Chapter 2
Department of Finance
Public Debt

Contents

Department of Finance

Public Debt

Introduction

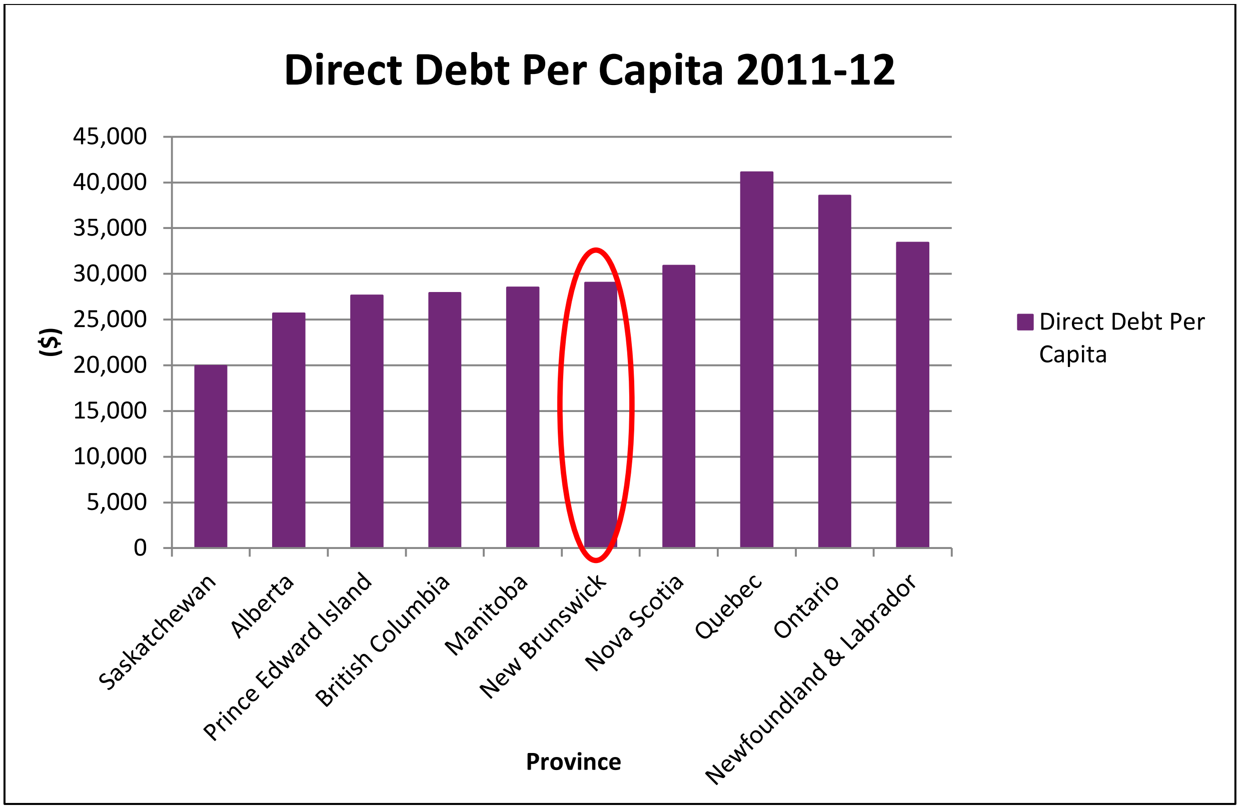
2.1 Effective public **debt management** is the cornerstone of financial stability and sustainable fiscal policy. Without prudent **debt management** practices, the public debt portfolio of the Province of New Brunswick can generate substantial risk to the Province's financial stability.

2.2 Recent debt market crises, such as the ones that occurred in Detroit and Greece, have highlighted the importance of sound **debt management** practices. The background information regarding the crises can be found in Appendix I and II.

2.3 In past Auditor General's reports, we commented on the Province's financial position, particularly the public debt situation. We highlighted our concern with consecutive annual deficits, the increasing debt burden, and highlighted the need for increased fiscal diligence.

2.4 In this chapter, we describe the public debt situation in New Brunswick in comparison with other Canadian provinces. Exhibit 2.1 presents, as background information, the direct debt per capita for all Canadian provinces. We also focus in this chapter on the public **debt management** practices at the Department of Finance.

Exhibit 2.1 – Direct Debt per Capita 2011-12



Source: Fraser Institute: Canadian Government Debt 2014 A Guide to the Indebtedness of Canada and the Provinces (unaudited)

2.5 The Province of New Brunswick issues securities (direct debt), for example treasury bills and domestic or foreign bonds, to fund its financial requirements. As well, the Province has other financial liabilities such as capital leases and guarantees. These direct and indirect debts (from this point referred to as public debt) are presented in Exhibit 2.2.

2.6 According to its Annual Reports, the Department is responsible for financing the Province and Crown corporations, managing the Consolidated Fund, investing and administering various dedicated funds and providing financial policy analysis and advice.

