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Quebec's 2015 Budget
Bold Action on Debt and Taxes Needed

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MAIN CONCLUSIONS

- Quebec's relatively weak economic performance is partly driven by shaky government finances. The Couillard government has been forthright about the need to address the province's fiscal challenges and has already taken some important initial steps to balance the budget in 2015/16.

- However, given the extent of Quebec's debt and tax challenges, large, not small, changes are needed. The upcoming 2015 budget is an opportunity to enact bold reforms.

- This paper measures the extent of the fiscal problems facing the province. From 2004/05 to 2013/14, net debt has grown 83.0% from $99.0 billion to $181.3 billion. Quebec is by far the most indebted province both as a share of GDP (50.0%) and per person ($22,230).

- For every dollar of revenue collected by the Quebec government, more than 11 cents goes to paying interest on past government debt and not public services or tax relief.

- While Quebec's tax system is generally uncompetitive, the personal income tax system is especially so. Provincial marginal tax rates are amongst the highest in Canada at various income levels. Once the federal rate is included, a Quebecker earning $150,000 loses about 50 cents for every extra dollar earned to personal income taxes.

- The government's latest fiscal plan does not include the fiscal room to take bold action. Reducing and reforming government spending would free up the resources both to reduce government debt and enact tax changes while avoiding further budget deficits.

Introduction

Quebec's economy has historically underperformed compared to other Canadian provinces and even American States. Whether it's economic growth, job creation, the unemployment rate, or investment growth, Quebec has generally lagged behind (Speer, Palacios, and Ren, 2014). There are many reasons for the province's relatively weak performance but shaky government finances in the form of high debt levels and an uncompetitive tax system, particularly personal income taxes, are among the most important.

The new government under Premier Philippe Couillard has been direct with Quebeckers about the need to address the province's fiscal challenges and it has taken some important initial steps. In both the June 2014 budget and the December 2014 fiscal update, the Couillard government announced measures to balance the budget in 2015/16 (Québec, Ministère des Finances, 2014a; Québec, Ministère des Finances, 2014b). If things go as planned, Quebec will end a seven-year streak of consecutive deficits (Speer et al., 2014). The new government has also established two independent committees, one—the Ongoing Program Review Committee—to review the effectiveness and efficiency of existing programs and another—the Quebec Taxation Review Committee—to make recommendations to improve the provincial tax system.

However, given the extent of Quebec's debt and tax challenges, large, not small, changes are needed and the upcoming 2015 budget is an opportunity to enact bold reforms. This paper measures the extent of the fiscal problems facing the province. In particular, it highlights the dramatic level of government indebtedness and the province's uncompetitive tax system. Given the magnitude of Quebec's fiscal challenges and the lack of fiscal room in the government's existing plan, reducing and reforming government spending is required to free up the resources for bolder reforms.

1. Quebec's High and Increasing Government Debt

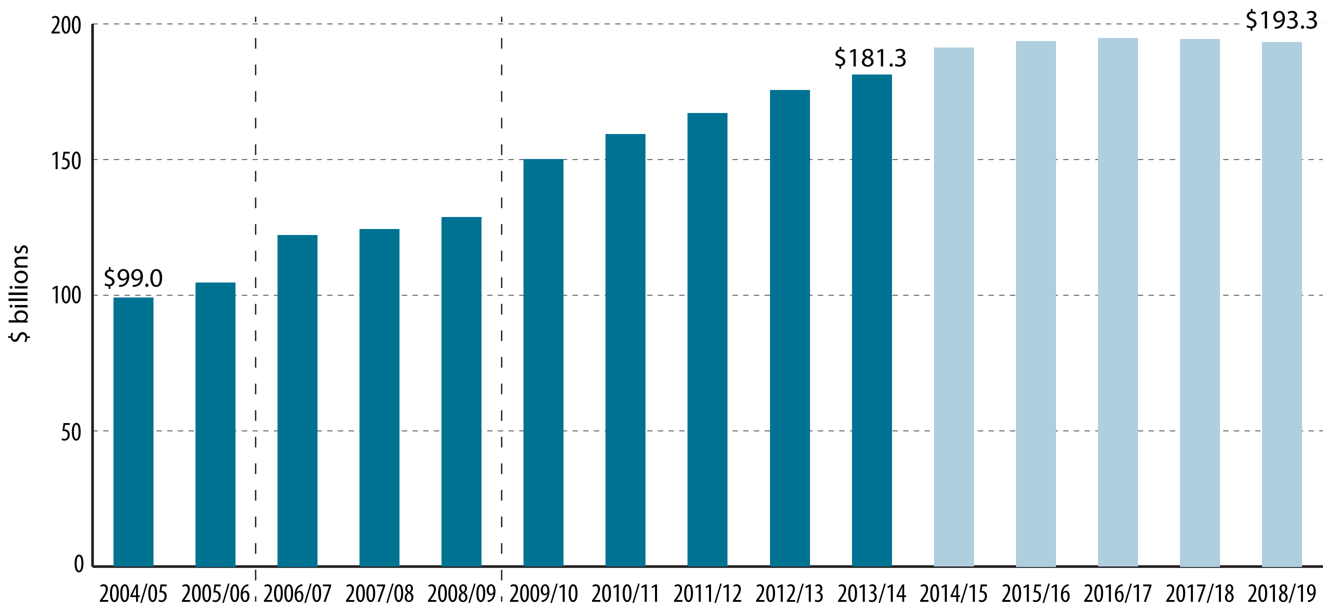
This section examines the growth of government debt in Quebec and compares the debt burden to other provinces. [1]

Growth in Quebec's net debt

Over the past decade, provincial government debt has grown rapidly in Quebec. [2] Figure 1 shows that Quebec's net debt [3] grew from $99.0 billion in 2004/05 to $181.3 billion in 2013/14 (the latest year of historical data). This translates into nominal growth of 83.0%. Figure 1 also shows the government's most recent projections for net debt from 2014/15 to 2018/19. Net debt is expected to continue growing until 2016/17 and then remain at approximately the same level for the following two years. The government is projecting that, in 2018/19, net debt will reach $193.3 billion or 6.7% higher than the 2013/14 level. Despite plans to balance the budget in 2015/16, the government is not intending to reduce net debt in a meaningful way. [4]

