unfunded liability of OAS in 2011 by 12.3 percent from \$563.8 billion to \$494.4 billion.

percent between 2007 and 2011. Medicare's unfunded liability has grown by 4.1 percent between 2007 and 2011, from \$859.1 billion to \$894.7 billion.<sup>18</sup>

### Total unfunded liabilities for major government programs

Taken together, the unfunded liabilities of the CPP, OAS, and Medicare represent almost \$2.2 trillion in 2011. This figure has grown by 11.1 percent since 2007, when it was approximately \$2.0 trillion (see table 7). The unfunded liabilities of the federal retirement-income support programs and the health care system are currently estimated at 123.9 percent of Canada's GDP.

While the federal government should be commended for showing leadership in increasing the eligibility age for OAS and related programs, Canadians need broader and bolder reform. For instance, upping the age of eligibility to 67 from 65 does not come close to adjusting for changes in life expectancy that have occurred since the mid-1960s. The age of eligibility for OAS would be 74 years today if OAS were indexed for the increase in life expectancy (Clemens et al., 2013). Moreover, the changes will be implemented starting in 2023 and won't be fully in force until 2029. This delay diminishes the potential to materially reduce the fiscal pressure that retiring baby boomers are placing on government programs (baby boomers are those born between 1946 and 1965 and retiring between 2011 and 2030).<sup>19</sup>

Health care funding is primarily provided through general revenue even though it is consumed according to a normal insurance pattern. There continues to be lengthy waiting lists for a wide range of procedures in every province, and an aging population will place tremendous pressures on the health care system (Esmail and Walker, 2008; Barua and Esmail, 2013). Unless governments make changes soon, these pressures will likely lead to higher general tax rates or a further reduction in health care services.

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18. In a previous Fraser Institute publication, Palacios and Esmail (2012) estimated Medicare's 2010 unfunded liability at \$537.7 billion. An important element of the Fraser Institute's unfunded liability model is mortality rates, and this is the reason for the discrepancy between this new calculation and the previous one. The calculation presented in the 2012 publication assumed an old estimation of mortality rates released in 2006 (Statistics Canada, 2006). Statistics Canada recently revised mortality rates for Canada (Statistics Canada, 2013c) and this new estimate reflects these changes.

19. For a discussion of the OAS reforms announced by the federal government in 2012, see Clemens et al. (2013).

## The future prospect of direct debt

This section takes a closer look at the future prospect of direct debt. From the mid-1990s to late-2000s, Canada's federal and provincial governments made considerable progress in reducing direct debt as a share of GDP.<sup>20</sup> Since 2007/08, however, many governments have reversed course. The recession in 2008/09, combined with significant increases in government spending that took place in 2009/10, meant that every government—with the exception of Saskatchewan—fell into deficit in either 2008/09 or 2009/10. Most have yet to return to a balanced budget. As a result, the federal and many provincial governments have been accumulating direct debt and increasing direct debt's share of GDP. Ongoing deficits, coupled with debt-financed capital spending, have translated into growing indebtedness.<sup>21</sup>

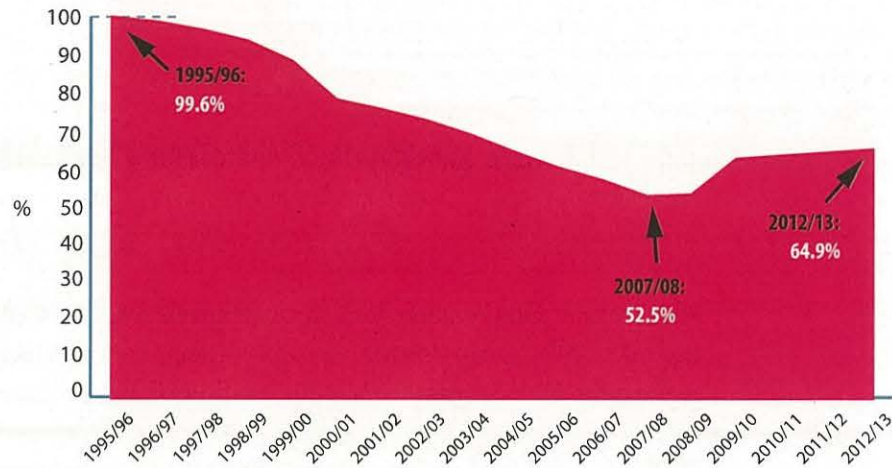
**Figure 1** illustrates the value of all federal and provincial direct debt as a share of the economy, beginning in 1995/96 (the data in the figure do not include local government direct debt). After peaking at 99.6 percent in 1995/96, the ratio of direct debt to GDP declined until hitting 52.5 percent in 2007/08. The trend then reversed and the combined federal-provincial direct debt grew to 64.9 percent, or \$1.2 trillion, in 2012/13. **Figure 2** displays federal, provincial, and combined federal-provincial direct debt as a share of GDP in 2007/08 and in 2012/13. This breakdown shows that the provinces are responsible for a greater share of the growth in combined direct debt since 2007/08. The federal direct debt to GDP ratio grew 11.9 percent from 33.0 percent to 36.9 percent over this period. The growth in total provincial direct debt as a share of GDP was more pronounced, increasing by 43.4 percent over the same period from 19.5 percent to 28.0 percent.

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20. For a discussion of the progress made on debt reduction and how it was accomplished, see Veldhuis et al. (2011).

21. In addition to accumulating debt through deficits, governments can accumulate debt through capital borrowing to finance capital expenditures.