Exhibit 2.2 - Direct and indirect debt of the Province of New Brunswick

Debt Statement ($ millions, as at March 31)	2011	2012	2013	2014*	2015*
Direct Debentures	15,814	16,606	17,189	18,503	19,246
Treasury Bills, Other Short-term	827	675	1,372	1,372	1,218
Canada Pension Plan	834	834	834	834	834
Total Direct Debt	**17,475**	**18,115**	**19,395**	**20,709**	**21,298**
N.B. Municipal Fin. Corp.	730	804	838	864	879
N.B. Highway Corp	715	691	666	638	609
Other Capital Leases	127	131	129	78	159
Other Guaranteed	141	107	90	90	98
Total Direct & Indirect Debt	**19,188**	**19,848**	**21,118**	**22,379**	**23,043**
Less:					
NB Power*	4,450	4,533	5,379	5,425	5,389
Direct Debt Sinking Funds	4,341	4,237	3,956	3,884	4,050
N.B. Municipal Fin. Corp.	730	804	838	864	879
Net Direct and Indirect Debt (Public Debt)	**9,667**	**10,274**	**10,945**	**12,206**	**12,725**

Source: Moody's credit analysis and financial statements of various organizations (unaudited)
**Note: Moody's numbers updated to "Actuals" for 2014 and 2015*
NB Power's numbers updated to reflect its financial statement

Audit Objective and Conclusions

2.7 First, we describe in this chapter the public debt situation in New Brunswick, including comparisons to the other provinces.

No immediate risk of default on New Brunswick's debt

2.8 Based on the information gathered and analysis conducted, we found there is no immediate risk of default on New Brunswick public debt. Two important indicators associated with the provincial level of debt (interest costs to revenue in Exhibit 2.5 and Debt-to-GDP in Exhibit 2.8) are reasonably in line with other provinces in Canada. The costs of servicing public debt have been relatively stable, due to the low interest rate environment and the Department's low risk debt management policies.

2.9 However, the Province could potentially face higher debt levels in the future, given the sluggish economic growth in New Brunswick, the potential for stagnant or declining revenue, and an aging population.

2.10 The above mentioned circumstances may not allow the Province to handle a debt burden as high as other provinces with higher potential long-term growth prospects.

2.11 It is possible New Brunswick's key debt indicators could fall out of a reasonable range compared to other provinces. If that happens, investors might demand higher returns on New Brunswick bonds, or in the worst case scenario, lose confidence in the New Brunswick government's ability to repay its debt.

Province must control rate of growth of public debt

2.12 As a result, the Province must be diligent in monitoring the level of the public debt and take appropriate action to control its rate of growth. In similar circumstances, some governments have made difficult choices. For example, Saskatchewan and Canada's debt to GDP ratios reached concerning levels in the mid-1990s. However, their respective governments took actions such as reducing spending, disposing of assets and restructuring fiscal policies. These steps led to long-term improvements in their fiscal situations. On the other hand, Greece and the city of Detroit did not take appropriate action, and their experiences clearly show us the ultimate consequences of a failure to act.

2.13 The objective of our audit was:

To determine if the Department of Finance follows a prudent ***debt management*** *practice to mitigate risks associated with public debt.*

Need for comprehensive debt management strategy

2.14 The Department has been following a relatively low-risk and non-complex debt management practice. However, it does not have an approved and well documented comprehensive debt management strategy.

2.15 Further, the Department can make improvement in some areas such as risk management, operations, and public reporting to mitigate potential risks associated with public debt.

Results in Brief

Current Provincial Debt Status

2.16 In reviewing the current debt status of the Province, we noted the following:

- ✓ New Brunswick's debt burden is rising but debt servicing costs are stable;
- ✓ There is no immediate default risk for New Brunswick. However, the Province will become more vulnerable in the long term, if debt continues to accumulate;
- ✓ Recent credit ratings for New Brunswick have been stable since 2012;
- × New Brunswick's debt-to-GDP ratio grew for the eighth consecutive year to reach 40.5% in fiscal year 2015. It has been consistently higher than the all provinces average since fiscal year 2012;
- × The real GDP growth rate in New Brunswick has been constantly below the national average;
- × The New Brunswick economy is not expected to show much growth in the near future;
- × The labour market in New Brunswick has remained weak in recent years; and
- × New Brunswick's aging population poses fiscal challenges.

The Department has no comprehensive debt management strategy

2.17 The Department of Finance has been following relatively low-risk and non-complex debt management practices. However, the Department has no comprehensive debt management strategy.

2.18 Without a comprehensive provincial debt management strategy, it would be difficult to maintain a debt management practice with a focus on the long term.

Province's risk tolerance has not been established

2.19 We reviewed the Department's financial risk framework. It identified a number of financial, reputational and accounting risks. However, the framework does not establish the Province's **risk tolerance** in terms of an acceptable dollar variation from the budget of servicing public debt due to financial markets movement such as changes in interest rates.

2.20 Without a **quantified risk tolerance**, it is difficult to establish long term and short term debt management objectives. Also, it would be impossible to measure whether the objectives were met.