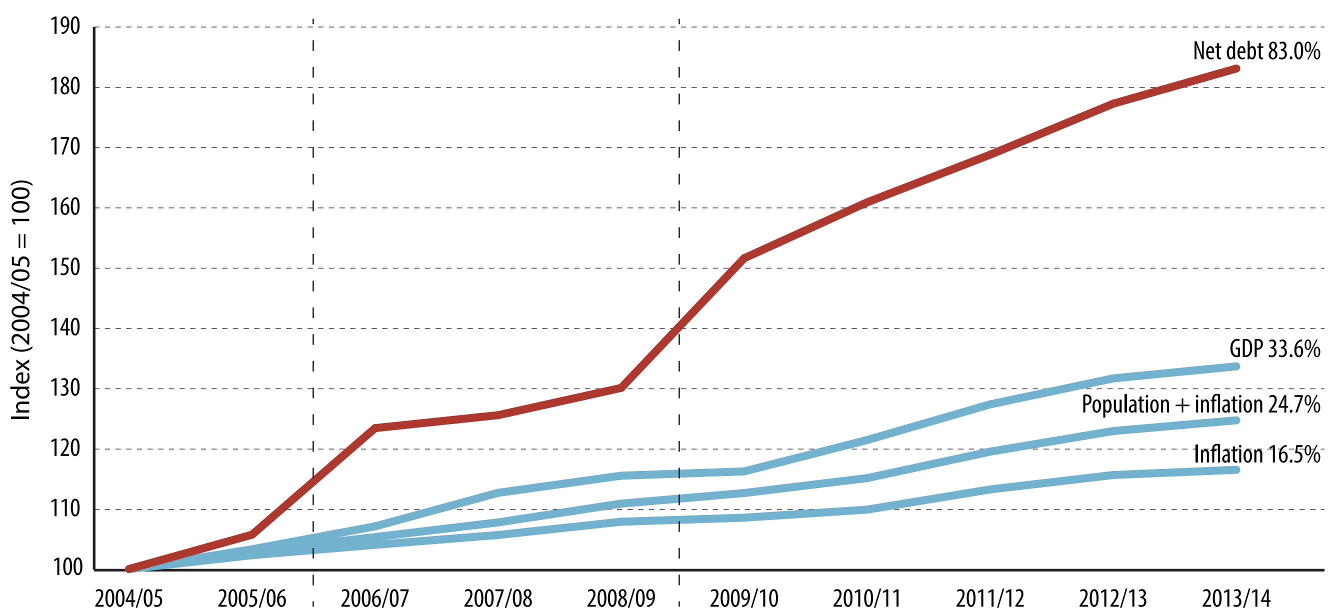
Figure 2 puts Quebec's historical debt growth in perspective by comparing it to economic benchmarks: growth in the economy (GDP), the overall price level (inflation), and population over the period from 2004/05 to 2013/14. Quebec's net debt grew by 83.0%, outpacing each of these

Figure 1: Quebec's Government Net Debt ($ billions, Actual and Government Projections), 2004/05–2018/19



Notes: [1] Net direct debt figures for 2004/05 to 2013/14 are actuals while 2014/15 to 2018/19 are projections by the Quebec government. [2] There were changes in the accounting treatment of Québec's government finances in 2006/07 and 2009/10. As a result, the net direct debt data are not strictly comparable over the entire period from 2004/05 to 2013/14 . Despite this, Public Accounts data were used because they are the only available data source covering the entire period (the same data are also available in the 2014 June budget). Statistics Canada's now terminated Financial Management System includes a data series that ends in 2007/08. That data series was compared to the Public Accounts to ensure that the trend reported in figure 1 is accurate in the overlapping years.
Sources: Québec, Ministère des Finances, 2014b, 2014c.

Figure 2: Index Comparing Growth in Quebec's Net Debt, GDP, Population, and Inflation, 2004/05–2013/14



Notes: [1] There were changes in the accounting treatment of Québec's government finances in 2006/07 and 2009/10. As a result, the net direct debt data are not strictly comparable over the entire period from 2004/05 to 2013/14. Despite this, Public Accounts data were used because they are the only available data source covering the entire period (the same data are also available in the 2014 June budget). Statistics Canada's now terminated Financial Management System includes a data series that ends in 2007/08. That data series was compared to the Public Accounts to ensure that the trend reported in figure 2 is accurate in the overlapping years. [2] Inflation is measured by changes in Statistics Canada's consumer price index (CPI) for Quebec.
Sources: Québec, Ministère des Finances, 2014c; Statistics Canada, 2014a, 2014b, 2014c; calculations by authors.

benchmarks by a wide margin—well over twice the pace of economic growth (33.6%) and more than three times the growth of inflation and population (24.7%).

Quebec's government debt compared to that of other provinces

After more than a decade of rapidly accumulating government debt, Quebec is now the most indebted provincial government in Canada. Figure 3 highlights the magnitude of Quebec's debt problem by comparing net debt across the provinces as a share of GDP; figure 4 shows net debt per person for each province.