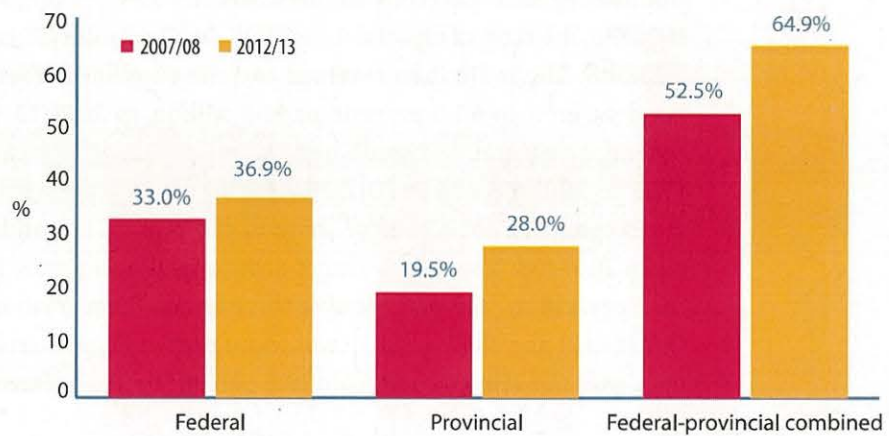
**Figure 1: Combined federal and provincial direct debt as a percentage of GDP, 1995/96–2012/13**



Note: Debt data for 2012/13 is a mixture of final numbers and most recent projections drawn from RBC Economics (2014).

Sources: Federal and Provincial Public Accounts (various years); Statistics Canada (2013a); RBC Economics (2014); calculations by authors.

**Figure 2: Federal, provincial, and combined direct debt as a share of GDP, 2007/08 and 2012/13**



Note and sources: See figure 1.



With many Canadian governments planning to remain in deficit for the foreseeable future, the trend of increasing direct debt is poised to continue. In fact, most governments are projecting deficits until 2015/16 or beyond. **Table 8** summarizes the expected year that the federal and provincial governments will eliminate the deficit as well as the number of years of projected deficit since 2008/09. Importantly, the data in the table relies on government projections that may or may not prove accurate.

**Table 8: Expected year of deficit elimination, federal and provincial governments (as of February 10, 2014)**

	Expected year of deficit elimination	Expected number of years in deficit since 2008/09
British Columbia	2013/14	4
Alberta	2014/15	6
Saskatchewan	Already in surplus	0
Manitoba	2016/17	7
Ontario	2017/18	9
Quebec	2015/16	7
New Brunswick	2017/18	9
Nova Scotia	After 2013/14	4+
Prince Edward Island	2015/16	7
Newfoundland & Labrador	2015/16	4
Federal Government	2015/16	7

Note: Nova Scotia was expected to return to a balanced budget in 2013/14, but the latest financial update from Department of Finance shows that there will be a deficit of \$482 million in 2013/14 (Nova Scotia, Ministry of Finance, 2013). The financial update did not provide a projection on when the province will return to a balanced budget.

Sources: RBC Economics (2014); TD Economics (2014); New Brunswick, Ministry of Finance (2014); Nova Scotia, Ministry of Finance (2013); Quebec, Ministère des Finances (2013).

Based on the projections, however, Newfoundland & Labrador and British Columbia expect to experience the fewest number of deficit years since 2008/09. Newfoundland & Labrador fell into deficit in 2009/10 but returned to surplus the following year. Unfortunately, Newfoundland & Labrador fell back into deficit in 2012/13 and is projected to remain in deficit until 2015/16. British Columbia started to run a deficit in 2009/10 and plans to balance its operating budget in 2013/14.<sup>22</sup> The Ontario and New Brunswick governments expect to stay in deficit for the longest period, with 2017/18 being the target year of elimination for both provinces. The Ontario government, however, has recently indicated that balancing the budget by 2017/18 is no longer a top priority (Ontario, Ministry of Finance, 2013). Still, if the government's projection holds, Ontario would be in deficit for nearly a decade, with deficits over the period totaling \$94.4 billion. Put simply, the longer that governments like Ontario are in deficit, the more direct debt they will accumulate.

But there is reason to be skeptical of the federal and provincial governments' projected deficit elimination dates. Consider that the federal government has changed its target date numerous times in the last five years. In its 2009 budget the federal government projected a return to a balanced budget by 2013/14. Its 2010 budget delayed the return to balanced budget to beyond 2014/15. The following year's budget changed again, making 2014/15 the projected year of surplus. The projection changed yet again in budget 2012 to the current projection of 2015/16. In addition, several provinces have changed their stated timelines for returning to a balanced budget. The largest province to do so is Quebec. In its 2013 fall fiscal update, the Quebec government officially abandoned its previous commitment to eliminate the deficit by 2013/14 and delayed the timeline by two years to 2015/16 (Quebec, Ministère des Finances, 2013). Similarly, New Brunswick and Nova Scotia have both announced delays in eliminating the deficit (New Brunswick, Ministry of Finance, 2013; Nova Scotia, Ministry of Finance, 2013).

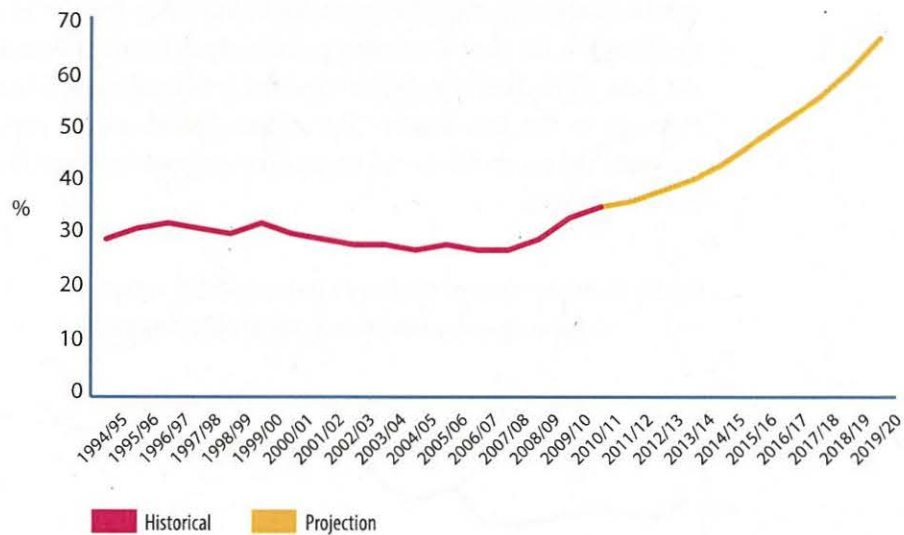
Predicting the future path of government debt accurately is difficult for a variety of reasons and requires assumptions about future government revenues and spending, economic growth, and government borrowing costs (i.e., interest rates). Government projections, however, tend to rely on more optimistic assumptions. Take the Ontario government for example. Its latest financial update at the time of writing included projections for net debt-to-GDP until 2017/18 (Ontario, Ministry of Finance, 2013). Specifically, the government expects net debt to grow from 37.4 percent of GDP in 2012/13, peak in 2015/16 at 40.5 percent, and then decline to 38.9 percent by 2017/18. This