2.21 We also noted the financial risk framework was approved by the Risk Management Committee, which consists of a group of Treasury Division employees at the Department. This Division is also the group which executes the framework.

2.22 We believe it is inappropriate to have the framework approved by a committee which also executes the policy, nor is it the best practice in the public debt management field. For example, management of British Columbia's debt portfolio is overseen by a Risk committee. The Risk committee's primary objective is to set risk policies and parameters that balance costs and risk within acceptable control standards. The Risk Committee is comprised of the Deputy Minister of Finance, the Deputy Minister of the Environment, the Assistant Deputy Minister, Provincial Treasury, and members from the financial and academic community.

The Department conducts sensitivity analyses but not full stress tests

2.23 The Department conducts sensitivity analyses based on the volatility of interest rate. Some improvement could be made in terms of the range of the sensitivity.

2.24 The Department does not perform full **stress tests**. The current Provincial debt portfolio is relatively low risk and does not contain complex financial products. However, an effective full **stress test** would help the Department to mitigate some significant potential risks associated with the debt portfolio.

The legislative framework for debt management is sound

2.25 The legislative framework for debt management is sound. We found the Department follows the *Provincial Loans Act* and annual *Loan Act* and ensures the proper authorizations are in place prior to undertaking transactions.

2.26 However, the Department’s policies do not specify permissible debt products that may be issued by the Province, such as low to medium risk and non-complex financial instruments. Without clearly stating the permissible products, there is a risk that someone might transact a product which is inconsistent with the Department’s low-risk approach. Additionally, transaction limits (in dollars) have not been established for individual staff.

2.27 The Department annually releases, in Volume I of Public Accounts, indicators of financial health, including net debt-to-GDP and the cost of servicing the public debt as a proportion of total revenue.

2.28 We found the objectives of debt management were defined in the Department's policies. From our work we believe the Department is able to project the government's medium-term financing needs and targets.

The Department's debt management objectives and targets are not publicly reported

2.29 However, the Department's debt management objectives and targets are not publicly reported. Further, no future oriented information regarding debt portfolio performance is reported.

2.30 Ontario Financing Authority, which manages the debt of the Province of Ontario, releases its borrowing program for future years, and medium-term borrowing outlook on its website.

2.31 The government of British Columbia outlined in its 2014 budget the strategy for debt management with its strategic goals.

2.32 Without transparency and public reporting, it is difficult for legislators and the public to assess the effectiveness of the Department's debt management operations and hold it accountable for that performance.

Recommendations

2.33 Our recommendations to the Department are presented along with its responses to each recommendation in Exhibit 2.3.

Exhibit 2.3 - Summary of Recommendations

Recommendation	Department's response	Target date for implementation
2.80 We recommend the Department develop a comprehensive debt management strategy and have it approved by Cabinet.	*The Department is committed to sustainable debt management. The Department currently develops an annual borrowing plan and informs government on debt management as required by the* Provincial Loans Act *and the annual* Loan Act *and through other communications. In developing a debt management strategy the Department will research its peers' practices and review existing legislation. The resulting strategy will be provided to government.*	*It is estimated that the research and recommendations to government can be completed within one year.*
2.94 We recommend the Department establish the Province's risk tolerance in terms of an acceptable dollar variation from the budget of servicing public debt due to financial markets movement.	*The Service of the Public Debt is forecasted annually by the Department as part of the budget process using forward interest and currency rates and anticipated borrowing requirements. The debt management program is intended to minimize deviations from budget while maintaining adequate levels of liquidity and mitigating market related risks. The Service of the Public Debt is subject to budget scrutiny, including sensitivity analysis. As part of developing a comprehensive debt management strategy the Department will confirm government's tolerance for risk.*	*It is estimated that the research and recommendations to government can be completed within one year.*
2.95 We recommend the Department form a risk committee independent of the Treasury Division to review and approve all risk management related policies.	*The Department is committed to prudent risk management practises. The Department currently has an internal risk management committee that establishes financial risk parameters through policies, procedures and compliance of its debt management program. The Department will research its peers' practises and will make recommendations to government to enhance the debt management practises.*	*It is estimated that the research and recommendations to government can be completed within one year.*
2.109 We recommend the Department regularly conduct a full stress test of its debt portfolio on the basis of the economic and financial shocks to which the Province is potentially exposed.	*The Service of the Public Debt is projected annually by the Department as part of the budget process using forward interest and currency rates and anticipated borrowing amounts. The Service of the Public Debt is subject to budget scrutiny, including providing sensitivity analysis. Additional stress testing metrics, including economic and financial shocks will be explored to ensure the impact of potential changes to the debt management strategy are well understood and remain within acceptable budgetary limits.*	*It is estimated that the research and recommendations to government can be completed within one year.*