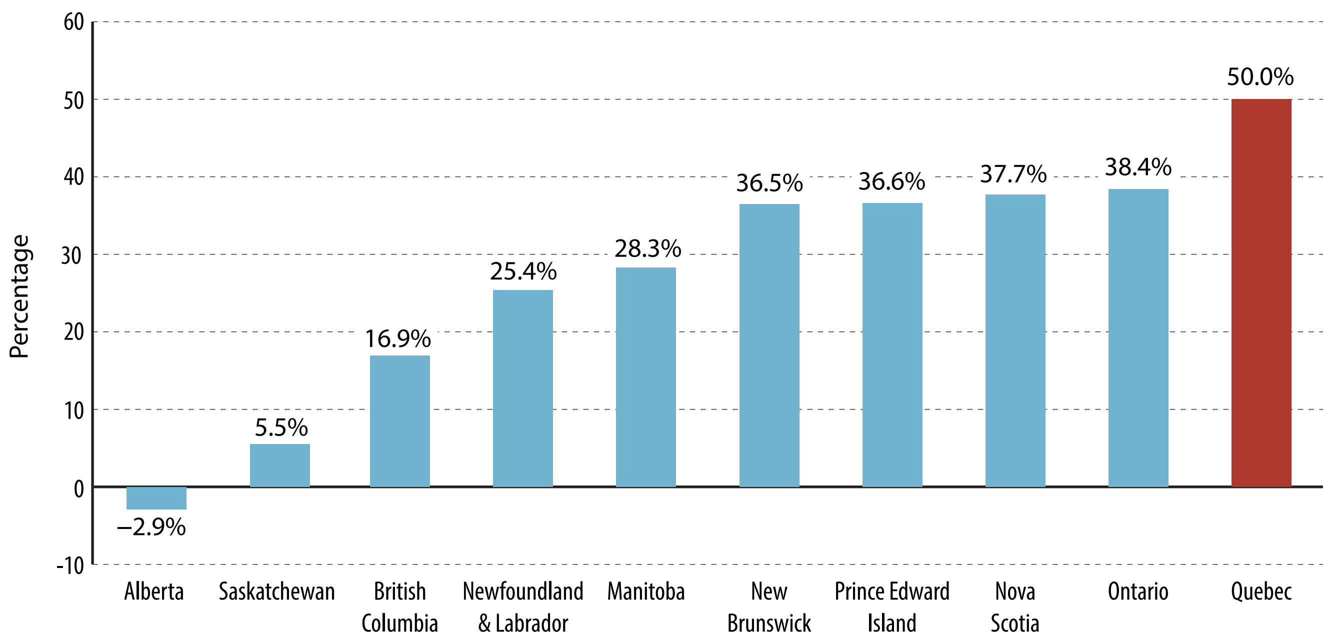
At 50.0%, Quebec has by far the largest net debt as a share of GDP, which is well above the second most indebted province, Ontario (38.4%) (figure 3). In fact, if Ontario had the same net debt-to-GDP ratio as Quebec, the Ontario government would have a net debt level of $347.5 billion, which is $80.4 billion or 30.1% higher than Ontario's actual provincial net debt.

In 2013/14, each Quebecker's share of provincial government net debt was $22,230 (figure 4). The next most indebted province on this measure, Ontario, has net debt per person of $19,717. In other words, Quebec's net debt per person is $2,512 or 12.7% higher than Ontario's. It is also more than five times higher than Saskatchewan's level, the province with the lowest positive net debt per person. (Alberta has a negative net debt, meaning that it has more financial assets than gross debt.)

Consequences of high government debt: Slow growth and high interest payments

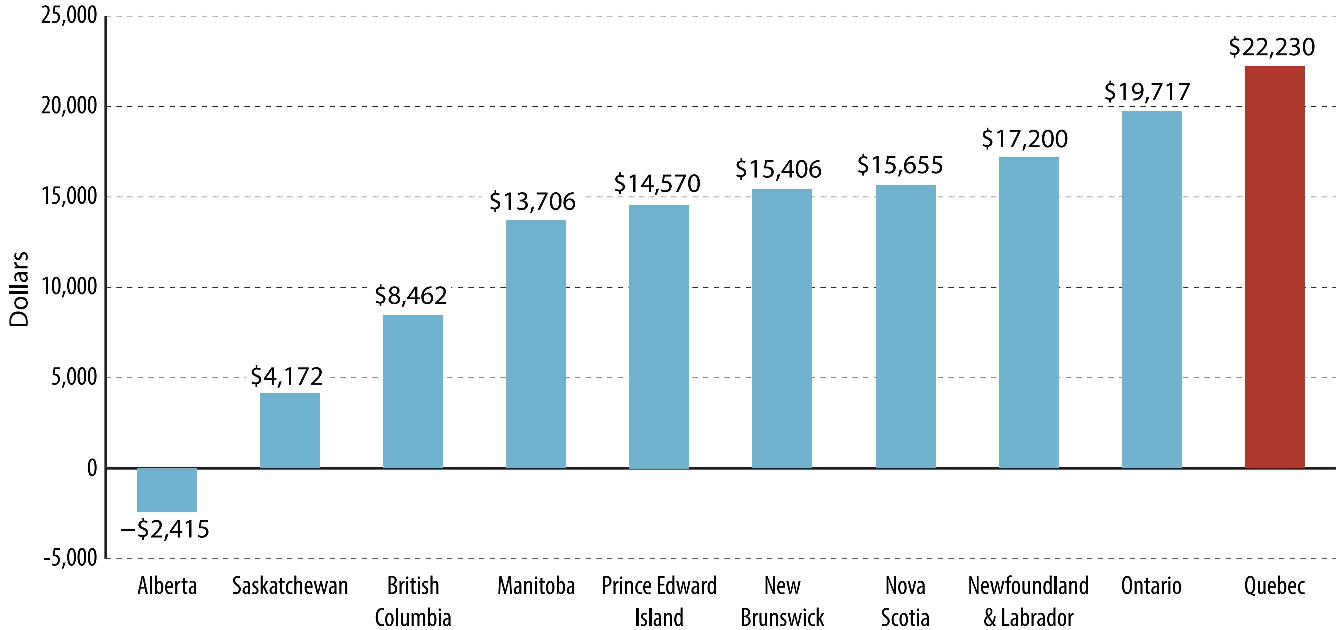
It is important to understand the economic risks of Quebec's high and increasing government debt. Empirical research has found that a negative

Figure 3: Net Debt as Share (%) of GDP, by Province, 2013/14



Sources: Alberta, Ministry of Finance, 2014; British Columbia, Ministry of Finance, 2014; Manitoba, Ministry of Finance, 2014; New Brunswick, Department of Finance, 2014; Newfoundland & Labrador, Department of Finance, 2014; Nova Scotia, Department of Finance, 2014; Ontario, Ministry of Finance, 2014; Prince Edward Island, Department of Finance and Municipal Affairs, 2014; Saskatchewan, Ministry of Finance, 2014; Statistics Canada, 2014b; Québec, Ministère des Finances, 2014c; calculations by authors.

Figure 4: Net Debt per Person ($), by Province, 2013/14



Sources: Alberta, Ministry of Finance, 2014; British Columbia, Ministry of Finance, 2014; Manitoba, Ministry of Finance, 2014; New Brunswick, Department of Finance, 2014; Newfoundland & Labrador, Department of Finance, 2014; Nova Scotia, Department of Finance, 2014; Ontario, Ministry of Finance, 2014; Prince Edward Island, Department of Finance and Municipal Affairs, 2014; Saskatchewan, Ministry of Finance, 2014; Statistics Canada, 2014a; Québec, Ministère des Finances, 2014c; calculations by authors.

relationship exists between high government debt and economic growth. [5] This negative relationship can be explained in different ways but one important explanation points to the impact of government debt on private investment (Égert, 2012). When government debt expands, it can cause long-term interest rates to rise, which in turn increases the cost of borrowing by the private sector. Higher borrowing costs can then discourage private capital investment, which is a key driver of long-term economic growth. This means that, if the Quebec government does not act boldly to reduce its debt burden, the costs could manifest in reduced economic growth and diminished long-term prosperity.