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22. While the BC government plans to balance the operating budget in 2013/14, at the same time it expects to increase its taxpayer-supported debt by \$3.8 billion (British Columbia, Ministry of Finance, 2013). This occurs because of the separation of operating expenses from long-term capital expenses.

path differs greatly from independent projections including those by Canadian fiscal policy expert and University of Calgary professor, Ron Kneebone, who recently estimated Ontario government's net debt-to-GDP ratio based on the assumption that the status quo continues on into the future (Kneebone and Gres, 2013).<sup>23</sup> Professor Kneebone and his co-author estimated that Ontario's net debt would reach 55 percent of GDP in 2017/18 and 66 percent by 2019/20 (figure 3).<sup>24</sup> In other words, if nothing is done to change course, Ontario's net debt-to-GDP ratio would actually rise, not fall.

**Figure 3: Projection of Ontario's debt-to-GDP ratio, status quo assumptions, 1994/95–2019/20**



Note: The status quo growth in revenue and expenditure is based on the average annual percent increases in the ten years before the onset of the 2008 recession.

Source: Kneebone and Gres (2013).

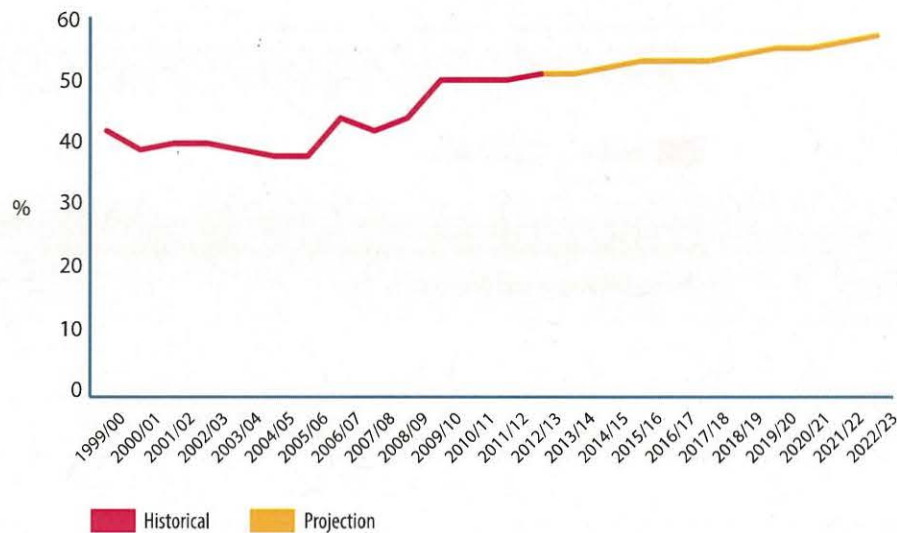
23. In Kneebone and Gres (2013), status quo growth in revenue and expenditure is based on the average annual percent increases in the ten years before the onset of the 2008 recession.

24. Even the government's own Commission on the Reform of Ontario's Public Services, commonly referred to as the Drummond Report, projected net debt to be much higher in 2017/18—50.7 percent of GDP (Drummond Report, 2012).

Quebec is a similar case where the government's projections for direct debt err on the optimistic side. Data from Quebec's latest financial update, released in fall 2013, lays out the government's expected trajectory of net debt-to-GDP ratio until 2017/18. Specifically, the Quebec government projects net debt to increase from 49.0 percent of GDP in 2012/13 to 50.5 percent in 2013/14, and then steadily decline to 46.2 percent by 2017/18 (Quebec, Ministère des Finances, 2013). However, independent projections using Professor Kneebone's methodology suggest that, if the status quo persists, Quebec's net debt will grow to 53 percent of GDP in 2017/18 and 57 percent by 2022/23 (**figure 4**) (Emes and Speer, 2014).<sup>25</sup>

The total amount of debt that will be accumulated before federal and provincial governments return to surplus is uncertain, especially considering recent changes in the timeframe for eliminating deficits in some provinces. One thing is for sure: Canadian governments have collectively increased direct debt since 2007/08 and eroded the progress made from the mid-1990s through to the late-2000s. The sooner governments return to balanced budgets, the sooner they can begin restoring the long run health of Canada's public finances.

**Figure 4: Projection of Quebec's debt-to-GDP ratio, status quo assumptions, 1999/2000–2022/23**



Note: The status quo growth in government revenue and expenditure is based on the average annual percent increases over the ten years previous to 2012/13.

Source: Emes and Speer (2014).

25. In Emes and Speer (2014), status quo growth in government revenue and expenditure is based on the average annual percent increases over the ten years previous to 2012/13.

## Summing up—where do we go from here?

Governments must recognize the extent of the liabilities that exist for Canadian taxpayers. This means acknowledging not just accumulated direct debt but also the enormous program obligations and other liabilities. An important part of acknowledging the problem would be for governments to regularly report on the unfunded liabilities of programs, particularly those that will be affected by an aging population. This would improve transparency and encourage a debate on the viability of the various programs that currently maintain unfunded liabilities. The end result may require restructuring or reforming the program obligations to take into account the impact of future demographic change in Canada. Governments must also be vigilant to not assume new and larger unpaid obligations and they must be prudent in forming policies to deal with those that already exist.

Although unfunded liabilities make up the largest portion of total government liabilities, direct debt is likely to be a growing problem as deficits continue into the medium-term. Along with restructuring program obligations, governments should make balancing their budgets a more immediate priority. Otherwise, the annual deficits currently planned for the foreseeable future will simply add to the existing stock of government debt. Canadians are already heavily taxed, with the average family's tax rate being 43.6 percent in 2013 (Palacios and Lammam, 2013). A much more effective course of action towards fiscal balance than increasing taxes is to reduce spending.<sup>26</sup> In some areas, governments can simply cut spending without adversely affecting ordinary Canadians; in other areas, they should consider fundamental program reform that would result in the same or higher quality services but at lower costs.