Exhibit 2.3 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
2.123 We recommend the Department clearly state in its borrowing policies which debt products may be issued by the Province and which may not.	*The* Provincial Loans Act *currently provides the framework under which debt may be issued and managed. The Department will research best practices in terms of eligible debt products and make recommendations to the risk management committee.*	*It is estimated that the research and recommendations to the risk management committee and government can be completed within one year.*
2.129 We recommend the Department document in its policy the limits and authorities for all levels of staff who can undertake borrowing and investing related transactions.	*The Department's current approval policies and procedures require a minimum of two individuals to execute a borrowing or investing transaction. The policies and procedures will be reviewed and recommendations made to the risk management committee.*	*It is estimated that the research and recommendations to the risk management committee can be completed within one year.*
2.139 We recommend the Department publicly report the government's debt management objectives, guidelines, and strategies, as well as medium-term financing needs and targets, in terms of debt composition, average maturity, and other indicators.	*The Department supports disclosure of relevant information on the public debt and currently provides debt information on its investor relations site: http://www2.gnb.ca/content/gnb/en/departments/finance/investor_relations.html Longer term forecasts are dependent on multi-year fiscal frameworks. The Department will conduct research on disclosing additional debt related information to the public.*	*It is estimated that the research and implementation within one year provided the availability of multi-year fiscal frameworks.*
2.145 We recommend the Department provide the public with information on the projected future performance of the Province's debt portfolio, including its cost of debt.	*The Department currently provides some of this information in various publications. Longer term forecasts are dependent on multi-year fiscal frameworks. The Department will research ways to improve the disclosure of relevant debt information.*	*It is estimated that the research and implementation within one year provided the availability of multi-year fiscal frameworks.*

2.34 Our audit was performed in accordance with standards for assurance engagements, encompassing value-for-money and compliance, established by the Chartered Professional Accountants of Canada, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

2.35 Certain financial and statistical information presented in this chapter was compiled from various sources. It has not been audited or otherwise verified. Readers are cautioned that this financial and statistical information may not be appropriate for their purposes.

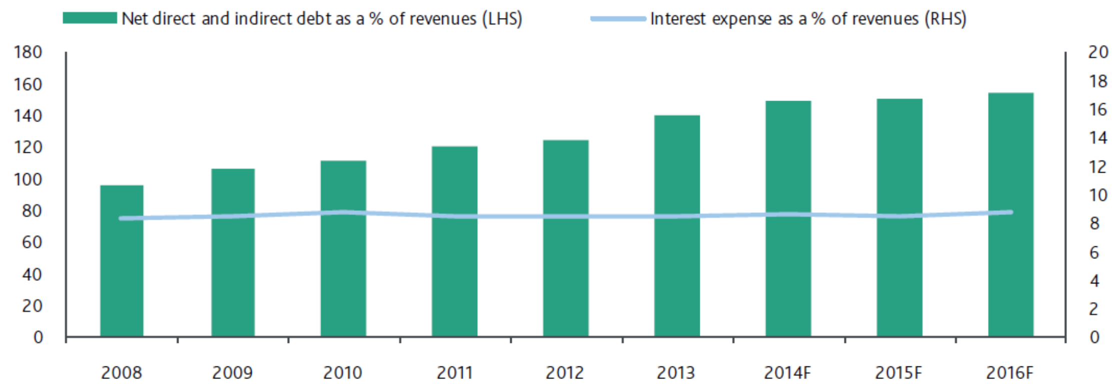
Public Debt Situation in New Brunswick

2.36 First, we describe in this chapter the public debt situation in New Brunswick, including comparisons to the other provinces.

2.37 In past Auditor General Reports, we have commented on the Province's financial health, and significant trends observed in the Province's consolidated financial statements. This section of the chapter is intended to expand on those prior comments in relation to the public debt.

2.38 As shown in Exhibit 2.2, the net direct and indirect debt of the Province reached $12.7 billion in 2015. We believe, in order to properly analyze the public debt situation, all the direct and indirect debt (such as public-private partnerships, capital leases, pension liabilities, other guarantees and commitments) should be taken into account. This would give the public a full picture of the total level of debt burden. We understand major rating agencies use a similar approach in analyzing Canadian provinces' debt situations.

Exhibit 2.4 - Rising debt burden but debt servicing stable



Source: Credit Analysis, Moody's Investors Services

(unaudited)