Along with adverse long-term economic consequences, Quebec's provincial government debt presents an immediate financial challenge in the form of debt servicing costs. Paying interest on existing government debt can put a strain on public finances and take resources away from public services that Quebeckers care about, such as health care and education. Interest payments also reduce the fiscal room to engage in pro-growth tax relief that improves provincial competitiveness.

In 2013/14, again the latest year of historical data, the cost of servicing Quebec's government debt totalled $10.6 billion (table 1). To put this in perspective, consider that this amount is more than what Quebec receives in equalization payments ($7.8 billion) and the revenue collected from the Health Tax ($6.3 billion) (Québec, Ministère des Finances, 2014c).

As a share of total government revenue, at 11.4% the cost of servicing the debt is greater in Quebec than every province except Newfoundland & Labrador, which has the same ratio of debt servicing costs to government revenue. For every

Table 1: Federal and Provincial Debt Servicing Costs, 2013/14

	Debt servicing costs ($millions)	Debt servicing costs as percentage of total revenue
British Columbia	2,482	5.7%
Alberta	590	1.3%
Saskatchewan	328	2.9%
Manitoba	821	5.8%
Ontario	10,572	9.1%
Quebec	**10,598**	**11.4%**
New Brunswick	660	8.5%
Nova Scotia	857	9.4%
Prince Edward Island	113	7.1%
Newfoundland & Labrador	851	11.4%
Canada	28,220	10.4%

Sources: Alberta, Ministry of Finance, 2014; British Columbia, Ministry of Finance, 2014; Manitoba, Ministry of Finance, 2014; New Brunswick, Department of Finance, 2014; Newfoundland & Labrador, Department of Finance, 2014; Nova Scotia, Department of Finance, 2014; Ontario, Ministry of Finance, 2014; Prince Edward Island, Department of Finance and Municipal Affairs, 2014; Saskatchewan, Ministry of Finance, 2014; Québec, Ministère des Finances, 2014c; calculations by authors.

dollar of revenue collected by the Quebec government, more than 11 cents goes to paying interest on past government debt. Interest payments as a share of revenue are also higher in Quebec than the federal share (10.4%).

Importantly, Canadian governments are currently borrowing at historically low interest rates. [6] That means that, even if debt levels do not change, the cost of servicing government debt will increase if interest rates (borrowing costs) rise. In such a scenario, the increased cost of servicing government debt would pose additional fiscal challenges, stripping the government of valuable resources.

2. Quebec's Uncompetitive Tax System

In addition to a high level of government debt, lacklustre tax competitiveness is a critical economic policy issue facing Quebec that also requires bold reforms. Over the past few years, Quebeckers have been hit by an onslaught of tax increases affecting personal income taxes, payroll taxes (higher QPP contribution rates), corporate income taxes, and other taxes. While the government has recognized the need to improve the province's tax competitiveness, its December 2014 fiscal update nonetheless announced a temporary (until 2017) increase to payroll taxes on financial institutions such as banks and credit unions (Québec, Ministère des Finances, 2014b).

A high tax burden and uncompetitive tax rates have a negative effect on Quebec's economy. In particular, high marginal tax rates discourage decisions to work, save, invest, and be entrepreneurial, and thus slow overall economic growth. [7] A high marginal tax rate—the tax rate on the next dollar earned—reduces the marginal reward of working or investing. If someone is given the opportunity to work more and earn a higher income, they are discouraged from doing so since half of their increased income can be taken by taxes. A jurisdiction with higher taxes is at a competitive disadvantage in terms of attracting and retaining both businesses and skilled labour.

This section gives an overview of Quebec's personal income taxes, payroll taxes, corporate income taxes, and total tax burden compared to other provinces. For Quebec, the most pressing challenge is making its personal income tax system more competitive and conducive to productive economic activity.

Personal income taxes

Table 2 compares provincial marginal income tax rates across the ten provinces at income levels of $50,000, $75,000, and $150,000 (federal tax rates are excluded so the combined rate is actually much higher). Regardless of which income level is considered, Quebec consistently has among the highest personal income tax rates.

A Quebec taxpayer earning $50,000 pays a (provincial) marginal income tax rate of 16.37%, which is more than twice the provincial rate in British Columbia (7.70%). Quebec also has the second highest rate (20.97%) at the $150,000 income threshold, only slightly behind Nova Scotia's 21.00% rate. Alberta's single tax rate of 10.00% is less than half of Quebec's rate at the $150,000 income level.

Importantly, Quebeckers do not just pay provincial personal income taxes; they also pay federal personal income taxes. While the Quebec government has no direct control over the federal rate, the federal rate does affect Quebec's tax competiveness. The combined federal and provincial marginal income tax rate at the $150,000 income threshold is 49.97% (Speer, Palacios, and Ren, 2014). That means a Quebec taxpayer earning $150,000 loses nearly 50 cents of every extra dollar earned.

Payroll taxes

Quebec's payroll taxes are also uncompetitive relative to other provinces. Payroll taxes are imposed on employers and/or employees and are usually based on a percentage of the

Table 2: Marginal Income Tax Rates by Province, 2014

	Marginal tax rate at CA$50,000	Rank (highest to lowest)	Marginal tax rate at CA$75,000	Rank (highest to lowest)	Marginal tax rate at CA$150,000	Rank (highest to lowest)
British Columbia	7.70	10	7.70	10	16.80	7
Alberta	10.00	8	10.00	9	10.00	10
Saskatchewan	13.00	5	13.00	7	15.00	8
Manitoba	12.75	6	17.40	1	17.40	6
Ontario	9.15	9	10.98	8	18.97	3
Quebec	**16.37**	**1**	**16.37**	**4**	**20.97**	**2**
New Brunswick	14.82	3	14.82	5	17.84	5
Nova Scotia	14.95	2	16.67	3	21.00	1
Prince Edward Island	13.80	4	16.70	2	18.37	4
Newfoundland & Labrador	12.50	7	13.30	6	13.30	9

Notes: [1] Personal income tax rates include surtaxes where applicable. [2] Quebec's tax rates are adjusted for the federal abatement. Quebec personal income tax rates without abatement are 20.0% ($50,000 and $75,000) and 25.75% ($150,000).