Balancing the budget would free up resources for debt reduction which in turn would reduce interest payments and create the fiscal room to enhance tax competitiveness and prosperity. An option that governments could pursue

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26. Research by leading fiscal policy scholar and Harvard professor Alberto Alesina finds that contractionary fiscal policy—that is, large reductions in the budget deficit—based on spending cuts is much more effective than tax hikes for reducing government debt and avoiding economic downturns (see Alesina and Ardagna, 2010).

to help prevent deficits and direct debt from growing is to enact laws enforcing tax and expenditure limitations (TEs) and legislated plans for reducing their debt. Such legislation would include strict penalties for politicians and bureaucrats who do not comply.<sup>27</sup>

Transparency for direct debt could also be improved. Governments currently separate their operating and capital budgets, and this can lead to confusion regarding the extent of government spending and the broad state of the fiscal balance. This separation of expenses is what allows governments to balance their operating budget while at the same time increasing their direct debt. Since the operating budget receives the most public attention, taxpayers may be unaware that debt is still being accumulated.

Other methods of reducing government liabilities include privatizing Crown Corporations and applying the resulting revenue to the debt. Beyond the reduction in debt, this would have other important economic benefits such as greater efficiency and service provision at divested firms, increased capital investment, and ultimately improved economic growth.<sup>28</sup> In addition, governments could cease the practice of guaranteeing debts to private and public business enterprises. This would reduce their total liability and have the additional economic benefit of reducing government-caused distortions in capital markets.

This study provides background information to help the average Canadian understand the complete size of government debt and other types of liabilities. The most important message is that returning to balanced budgets is only the first step towards fiscal responsibility. Debt reduction and the proper funding of obligations are also essential.

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27. See Clemens et al. (2003) for a review of the experience with Tax and Expenditure Limitations in the United States.

28. For a discussion of the benefits of privatization, see Lammam and Veldhuis (2009).

## Appendix 1: Methodology and data

This report was written for the non-specialist reader who does not have an extensive accounting or financial background. For those who require more detail, a technical discussion of the methodology is included here. The following section summarizes the methods used, and sources referenced, to calculate the figures for total government liability.

### Methodology for computing total government liability

Unfortunately, government reporting of fiscal performance lags behind the events. As a result, totals for some of the liability categories, such as local net debt or debt guarantees, had to be estimated for 2011/12. The basic projection technique was to extend the trend of the most recently available information. In order to apply an unbiased rate of growth, an average rate of change was calculated using the five most recent years of actual data. The average rate of increase or decrease was then applied to the most recent year to estimate 2011/12 values.

### Data for Canada

The majority of the Canadian data in this report is from the Provincial and Federal Public Accounts and estimates based on Statistics Canada's Government Finance Statistics (GFS) and Financial Management System (FMS).<sup>1</sup> **Table A1** lists the sources for the Canadian data by category, giving the most recent reporting date for the various categories of liabilities.

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1. In 2010, Statistics Canada announced that the government financial statements and reports that used to be based on the Financial Management System (FMS) framework would be replaced by the Government Finance Statistics (GFS2001) accounting system. Statistics Canada will begin publishing Public Sector Statistics for provinces based on the GFS2001 manual in calendar year 2014. For more information about these two systems and their differences, see <http://www.statcan.gc.ca/pub/13-605-x/2010001/article/11155-eng.htm>. Previous editions of this study used Statistics Canada's FMS to report net debt at the three

**Table A1: Sources of Canadian data used in various calculations**

<b>Federal Government</b>	
Direct Debt	Public Accounts
Debt Guarantees	Public Accounts
Contingent Liabilities and Contractual Commitments	Public Accounts
<i>Obligations</i>	
Canada Pension Plan	Human Resources and Skills Development Canada
Unfunded Liabilities of CPP	OSFI
Old Age Security	The Fraser Institute's Unfunded Liabilities Model
<b>Provincial Government</b>	
Direct Debt	Public Accounts
Debt Guarantees	Calculations by authors based on Statistics Canada's Financial Management System (FMS)
Contingent Liabilities and Contractual Commitments	Public Accounts
<i>Obligations</i>	
Unfunded Liabilities of Health Care System (Medicare)	The Fraser Institute's Unfunded Liabilities Model
Quebec Pension Plan	Quebec, Regie des Rentes
<b>Local Government</b>	
Direct Debt	Calculations by authors based on Statistics Canada's Financial Management System (FMS) and Government Finance Statistics (GFS)

There are a variety of methods that could be used to allocate federal liabilities, such as income per person, population, or some taxation-based measure. This study uses the provincial contribution to federal tax revenues because this reflects the distribution of the federal debt burden best. Applying federal liabilities this way generates different liability values for each province, a procedure that acknowledges and captures broad regional deviations. The calculations of tax shares encompass all federally mandated taxes, both direct and indirect. A five-year average of the federal tax-share statistic is applied to each category of federal liabilities to derive each province's share. To maintain consistency, this five-year average is applied to the historical federal liability figures.

The methodology is modified for the Canada and Quebec Pension Plans. Quebec is allotted the full value of the Quebec Pension Plan's assets, liabilities, and unfunded liabilities. The contributions of each province and of the three territories to the Canada Pension Plan are used to distribute the CPP's assets, liabilities, and unfunded liabilities.

levels of government, but since this source was terminated, public account data, which is similar to FMS, was used for federal and provincial debt data. Meanwhile, estimates for local debt were based on historical FMS and GFS.



## Estimates of unfunded liabilities

This study provides estimates of the unfunded liabilities of the Old Age Security system (OAS), Canada/Quebec Pension Plans (CPP/QPP), and Medicare for the cohort aged 18 and older as of December 31 for the year shown.

### Canada/Quebec Pension Plans

Unfunded liabilities of the CPP as at December 31, 2012 are provided in the *Actuarial Report (26th) on the Canada Pension Plan*. The data provided is under the closed group approach. A closed group includes only current participants of the Plan, with no new entrants permitted and no new benefits accrued. There is no official estimate of the unfunded liability of the QPP. This study estimates the QPP unfunded liability at one-third of the CPP unfunded liability.