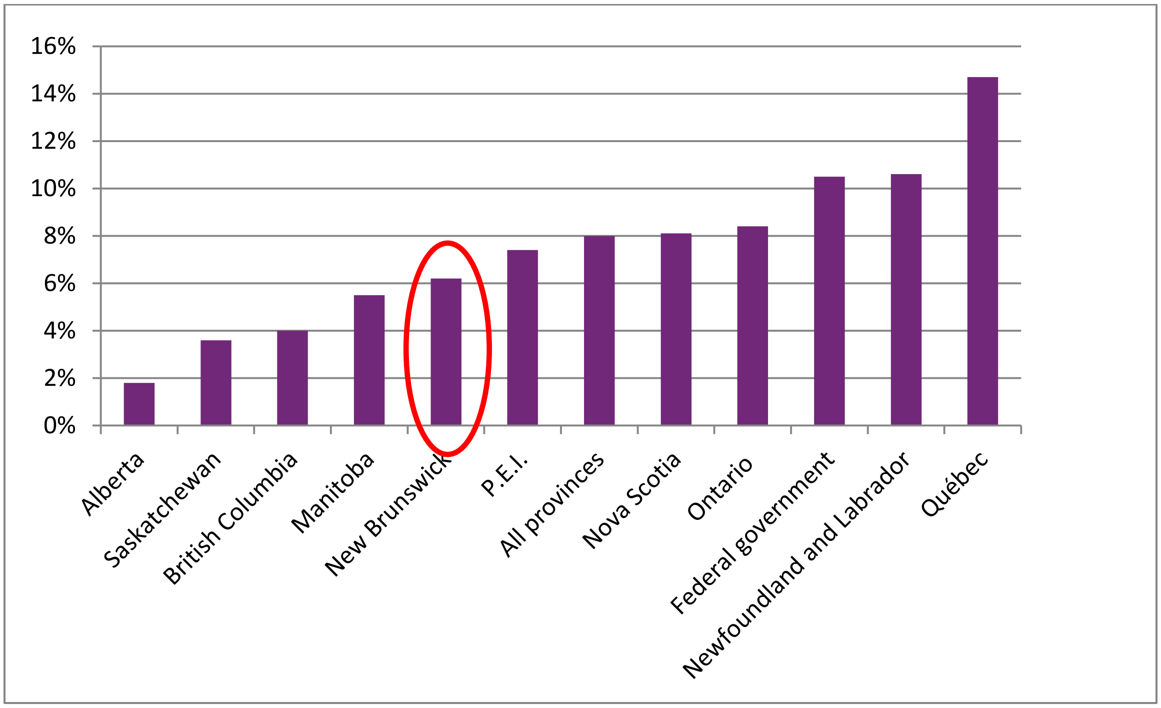
Current interest costs relatively stable

2.39 Although debt levels have risen, interest costs relative to revenues have remained fairly stable over the past several years as shown in Exhibit 2.4. This is due primarily to the current favourable interest rate environment which has facilitated the refinancing of higher coupon debentures at lower interest rates. In addition, use of the provincial Sinking Fund to pay off debt has also helped stabilize the interest costs. The proportion of revenue consumed by interest costs is expected to increase slightly over the medium term, reflecting an increase in the province's debt burden and the expected rise in interest rates.[1]

2.40 New Brunswick's budgeted net interest costs to total revenue ratio is relatively reasonable, compared to other provinces. Exhibit 2.5 shows New Brunswick is the fifth lowest according to DBRS's analysis.

[1] Credit Analysis, Moody's Investors Service, 5 June 2014

Exhibit 2.5 - Budgeted net interest costs to total revenue (2014-15)



Source: DBRS; 2014 Canadian Federal and Provincial Governments Overview (unaudited)

A 1% increase in budgeted long term interest rates would add $49 million to debt servicing costs in three years time

2.41 According to the Department's **sensitivity analysis**, an increase of 1% in budgeted long-term rates would add $6.9 million to costs in fiscal 2016. While a multi-year fiscal framework has not been published, the Department was able to demonstrate the impact is much greater over time. Increasing interest rates by just 1% over budgeted rates would increase interest costs in 2019 by $49 million (or 7%) over the amount budgeted for that year.

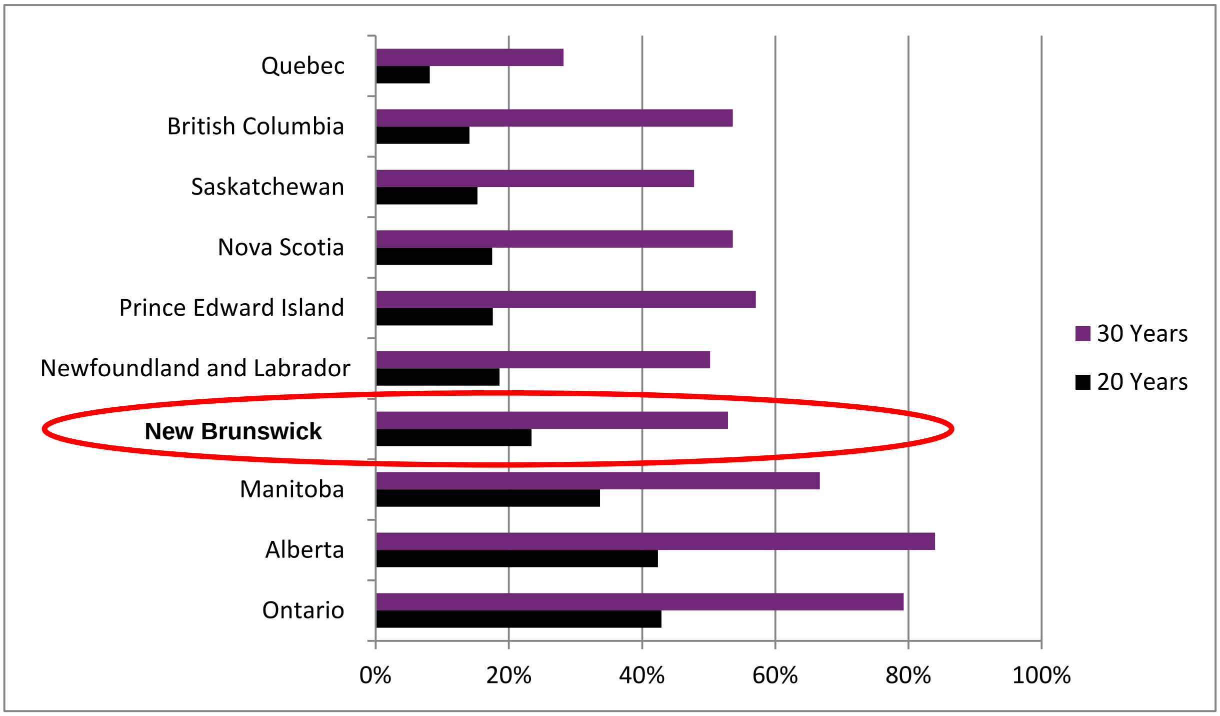
There is no immediate default risk for New Brunswick. However, the Province will become more vulnerable in the long term if debt continues to accumulate