Source: Speer et al., 2014.

salaries that employers pay their workers, up to a maximum proportion of their earnings. But research shows that high payroll tax rates can discourage employment, [8] resulting in fewer job opportunities.

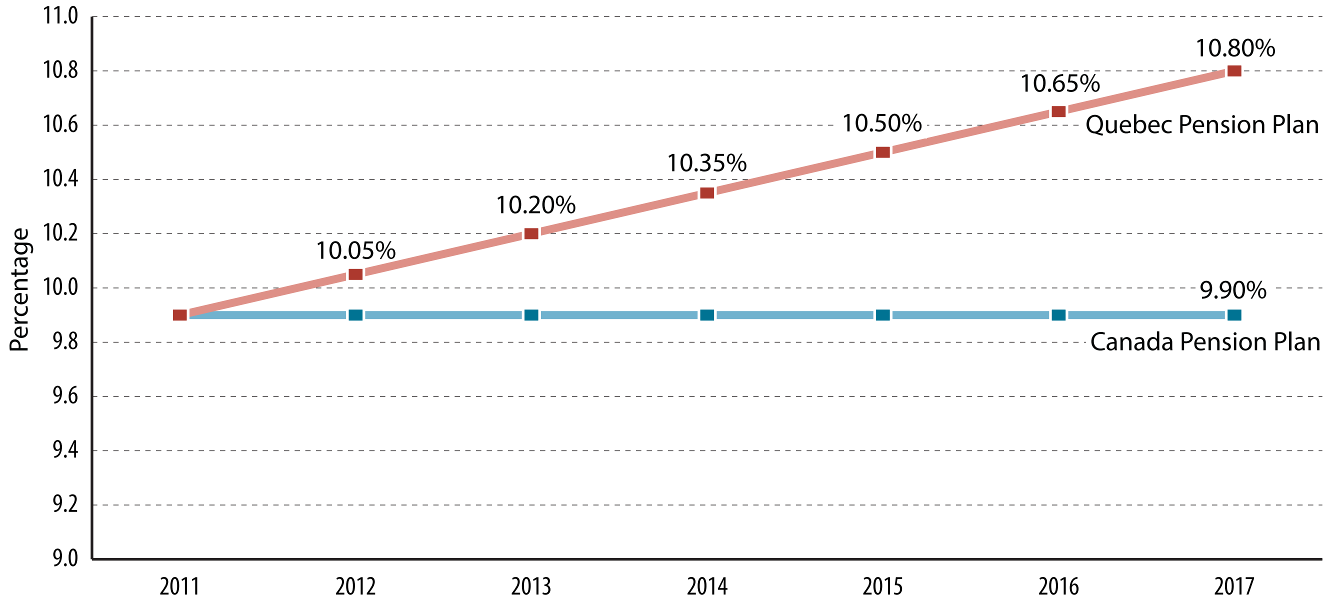
A key source of difference between Quebec's payroll taxes and those of other provinces is that Quebec does not participate in the Canada Pension Plan (CPP). Instead, the province maintains its own Quebec Pension Plan (QPP). As recently as 2011, the CPP and QPP payroll tax rates were the same. However, the rate has diverged since then (figure 5). In 2011, the combined employer and employee contribution rates for both the CPP and QPP were 9.90%. The CPP rate has not changed but the QPP rate increased to 10.35% in 2014 and the Quebec government is planning to further increase the QPP rate to 10.80% in 2017.

In addition, Quebec is the only province that levies employer payroll taxes with no exemption for businesses with smaller payrolls (Cruz and Nat, 2013). And, Quebec's top employer-paid health-care payroll tax, at 4.26%, is the highest in the country by a margin of nearly two percentage points (Speer, Palacios, and Ren, 2014).

Corporate income tax

Quebec's general corporate tax rate (11.9%) is in the mid-range of Canadian provinces (Speer, Palacios, and Ren, 2014), suggesting there is room for improvement to make the business tax regime more competitive. [9] The reality is that Quebec is competing with other provinces—including those with lower rates such as Ontario (11.5%), British Columbia (11.0%), and Alberta (10.0%)—for investment and as a location of corporate headquarters. Montreal has historically been a hub of major corporate headquarters but its share has declined in recent decades relative to competing cities in other provinces such as Calgary and Vancouver (MacIntyre et al., 2013). Quebec can help slow this decline by improving the competiveness of its corporate income tax system.

Figure 5: Contribution Rates (%) to the Quebec and Canada Pension Plans, 2011–2017



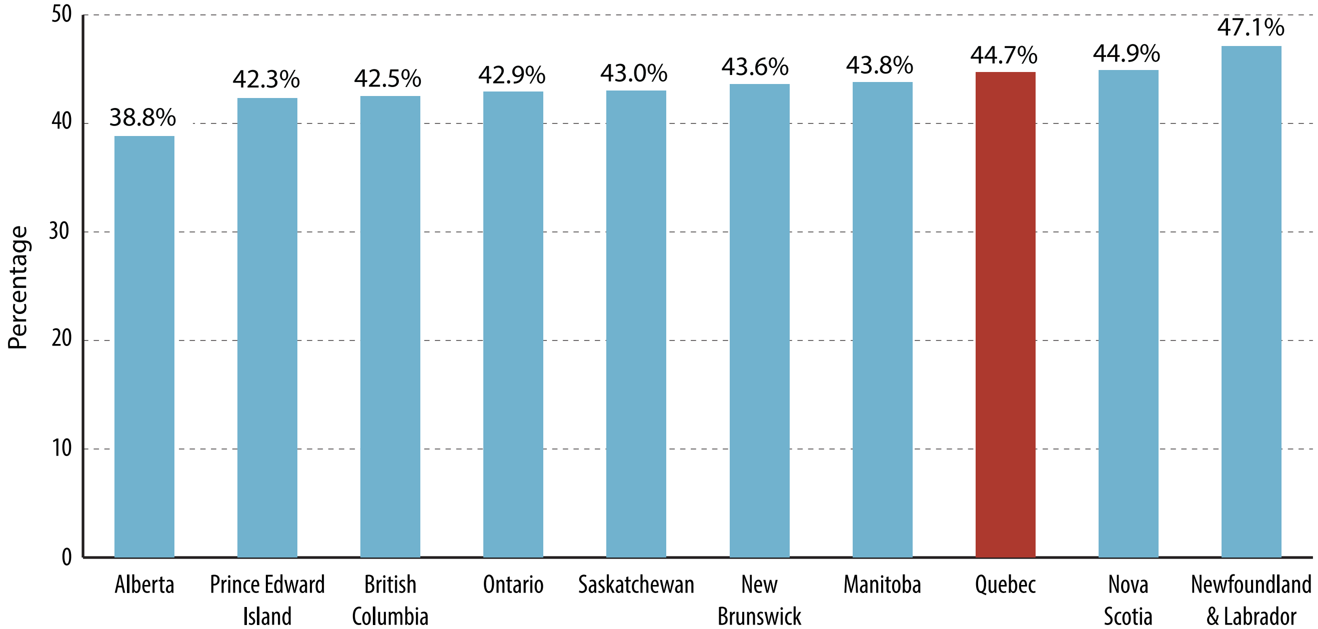
Note: The total contribution rate includes compulsory contributions made by both the employer and the employee.
Sources: Canada, Service Canada, 2014; Québec, Régie des rentes Québec, 2014; calculations by authors.