### Old Age Security and Medicare

The unfunded liability estimates for OAS and Medicare are from a model developed by the Fraser Institute. Previous estimates of the unfunded liabilities of OAS and Medicare by the Office of the Superintendent of Financial Institutions covered costs only, and therefore greatly exaggerated the liabilities associated with these programs. The model we present in this report generates true unfunded liabilities by adding a funding source to the readily available cost data. Both sets of estimates use the same basic assumptions as those used in the compilation of the CPP estimate: a discount rate of 6.2 percent, CPI increases of 2.2 percent, and nominal wage growth of 3.4 percent.

### Old Age Security

All components of the Old Age Security program are considered: OAS pension benefits, Guaranteed Income Supplement benefits, the Allowance for spouses, and the recovery of OAS benefits through income taxes. Age-specific distributions of net OAS benefits are obtained from Statistics Canada's Social Policy Simulation Database and Model (SPSD/M). The funding for OAS and related benefits come from general revenue; for the purpose of this model, it is assumed that a portion of basic federal tax is assigned to pay for the benefits. Operationally, a surtax on basic federal tax sufficient to fund OAS benefits is created in the SPSPD/M. Basic federal tax rates are reduced so that the change is revenue neutral. Federal revenue from the new basic federal tax rates plus the surtax on basic federal tax equals federal revenue from the original basic federal tax.

Changes to the OAS program were announced by the federal government in Budget 2012. Specifically, starting in April 2023, the age of eligibility for the OAS pension benefit and the Guaranteed Income Supplement will

gradually increase from 65 to 67 over six years until 2029. The age of eligibility for the Allowance will also gradually increase from 60 to 62. These changes have been incorporated in the model as a correction or savings.<sup>2</sup> That is, as the eligible age for the OAS program increases, there will be a saving associated with the decrease in the number of beneficiaries and subsequently, a reduction in government expenditures starting in 2023.

### Medicare

The cost data for the Medicare estimate comes from the Canadian Institute for Health Information. Total spending on health care by the government sector, broken down by five-year age intervals (except for infants and the age group 85 and older), is used. Spending on health care for those aged zero to 17 years is distributed equally to those aged 18 and older since the model includes only people aged 18 years and older. The bulk of government health care spending in Canada is provincial. The funding source for the provincial portion of health care spending in this model is provincial personal income-tax revenue. In every year analyzed, government-sector health expenditures exceeded provincial personal income-tax revenues. The funding source for the federal portion of health care spending in this model is a revenue-neutral surtax on basic federal tax. This surtax has the same basic structure as the OAS surtax described above. Note that the federal contribution to health spending is a residual from total government-sector health expenditures less provincial personal income-tax revenue. Federal health spending is treated this way because of the complexities associated with estimating the value of federal contributions to health care under the Canada Health Transfer block transfer.

### General

The age-specific revenue sources are adjusted to remove errors introduced into the model by rounding. There is a small (approximately 0.05 percent) negative impact on the unfunded liability estimates relative to the estimates without the correction.

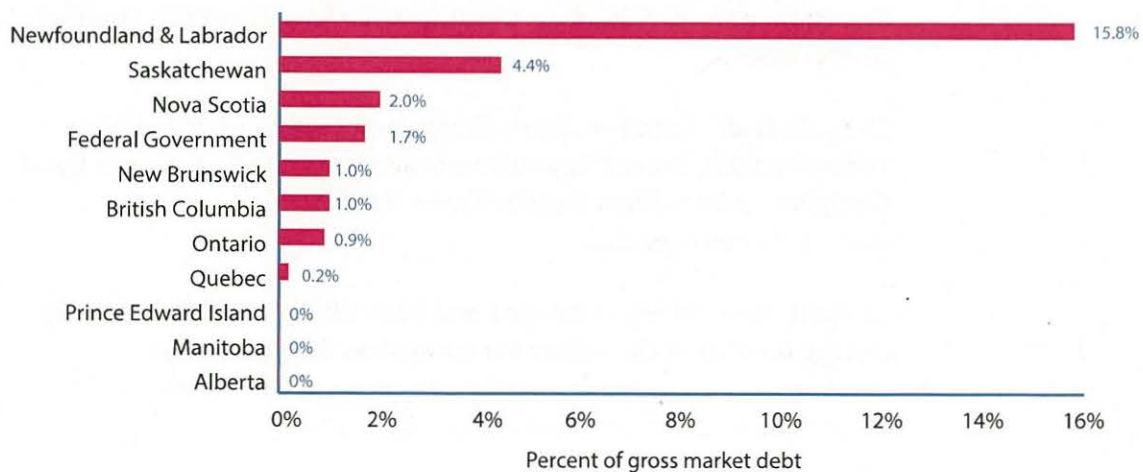
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2. For the specific, phased-in changes of the age of eligibility for OAS pension and benefits starting April 2023 and fully implemented by January 2029, see <http://www.servicecanada.gc.ca/eng/services/pensions/oas/changes/age/index.shtml>.

## Appendix 2: Exposure to foreign currency

A portion of the debt of many provinces is denominated in a foreign currency. The necessity of paying interest on, and ultimately redeeming, bonds issued in foreign currencies imposes an additional risk on taxpayers. A significant deterioration in the value of the Canadian dollar correspondingly increases the cost of servicing the debt held in foreign currencies while a rise in the Canadian dollar reduces these costs. In general, this means that the provinces are “speculating” on exchange markets unless they receive revenues, such as resource royalties, that are themselves effectively linked to the exchange rate. Figure A2 illustrates the proportion of total direct debt that each province holds in foreign currencies. Newfoundland and Labrador is by far the most heavily exposed to foreign exchange risk, as bonds denominated in foreign currency account for 15.8 percent of its direct debt. The federal government and other provincial governments all have exposures below five percent, with Saskatchewan having the second highest exposure at 4.4 percent. Alberta, Manitoba, and Prince Edward Island have no foreign exchange exposure.

Figure A2: Foreign exchange exposure, 2011/12



Note: Exposure is net of hedges.

Source: DBRS (2013).