2.42 Interest costs relative to revenues, also referred as “interest bite”, is a widely used indicator by rating agencies and investors to assess the default risk. In a 2012 study published by the Macdonald-Laurier Institute, an independent national public policy think tank based in Ottawa, it was concluded an interest expense to revenue ratio of 25% is likely to be unsustainable[2]. There is no immediate default risk for New Brunswick, as the interest costs relative to revenues in fiscal year end 2015 were 8.1%.

2.43 However, the Province will become more vulnerable in the longer term, if debt continues to accumulate. Exhibit 2.6 shows the probability of default for each province in the next 20 and 30 years. Due to population aging, lower labor force participation, less economic growth and higher health spending in later years, provinces are at risk of encountering solvency crises over the next 10-30 years if fiscal policies do not change.[3] New Brunswick was among the provinces with higher risks.

[2] Provincial Solvency and Federal Obligations, Marc Joffe, October 2012
[3] ibid

Exhibit 2.6 - Probability of default in the next 20 and 30 years

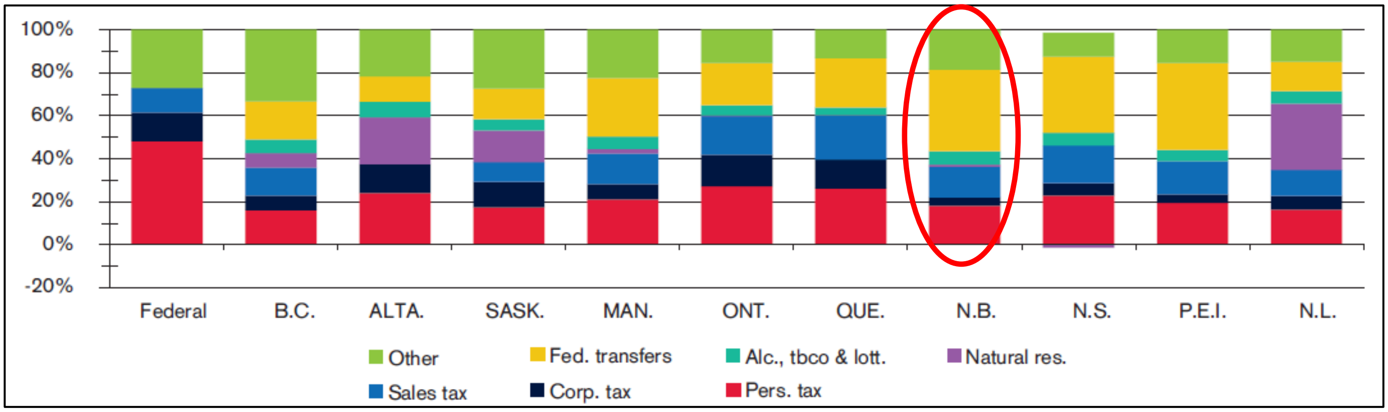


Source: Created by AGNB using data from "Provincial Solvency and Federal Obligations," Marc Joffe, October 2012, published by Macdonald-Laurier Institute (unaudited)

2.44 This model assigns Ontario the highest default probability at 20 year terms. This is due to Ontario's relatively high level of public debt and high deficits which are assumed to persist. Alberta has the highest default probability at 30 year terms, as the province is running substantial budget deficits today and Alberta is projected to experience more rapid growth in its senior citizen population than any other province.

2.45 As shown in Exhibit 2.7, New Brunswick is relatively more reliant on federal transfers, reflecting its somewhat weaker economic fundamentals. Federal transfers accounted for 38% of total revenue in fiscal 2014 in New Brunswick, compared to an all provinces total of 20%. New Brunswick was the second highest among all provinces, only lower than PEI's 40%.