Overall tax burden

Quebec families pay a number of other taxes such as sales taxes, property taxes, excise taxes, fuel taxes, and more. Although the Quebec government does not directly control every tax that Quebec families pay, it is informative to compare the total tax burden of an average Quebec family to those in other provinces. [10]

Figure 6 displays the share of an average family's income consumed by total taxes in each province. [11] Quebec families face the third-highest total tax burden after Nova Scotia and Newfoundland & Labrador. In 2014, an estimated 44.7% of an average Quebec family's income was consumed by government taxes, compared to 38.8% in Alberta. Indeed, Quebec's families are amongst the most heavily taxed Canadians in the country.

Figure 6: Share (%) of Average Family Income Consumed by Total Taxes, by Province, 2014 Estimate



Notes: [1] Families consist of two or more individuals. [2] Figures for each province are preliminary estimates from Palacios and Lammam, 2014. [3] Total taxes include income taxes, payroll and health taxes, sales taxes, property taxes, profit taxes, excise taxes, automobile-related taxes, import taxes, and natural resource levies.
Source: Palacios and Lammam, 2014.

3. Creating the Fiscal Room for Reform

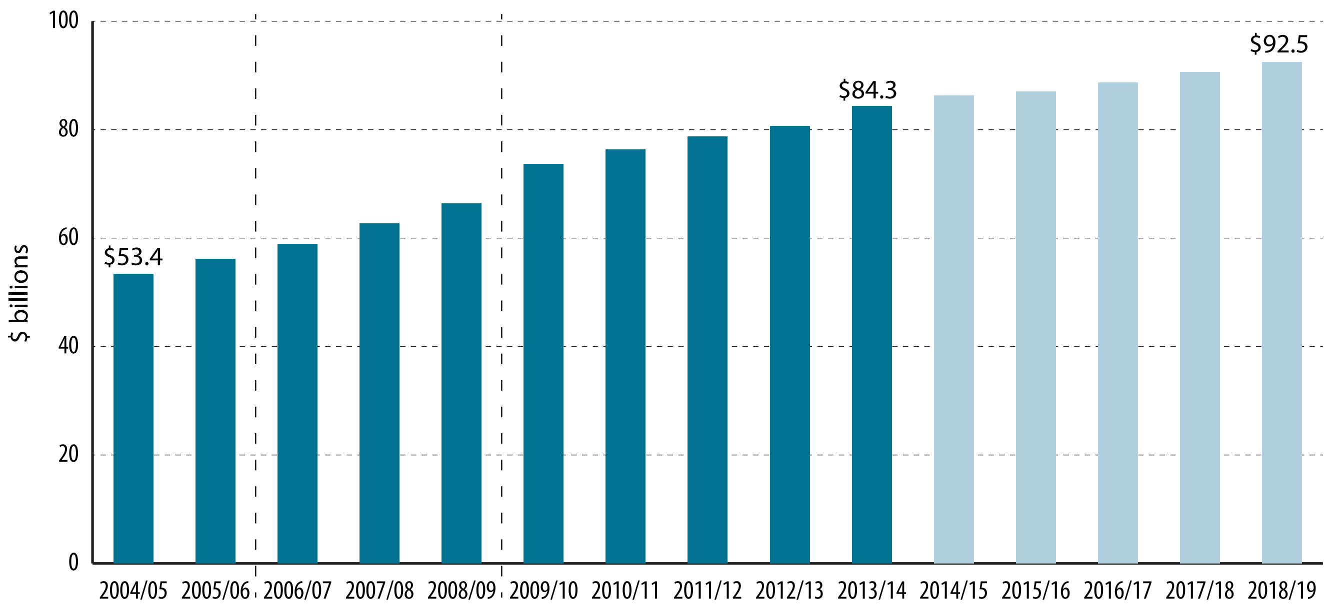
Bold action is clearly needed in the upcoming 2015 budget to overcome Quebec's debt and tax challenges and this hinges on creating the fiscal room. The government's 2014 fiscal update projects balanced budgets in 2015/16 and 2016/17 and small surpluses of $450 million in 2017/18 and $675 million in 2018/19 (Québec, Ministère des Finances, 2014b). As a share of total program spending, these surpluses amount to just 0.5% and 0.7%, respectively. So, based on the government's latest fiscal plan, the province does not have the fiscal room available to take bold action. Creating additional fiscal room by reducing and reforming government spending would free up the resources both to reduce government debt and enact tax changes while avoiding further budget deficits.

Figure 7 shows the progression of program spending from 2004/05 to 2013/14 and the government's projections from 2014/15 to 2018/19. Quebec's program spending has grown in nominal terms by 57.9% from $53.4 billion in 2004/05 to $84.3 billion in 2013/14. Meanwhile, nominal GDP in the province grew by 33.6% over the same period, or about half the rate of program spending growth. Had the Quebec government restrained the growth of program spending from 2004/05 to 2013/14 in step with inflation and population growth, it would have cumulatively spent $90.1 billion less over the entire period or $17.1 billion less in 2013/14 alone.