## References

Alesina, Alberto, and Silvia Ardagna (2010). Large Changes in Fiscal Policy: Taxes versus Spending. *Tax Policy & the Economy* 24: 35–68

Barua, Bacchus, and Nadeem Esmail (2013). *Waiting Your Turn: Wait Times for Health Care in Canada, 2013 Report*. Fraser Institute.  
<<http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/waiting-your-turn-2013.pdf>>

Canadian Institute for Health Information [CIHI] (2013). *National Health Expenditure Trends, 1975 to 2013*.  
<[https://secure.cihi.ca/free\\_products/NHEXTrendsReport\\_EN.pdf](https://secure.cihi.ca/free_products/NHEXTrendsReport_EN.pdf)>

Cecchetti, Stephen G., M.S. Mohanty, and Fabrizio Zampolli (2011). *The Real Effects of Debt*. BS Working Papers No. 352. Bank for International Settlement.

Checherita, Cristina, and Philipp Rother (2010). *The Impact of High and Growing Government Debt on Economic Growth: An Empirical Investigation for the Euro Area*. Working Paper Series No. 1237. European Central Bank.

Clemens, Jason, Todd Fox, Amela Karabegović, Sylvia Leroy, and Niels Veldhuis (2003). Tax and Expenditure Limitations: The Next Step in Fiscal Discipline. *Critical Issues Bulletin*. Fraser Institute.  
<<http://www.fraserinstitute.org>>

Clemens, Jason, Milagros Palacios, and Niels Veldhuis (2013). *Reforming Old Age Security: A Good Start but Incomplete*. Fraser Institute.  
<<http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/reforming-old-age-security.pdf>>

All websites retrievable as of February 28, 2013.

Commission on the Reform of Ontario's Public Services [Drummond Report] (2012). *Public Services for Ontarians: A Path to Sustainability and Excellence*. Government of Ontario.

Dominion Bond Rating Service [DBRS] (2013). *Resolve Holding But Showing Signs of Fatigue: 2013 Canadian Federal and Provincial Governments Overview*.

Égert, Balázs (2012). *Public Debt, Economic Growth and Nonlinear Effects: Myth or Reality?* OECD Economics Department Working Papers, No. 993. OECD Publishing.

Emes, Joel, and Sean Speer (2014). The Past and Future of Quebec's Public Debt. In Sean Speer (ed.), *Quebec's Government Indebtedness: Unnoticed, Uncontrolled* (Fraser Institute): 31–41

Esmail, Nadeem, and Michael Walker (2008). *How Good Is Canadian Health Care? 2008 Report*. Studies in Health Care Policy (November). Fraser Institute. <<http://www.fraserinstitute.org>>

Kneebone, Ronald D., and Margarita Gres (2013). The Past and Future of Ontario's Public Debt. In Jason Clemens and Niels Veldhuis (eds.), *The State of Ontario's Indebtedness: Warning Signs to Act*. Fraser Institute.

Kumar, Manmohan S., and Jaejoon Woo (2010). *Public Debt and Growth*. IMF Working Paper 10/174. International Monetary Fund.

Lammam, Charles, and Niels Veldhuis (2009). It's Time to Privatize Canada's Crown Corporations. *Fraser Forum* (May): 31–34.

Palacios, Milagros, and Nadeem Esmail (2012). *The Unfunded Liability of Canada's Health Care System*. Fraser Institute.

<<http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/unfunded-liability-of-canadas-health-care-system.pdf>>

Palacios, Milagros, and Charles Lammam (2013). *Canadians Celebrate Tax Freedom Day on June 10, 2013*. Fraser Institute.

<<http://www.fraserinstitute.org/uploadedFiles/fraser-ca/Content/research-news/research/publications/tax-freedom-day-2013.pdf>>

Reinhart, Carmen, and Kenneth Rogoff (2010). Growth in a Time of Debt. *American Economic Review* 100, 2 (May): 573–78.

Reinhart, Carmen, and Kenneth Rogoff (2013, April 25). Debt, Growth and the Austerity Debate. *The New York Times*.

<[http://www.nytimes.com/2013/04/26/opinion/debt-growth-and-the-austerity-debate.html?\\_r=0](http://www.nytimes.com/2013/04/26/opinion/debt-growth-and-the-austerity-debate.html?_r=0)>

Royal Bank of Canada Economics Research [RBC Economics] (2014). *Canadian Federal and Fiscal Tables*. Royal Bank of Canada. <[http://www.rbc.com/economics/economic-reports/pdf/provincial-forecasts/prov\\_fiscal.pdf](http://www.rbc.com/economics/economic-reports/pdf/provincial-forecasts/prov_fiscal.pdf)>

Toronto Dominion Economics [TD Economics] (2014). *Government Budget Balances and Net Debt, as of February 12, 2014*. <[www.td.com/economics](http://www.td.com/economics)>

Veldhuis, Niels, Jason Clemens, and Milagros Palacios (2011). *Learning from the Past: How Canadian Fiscal Policies of the 1990s Can Be Applied Today*. Fraser Institute.

## Government sources

### *Federal Government, Canada*

Canada Revenue Agency [CRA] (2013). *Preliminary Statistics 2013 Edition (2011 tax year)*. <<http://www.cra-arc.gc.ca/gncy/stts/ntrm-eng.html>>

Department of Finance (2009). *Canada's Economic Action Plan: Budget 2009*. <<http://www.budget.gc.ca/2009/pdf/budget-planbudgetaire-eng.pdf>>

Department of Finance (2010). *Canada's Economic Action Plan Year 2: Budget 2010*. <<http://www.budget.gc.ca/2010/pdf/budget-planbudgetaire-eng.pdf>>

Department of Finance (2011). *The Next Phase in Canada's Economic Action Plan: A Low-Tax Plan for Jobs and Growth*. <<http://www.budget.gc.ca/2011/plan/Budget2011-eng.pdf>>

Department of Finance (2012). *Jobs Growth and Long-Term Prosperity: Economic Action Plan 2012*. <<http://www.budget.gc.ca/2012/plan/pdf/Plan2012-eng.pdf>>

Department of Finance (2013). *Jobs Growth and Long-Term Prosperity: Economic Action Plan 2013*. <<http://www.budget.gc.ca/2013/doc/plan/budget2013-eng.pdf>>