Exhibit 2.7 - Sources of revenue by jurisdiction (fiscal year 2014)



Source: The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014 (unaudited)

2.46 The inability to generate own-source revenue could negatively impact New Brunswick's interest to revenue ratio, in the event of reduced federal transfers. The Province would face an even higher risk of default.

Recent credit ratings for New Brunswick have been stable since 2012

2.47 The credit ratings from three major rating agencies have been relatively stable since 2012. The last downgrade from AA- to A+ was in 2012 by Standard and Poor's.[4]

2.48 We found there is no evidence that a downgrade would result in an immediate rise on the Province's borrowing cost. Ultimately, liquidity, supply and demand on the market influence the price of a particular bond. However, the credit rating is one of the significant factors used by investors to make investment decisions. A higher credit rating may:

- attract more institutional investors to participate in New Brunswick's bond issuances. Many institutional investors only consider purchasing a bond with a certain rating or higher; and
- give the Province more flexibility in terms of setting on terms and conditions of a bond.

[4] Supplementary Analysis: Province of New Brunswick, Standard & Poor's Ratings Services, June 2014

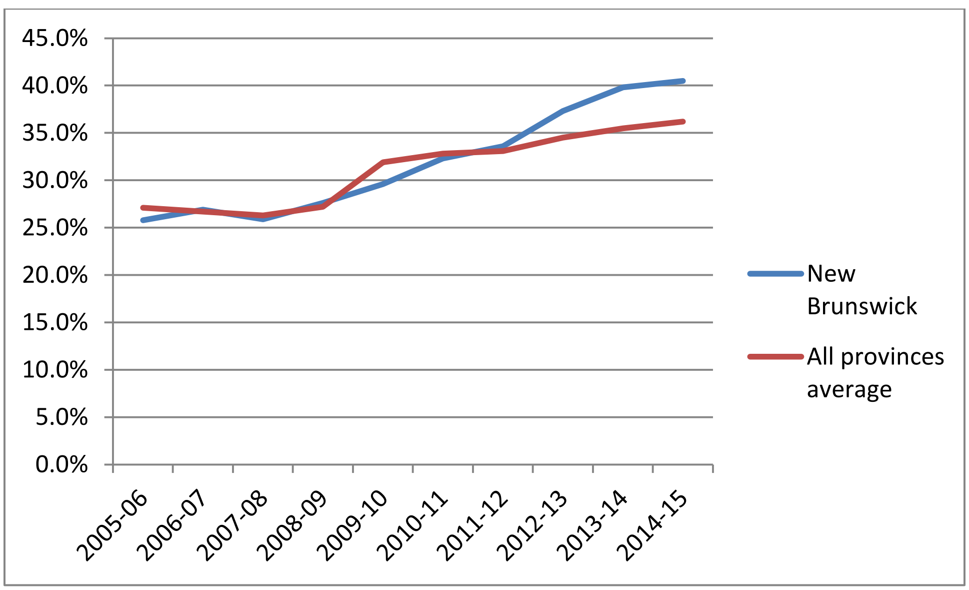
Exhibit 2.8 - Provincial Public Debt-to-GDP ratios

									Projected	Budget
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
British Columbia	17.4%	16.1%	15.7%	15.3%	17.7%	17.6%	17.9%	19.2%	20.6%	20.4%
Alberta	-0.7%	-1.0%	-0.3%	2.3%	4.1%	4.4%	4.7%	5.3%	7.0%	8.3%
Saskatchewan	26.6%	26.6%	24.0%	15.0%	17.7%	17.4%	14.6%	14.6%	14.7%	14.7%
Manitoba	32.2%	30.6%	29.2%	28.6%	31.9%	33.0%	35.6%	36.4%	38.2%	38.6%
Ontario	26.0%	25.9%	26.2%	28.9%	35.2%	37.6%	39.3%	41.6%	43.1%	44.1%
Québec	54.3%	55.8%	55.0%	56.8%	58.6%	59.4%	59.6%	60.2%	61.0%	61.6%
New Brunswick	25.8%	26.9%	25.9%	27.6%	29.6%	32.3%	33.6%	37.3%	39.8%	40.5%
Nova Scotia	33.7%	34.6%	31.9%	32.0%	35.4%	33.9%	33.4%	35.1%	35.7%	36.0%
P.E.I.	35.0%	33.5%	31.1%	32.4%	35.9%	37.3%	38.8%	42.4%	47.4%	46.4%
Newfoundland and Labrador	42.7%	35.4%	30.5%	28.8%	36.4%	31.4%	27.1%	28.3%	26.9%	30.0%
All provinces average	27.1%	26.7%	26.3%	27.2%	31.9%	32.8%	33.1%	34.5%	35.5%	36.2%

Provincial debt is defined by DBRS as tax-supported debt plus unfunded pension liabilities, less sinking funds, and internal holdings. As calculated at the time of the annual credit review of each province. Actual figures for Alberta, Manitoba, Newfoundland and Labrador, Nova Scotia and Saskatchewan in 2013-14.