Further, contrary to headlines declaring austerity and spending cuts, the government currently has no plans to reduce program spending. Program spending is actually projected to grow, reaching $92.5 billion in 2018/19, 9.7% higher than the 2013/14 level. By allowing program spending to continue to grow, the Quebec government will not have the resources to reduce debt in a meaningful way or enact bold tax changes.

The government has already identified the compensation of government employees as a potential source of savings (Québec, Ministère des Finances, 2014b). For instance, the provincial government's June 2014 budget set out a plan to restrain the growth of public-sector compensation after agreements with its 430,000 employees expire in March 2015. The compensation of government employees (including salaries and benefits) consumes a large portion of the government's budget—51.0% of program spending in 2013/14 (Québec, Ministère des Finances, 2014c; calculations by authors). As research shows, government workers tend to be paid more than their private sector counterparts. Specifically, after controlling for differences like education, the nature of the position, the experience of the workers,

Figure 7: Program Spending ($ billions, Actual and Government Projections), 2004/05–2018/19



Notes: [1] Program spending figures for 2004/05 to 2013/14 are actual while 2014/15 to 2018/19 are projections by the Quebec government. [2] There were changes in the accounting treatment of Québec's government finances in 2006/07 and 2009/10. As a result, the program spending data are not strictly comparable over the entire period from 2004/05 to 2013/14. The accounting changes increased the reported total spending by $507 million in 2006/07 and $3.7 billion in 2009/10 (Québec, Ministère des Finances, 2007, 2010).
Sources: Québec, Ministère des Finances, 2014b, 2014c.

and so forth, government employees in Quebec receive wages that are, on average, 10.8% higher than comparable workers in the private sector (Lammam et al., 2015). [12] That premium does not account for the more generous non-wage benefits, such as pension coverage, earlier retirement, and job security, that the government sector also likely enjoys (Lammam et al., 2015). Bringing the compensation of government workers in line with private-sector counterparts could help free up resources for the Quebec government to address its pressing fiscal challenges.

In addition, reforming how programs such as health care, education, and social assistance are delivered could also provide the additional fiscal capacity for the government while at the same time making these programs work more effectively and efficiently for Quebeckers. The work done by Ongoing Program Review Committee could help with specific recommendations in this regard.

Conclusion

Quebec faces major fiscal challenges. Government debt has been accumulating at a rapid pace and the province now has, by a wide margin, the largest debt burden in Canada. An immediate consequence of this debt growth is a considerable portion of government revenue—more than 11 cents for every dollar collected—is being consumed by debt interest payments, not actual government programs or tax relief.

Weak tax competitiveness is also an issue. Most pressing is Quebec's personal income tax system, including marginal tax rates that are amongst the highest in Canada at various income levels. Once the federal rate is included, a Quebecker earning $150,000 loses about 50 cents for every extra dollar earned to personal income taxes. Such a high marginal income tax rate makes it harder for the province to attract and retain businesses and skilled workers.

The Couillard government has acknowledged the province's fiscal challenges and has taken some initial steps in the right direction but, given the magnitude of the problem, large, not small, reforms are required. Reducing and reforming government spending would help create the fiscal room to make the necessary changes. If the government is serious about improving Quebec's economic prospects, it should push forward a bold agenda of fiscal reform in the upcoming budget.

Notes

[1] It is important to note that direct debt is only a portion of the Quebec's total government liabilities, which include debt guarantees, contingent liabilities, contractual obligations, and unfunded program obligations. In addition, Quebec's taxpayers are also responsible for local government liabilities and a portion of federal liabilities (Palacios et al., 2014).

[2] The fiscal year 2004/05 is selected as the starting point because it represents the beginning of a growth trend in net debt as a share of GDP (Palda et al., 2014). From 1996/97 to 2004/05 the level of net debt as a share of GDP had declined from 45.9% to 36.5%. The trend reversed and net debt as a share of GDP grew to 50.0% by 2013/14.

[3] Net debt is the total outstanding amount of borrowings accumulated over time (gross debt) minus financial assets (such as cash and securities). It is important to take financial assets into account because a jurisdiction with higher financial assets can sustain higher levels of gross debt given its ability to liquidate financial assets and pay down debt if needed (Palda et al., 2014).

[4] While the Quebec government is projecting that net debt will fall relative to the size of the economy (GDP), the decline is driven by economic growth not actual reduction in debt. But there are risks to the government projections for economic growth. For instance, in its June budget the government projected real GDP growth to be 1.8% but the December fiscal update downgraded the projection to 1.6% (Québec, Ministère des Finances, 2014a; Québec, Ministère des Finances, 2014b).

[5] One of the most influential papers examining the connection between government debt and economic growth is by Reinhart and Rogoff (2010). After examining 44 countries over 200 years, Reinhart and Rogoff (2010) 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 growth 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 public debt is negatively related to growth (Égert, 2012; Cecchetti et al., 2011; Kumar and Woo, 2010; Checherita and Rother, 2010).

[6] Indeed, recently low interest rates have encouraged governments in general to take on more debt because of the low servicing costs.

[7] For reviews of the literature on the economic impact of taxes, see Speer, Palacios, and Ren, 2014, Murphy et al., 2013, and Palacios and Harischandra, 2008. For more on the efficiency costs of different forms of taxation, see Clemens et al., 2007.

[8] In one Canadian study, Lakehead University economists Livio Di Matteo and Michael Shannon (1995) find a negative and significant relationship between payroll taxes and employment operating through real wage effects. Additionally, professors Adrianna Kugler and Maurice Kugler (2002) assess the effect of higher payroll taxes on employment and wages in Colombia over the 1980s and 1990s. Their results find that a 10% increase in payroll taxes lowers employment by 4% and wages by 2%.

[9] When one considers the marginal effective tax rate (METR) on capital investment, which is a broader measure of the business tax regime than the general corporate income tax rate, Quebec has the sixth highest rate among the ten provinces (Chen and Mintz, 2015). Specifically, Quebec's METR in 2014 was 15.2%, which is slightly below the Canadian average (18.8%).

[10] A family is defined here as including two or more individuals.

[11] Total taxes include income taxes, payroll taxes, health taxes, sales taxes, property taxes, profit taxes, taxes on the consumption of alcohol and tobacco, fuel taxes and motor vehicle license fees, import duties, natural resources fees, and a host of other levies.