Human Resources and Skills Development Canada (various years). *Annual Report of the Canada Pension Plan.*

<<http://www.hrsdc.gc.ca/eng/oas-cpp/reports/index.shtml>>

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (1996, June 18). *Special Report for The Fraser Institute on Unfunded Liabilities of Government Programs.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (1998, January 28). *Special Report for The Fraser Institute on Unfunded Liabilities of Government Programs.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (1999, September 10). *Special Report for The Fraser Institute on Unfunded Liabilities of Government Programs.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (2001). *Actuarial report (18th) on the Canadian Pension Plan as at December 2000.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (2004). *Actuarial report (21st) on the Canada Pension Plan as at December 2003.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (2004, April 7). *Special Report for The Fraser Institute on Unfunded Liabilities of the Canadian Pension Plan.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (2007). *Actuarial Report (23rd) on the Canada Pension Plan as at December 2006.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (2010). *Actuarial Report (25th) on the Canada Pension Plan as at December 2009.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (2012). *Measuring the Financial Sustainability of the Canada Pension Plan.*

Office of the Superintendent of Financial Institutions [OSFI], Actuarial Services Division (2013). *Actuarial Report (26th) on the Canada Pension Plan as at December 2012.*

Receiver General for Canada (2008). *Public Accounts of Canada, 2007–08*. Ministry of Public Works and Government Services.

Receiver General for Canada (2009). *Public Accounts of Canada, 2008–09*. Ministry of Public Works and Government Services.

Receiver General for Canada (2010). *Public Accounts of Canada, 2009–10*. Ministry of Public Works and Government Services.

Receiver General for Canada (2011). *Public Accounts of Canada, 2010–11*. Ministry of Public Works and Government Services.

Receiver General for Canada (2012). *Public Accounts of Canada, 2011–12*. Ministry of Public Works and Government Services.

Receiver General for Canada (2013). *Public Accounts of Canada, 2012–13*. Ministry of Public Works and Government Services.

Statistics Canada (2000). CANSIM Table 051-0026: Estimates of population, by age group and sex, Canada, provinces and territories (terminated). <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=0510026&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>>

Statistics Canada (2006). *Life Tables, Canada Provinces and Territories*. <<http://www.statcan.gc.ca/pub/84-537-x/4064441-eng.htm>>

Statistics Canada (2009). Financial Management System (FMS). <<http://www5.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=68f0023x&lang=eng>>

Statistics Canada (2010a). CANSIM Table 385-0014: Balance sheet of federal, provincial and territorial general and local governments (terminated). <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=3850014&tabMode=dataTable&srchLan=-1&p1=-1&p2=9>>

Statistics Canada (2010b). CANSIM Table 385-0026: Debt guaranteed by provincial and territorial general government (terminated). <<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=3850026&tabMode=dataTable&srchLan=-1&p1=-1&p2=9>>

Statistics Canada (2010c). *Population Projections for Canada, Provinces and the Territories*. Catalogue No. 91-520-XWE. <<http://www.statcan.gc.ca/pub/91-520-x/91-520-x2010001-eng.pdf>>



Statistics Canada (2013a). CANSIM Table 384-0037: Gross domestic product, income-based, provincial and territorial.

<<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=3840037&paSer=&pattern=&stByVal=1&p1=1&p2=50&tabMode=dataTable&csid=>>

Statistics Canada (2013b). CANSIM Table 051-0001: Estimates of population, by age group and sex for July 1, Canada, provinces and territories.

<<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=0510001&paSer=&pattern=&stByVal=1&p1=1&p2=50&tabMode=dataTable&csid=>>

Statistics Canada (2013c). Life Tables, Canada, Provinces and Territories, 2009 to 2011.

<<http://www.statcan.gc.ca/pub/84-537-x/84-537-x2013005-eng.pdf>>

Statistics Canada (2014). CANSIM Table 385-0032: Government Finance Statistics, Statement of Government Operations and Balance Sheet.

<<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=3850032&paSer=&pattern=&stByVal=1&p1=1&p2=50&tabMode=dataTable&csid=>>

#### *Provincial Governments, Canada*

Alberta, Ministry of Finance (2008). *2007–08, Public Accounts*. Edmonton.

Alberta, Ministry of Finance (2009). *2008–09, Public Accounts*. Edmonton.

Alberta, Ministry of Finance (2010). *2009–10, Public Accounts*. Edmonton.

Alberta, Ministry of Finance (2011). *2010–11, Public Accounts*. Edmonton.

Alberta, Ministry of Finance (2012). *2011–12, Public Accounts*. Edmonton.

British Columbia, Ministry of Finance (2008). *Public Accounts 2007–08*. Victoria.

British Columbia, Ministry of Finance (2009). *Public Accounts 2008–09*. Victoria.

British Columbia, Ministry of Finance (2010). *Public Accounts 2009–10*. Victoria.

British Columbia, Ministry of Finance (2011). *Public Accounts 2010–11*. Victoria.

British Columbia, Ministry of Finance (2012). *Public Accounts 2011–12*. Victoria.

British Columbia, Ministry of Finance (2013). *Second Quarterly Report* (November).

Manitoba, Ministry of Finance (2008). *Public Accounts of Manitoba, 2007–08*. Winnipeg.

Manitoba, Ministry of Finance (2009). *Public Accounts of Manitoba, 2008–09*. Winnipeg.

Manitoba, Ministry of Finance (2010). *Public Accounts of Manitoba, 2009–10*. Winnipeg.

Manitoba, Ministry of Finance (2011). *Public Accounts of Manitoba, 2010–11*. Winnipeg.

Manitoba, Ministry of Finance (2012). *Public Accounts of Manitoba, 2011–12*. Winnipeg.

New Brunswick, Ministry of Finance (2008). *Public Accounts, 2007–08*. Fredericton.

New Brunswick, Ministry of Finance (2009). *Public Accounts, 2008–09*. Fredericton.

New Brunswick, Ministry of Finance (2010). *Public Accounts, 2009–10*. Fredericton.

New Brunswick, Ministry of Finance (2011). *Public Accounts, 2010–11*. Fredericton.