[12] The wage premium calculated in Lammam et al., 2015 is for all government workers in Quebec, including those from the federal, provincial, and local levels.

References

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.

Chen, Duanjie, and Jack M. Mintz (2015). *The 2014 Global Tax Competitiveness Report: A Proposed Business Tax Reform Agenda*. SPP Research Papers 8, 4 (February). <http://policyschool.ucalgary.ca/sites/default/files/research/tax-competitiveness-chen-mintz.pdf>.

Clemens, Jason, Niels Veldhuis, and Milagros Palacios (2007) *Tax Efficiency: Not All Taxes Are Created Equal*. Fraser Institute.

Cruz, Marvin, and Renee Anne Nat (2013). *Ranking Provincial Tax Systems in Canada: CFIB'S 2013 Small Business Provincial Tax Index*. Canadian Federation of Independent Business.

Di Matteo, Livio, and Michael Shannon (1995). Payroll Taxation in Canada: An Overview. *Canadian Business Economics* 3, 4: 5–22.

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

Kugler, Adrianna, and Maurice Kugler (2002). *Effect of Payroll Taxes on Employment and Wages: Evidence from the Columbia Social Security Reform*. Working Paper No. 134. Center for Research and Economic Development and Policy Reform.

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

Lammam, Charles, Milagros Palacios, Fiexue Ren, and Jason Clemens (2015) *Comparing Government and Private Sector Compensation in Quebec*. Fraser Institute.

MacIntyre, Hugh, Jason Clemens, and Nadeem Esmail (2013). Corporate Headquarters in Canada. *Fraser Forum* (January/February): 34–36.

Merterns, Karel, and Morten O. Ravn (2012). The Dynamic Effects of Personal and Corporate Income Tax Changes in the United States. *American Economic Review* 103, 4: 1212–1247.

Murphy, Robert, Jason Clemens, and Niels Veldhuis (2013). *The Economic Costs of Increased Marginal Tax Rates in Canada*. Fraser Institute.

Palacios, Milagros, and Charles Lammam (2014). Canadians Celebrate Tax Freedom Day on June 9, 2014. Fraser Institute.

Palacios, Milagros, Hugh MacIntyre, and Charles Lammam (2014). *Canadian Government Debt: A Guide to the Indebtedness of Canada and the Provinces*. Fraser Institute.

Palacios, Milagros, and Kumi Harischandra (2008). The Impact of Taxes on Economic Behavior. In Jason Clemens, ed., *The Impact and Cost of Taxation in Canada: The Case for Flat Tax Reform* (Fraser Institute): 3–31.

Palda, Filip, Hugh MacIntyre, and Charles Lammam (2014) The State of Quebec's Indebtedness. In Sean Speer, ed., *Quebec's Government Indebtedness: Unnoticed, Uncontrolled* (Fraser Institute): 5–18.

Reinhart, Carmen, and Kenneth Rogoff (2013, April 25). Debt, Growth and the Austerity Debate. *New York Times*. <http://www.nytimes.com/2013/04/26/opinion/debt-growth-and-the-austerity-debate.html?_r=0>, as of July 22, 2013.

Reinhart, Carmen, and Kenneth Rogoff (2010). Growth in a Time of Debt. *American Economic Review* 100, 2 (May): 573–578.

Speer, Sean, Charles Lammam, Milagros Palacios, Hugh MacIntyre, and Feixue Ren (2014). *The Cost of Government Debt in Canada*. Fraser Institute.

Speer, Sean, Milagros Palacios, and Feixue Ren (2014). *Quebec's Tax Competitiveness: A Barrier to Prosperity*. Fraser Institute.

Government sources

Alberta, Ministry of Finance (2014). *Government of Alberta 2013-14 Annual Report: Consolidated Financial Statements and Measuring Up*. Government of Alberta.

British Columbia, Ministry of Finance (2014). *Public Accounts 2013–14*. Government of British Columbia.

Canada, Service Canada (2014). *Contributions to the Canada Pension Plan*. Government of Canada. <http://www.servicecanada.gc.ca/eng/services/pensions/cpp/contributions/>, as of December 18, 2014.

Manitoba, Ministry of Finance (2014). *Public Accounts of Manitoba*, 2013–14. Government of Manitoba.

New Brunswick, Department of Finance (2014). *Public Accounts*, 2013–14. Government of New Brunswick.

Newfoundland & Labrador, Department of Finance (2014). *Public Accounts 2013-2014*. Government of Newfoundland & Labrador.

Nova Scotia, Department of Finance (2014). *Province of Nova Scotia Public Accounts: Volume 1 – Consolidated Financial Statements for the fiscal year ended March 31, 2014*. Government of Nova Scotia.

Ontario, Ministry of Finance (2014). *Public Accounts of Ontario*, 2013-14. Government of Ontario.

Prince Edward Island, Department of Finance and Municipal Affairs (2014). *Budget 2014*. Government of Prince Edward Island.

Saskatchewan, Ministry of Finance (2014). *Public Accounts 2013-14: Volume 2, Details of Revenue and Expense*. Government of Saskatchewan.

Statistics Canada (2014a). CANSIM Table 051-0001. *Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual*. Statistics Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=0510001&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>, as of November 19, 2014.

Statistics Canada (2014b). CANSIM Table 384-0037. *Gross Domestic Product, income-based, provincial and territorial, annual (in millions)*. Statistics Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=3840037&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>, as of November 24, 2014.

Statistics Canada (2014c). CANSIM Table 326-0021. *Consumer Price Index* (CPI), 2011 *basket*. Statistics Canada. <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=3260021&paSer=&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>, as of November 24, 2014.

Québec, Ministère des Finances (2007). *Public Accounts* 2006–07. Government of Quebec.

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

Québec, Ministère des Finances (2014a). 2014-2015 *Budget Plan* (June). Government of Quebec.

Québec, Ministère des Finances (2014b). *Update on Quebec's Economic and Financial Situation*. Government of Quebec.

Québec, Ministère des Finances (2014c). Public Accounts 2013–14. Government of Quebec.

Québec, Regie des rente Quebec (2014). *Contributions to the Quebec Pension Plan* (QPP). Government of Quebec. <http://www.rrq.gouv.qc.ca/en/employeur/role_rrq/Pages/cotisations.aspx>, as of November 25, 2014.

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