New Brunswick, Ministry of Finance (2012). *Public Accounts, 2011–12*. Fredericton.

New Brunswick, Ministry of Finance (2013). *Managing Smarter for a Brighter Future: 2013–14 Budget*. Fredericton.

New Brunswick, Ministry of Finance (2014). *Putting our Resources to Work: 2014–15 Budget*. Fredericton.

Newfoundland, Department of Finance (2008). *Public Accounts, 2007–08*. St. John's.

Newfoundland, Department of Finance (2009). *Public Accounts, 2008–09*. St. John's.

Newfoundland, Department of Finance (2010). *Public Accounts, 2009–10*. St. John's.

Newfoundland, Department of Finance (2011). *Public Accounts, 2010–11*. St. John's.

Newfoundland, Department of Finance (2012). *Public Accounts, 2011–12*. St. John's.

Northwest Territories, Ministry of Finance (2008). *Public Accounts, 2007–08*. Yellowknife.

Northwest Territories, Ministry of Finance (2009). *Public Accounts, 2009–10*. Yellowknife.

Northwest Territories, Ministry of Finance (2011). *Public Accounts, 2010–11*. Yellowknife.

Northwest Territories, Ministry of Finance (2012). *Public Accounts, 2011–12*. Yellowknife.

Nova Scotia, Ministry of Finance (2008). *Public Accounts of the Province of Nova Scotia, 2007–08*. Halifax.

Nova Scotia, Ministry of Finance (2009). *Public Accounts of the Province of Nova Scotia, 2008–09*. Halifax.

Nova Scotia, Ministry of Finance (2010). *Public Accounts of the Province of Nova Scotia, 2009–10*. Halifax.

Nova Scotia, Ministry of Finance (2011). *Public Accounts of the Province of Nova Scotia, 2010–11*. Halifax.

Nova Scotia, Ministry of Finance (2012). *Public Accounts of the Province of Nova Scotia, 2011–12*. Halifax.

Nova Scotia, Ministry of Finance (2013). *Forecast Update: December 19*. Halifax.

Nunavut, Ministry of Finance (2008). *Public Accounts, 2007–08*. Iqaluit.

Nunavut, Ministry of Finance (2009). *Public Accounts, 2008–09*. Iqaluit.

Nunavut, Ministry of Finance (2010). *Public Accounts, 2009–10*. Iqaluit.

Nunavut, Ministry of Finance (2011). *Public Accounts, 2010–11*. Iqaluit.

Nunavut, Ministry of Finance (2012). *Public Accounts, 2011–12*. Iqaluit.

Ontario, Ministry of Finance (2008). *Public Accounts of Ontario, 2007–08*. Queen's Printer.

Ontario, Ministry of Finance (2009). *Public Accounts of Ontario, 2008–09*. Queen's Printer.

Ontario, Ministry of Finance (2010). *Public Accounts of Ontario, 2009–10*. Queen's Printer.

Ontario, Ministry of Finance (2011). *Public Accounts of Ontario, 2010–11*. Queen's Printer.

Ontario, Ministry of Finance (2012). *Public Accounts of Ontario, 2011–12*. Queen's Printer.

Ontario, Ministry of Finance (2013). *Economic Outlook and Fiscal Review 2013*. Queen's Printer.

Prince Edward Island, Ministry of Finance (2008). *Public Accounts, 2007–08*. Charlottetown.

Prince Edward Island, Ministry of Finance (2009). *Public Accounts, 2008–09*. Charlottetown.

Prince Edward Island, Ministry of Finance (2010). *Public Accounts, 2009–10*. Charlottetown.

Prince Edward Island, Ministry of Finance (2011). *Public Accounts, 2010–11*. Charlottetown.

Prince Edward Island, Ministry of Finance (2012). *Public Accounts, 2011–12*. Charlottetown.

Québec, Ministère des Finances (2008). *Public Accounts, 2007–08*. Quebec City.

Québec, Ministère des Finances (2009). *Public Accounts, 2008–09*. Quebec City.

Québec, Ministère des Finances (2010). *Public Accounts, 2009–10*. Quebec City.

Québec, Ministère des Finances (2011). *Public Accounts, 2010–11*. Quebec City.

Québec, Ministère des Finances (2012). *Public Accounts, 2011–12*. Quebec City.

Québec, Ministère des Finances (2013). *Update on Quebec's Economic and Financial Situation*. Quebec City.

Quebec, Regie des Rentes (various years). *Rapport Annuel de Gestion*.  
<[http://www.rrq.gouv.qc.ca/en/services/publications/regie/rapports\\_annuels/Pages/rapports\\_annuels.aspx](http://www.rrq.gouv.qc.ca/en/services/publications/regie/rapports_annuels/Pages/rapports_annuels.aspx)>

Quebec, Regie des Rentes (2013). *Évaluation actuarielle du Régime de rentes du Québec au 31 décembre 2012*.  
<[http://www.rrq.gouv.qc.ca/SiteCollectionDocuments/www.rrq.gouv.qc/Francais/publications/regime\\_rentes/EA2012.pdf](http://www.rrq.gouv.qc.ca/SiteCollectionDocuments/www.rrq.gouv.qc/Francais/publications/regime_rentes/EA2012.pdf)>

Saskatchewan, Ministry of Finance (2008). *Public Accounts, 2007–08*. Regina.

Saskatchewan, Ministry of Finance (2009). *Public Accounts, 2008–09*. Regina.

Saskatchewan, Ministry of Finance (2010). *Public Accounts, 2009–10*. Regina.

Saskatchewan, Ministry of Finance (2011). *Public Accounts, 2010–11*. Regina.

Saskatchewan, Ministry of Finance (2012). *Public Accounts, 2011–12*. Regina.

Yukon, Ministry of Finance (2008). *Public Accounts, 2007–2008*. Whitehorse.

Yukon, Ministry of Finance (2009). *Public Accounts, 2008–2009*. Whitehorse.

Yukon, Ministry of Finance (2010). *Public Accounts, 2009–2010*. Whitehorse.

Yukon, Ministry of Finance (2011). *Public Accounts, 2010–2011*. Whitehorse.

Yukon, Ministry of Finance (2012). *Public Accounts, 2011–2012*. Whitehorse.

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