Source: The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014 (unaudited)

Exhibit 2.9 - Provincial Public Debt-to-GDP ratios: comparison between New Brunswick and all provinces average



Source: Created by AGNB using data from The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014 (unaudited)

New Brunswick's public debt-to-GDP ratio to reach 40.5% in fiscal year 2015, fourth highest of all provinces

2.49 The public debt-to-GDP ratio is one of the key quantitative indicators for measuring debt burden, because it measures indebtedness relative to a province's capacity to carry debt.

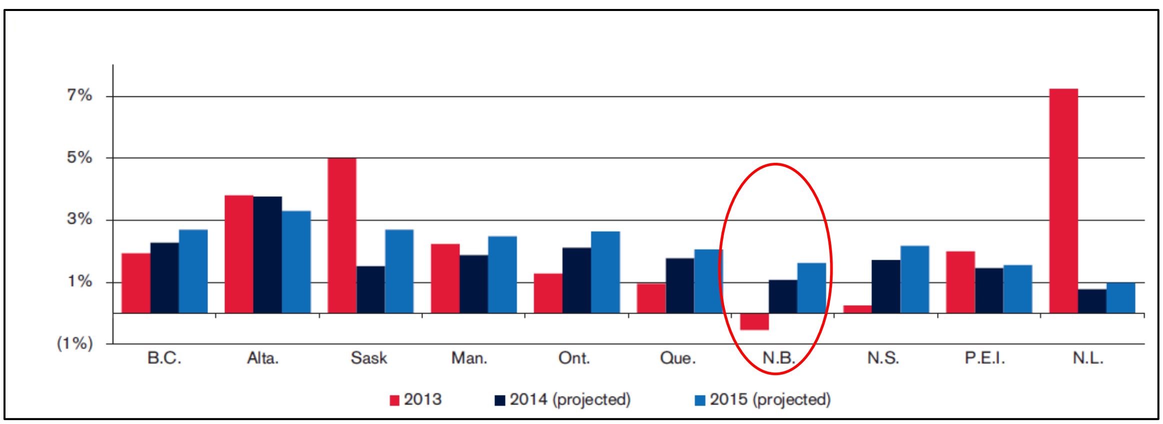
2.50 New Brunswick's public debt-to-GDP ratio has grown for the eighth consecutive year to reach 40.5% in fiscal year 2015. This positions New Brunswick as the province with the fourth highest debt burden. The ratio has been consistently higher than the all provinces average since fiscal 2012 as shown in Exhibit 2.8 and 2.9.

2.51 One of the reasons why this ratio grew is the consecutive provincial deficits and rising net debt of the Province. The government has to issue more debt to cover its cash shortfalls for program spending and infrastructure projects.

2.52 The debt-to-GDP ratio is expected to rise further in the near future until a planned balanced budget is achieved in 2018-2019 under current government forecasts.

2.53 The other factor which could significantly impact the ratio is the growth of GDP. As the denominator, a growing GDP can significantly lower the debt-to-GDP ratio. In other words, a growing provincial economy could improve the debt sustainability of a province.

Exhibit 2.10 - Real GDP growth 2013 to 2015



Source: The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014. (unaudited)

From 2013 to 2015 the real GDP growth rate in New Brunswick has been constantly below the national average

2.54 Canada's real GDP expanded by 2.5% in 2014, up slightly from 2% growth reported in 2013.[5] Again, the real GDP growth rates in New Brunswick in recent years have been constantly below the national averages, as shown in Exhibit 2.10.

The New Brunswick economy is expected to grow slowly in the near future

2.55 Unfortunately, the New Brunswick economy is expected to grow slowly in the near future. With the flat economy and rising debt, New Brunswick could see further erosion on the debt-to-GDP ratio. Given some other provinces have more diversified economies and greater potential to grow their GDPs, New Brunswick could be in an even worse position in comparison with other provinces in the future. Without changes in fiscal policies, this may result in even higher provincial borrowing costs and ultimately increasing difficulties in attracting investors for New Brunswick bonds.

2.56 As per DBRS's forecast, New Brunswick's debt burden is now expected to peak around 41% in 2015-16 and is well-above pre-recession levels of less than 30%. As a result, even if the Province successfully executes its fiscal recovery plan as envisioned, DBRS believes little flexibility will be left within the current rating to weather further erosion. "Additional fiscal slippage pushing the public debt-to-GDP ratio toward 45% would be cause for concern for DBRS and could result in downward pressure on the Province's rating."[6]

New Brunswick's public debt level should remain in line with other provinces

2.57 Without the potential to significantly improve GDP, we believe more emphasis should be put on controlling the rate of growth of the public debt, so the relative public debt level remains in line with other provinces.

2.58 The weak trend in GDP growth in New Brunswick, high unemployment rates and the aging population will pose many challenges in increasing tax revenues and controlling health care and social program expenditures.

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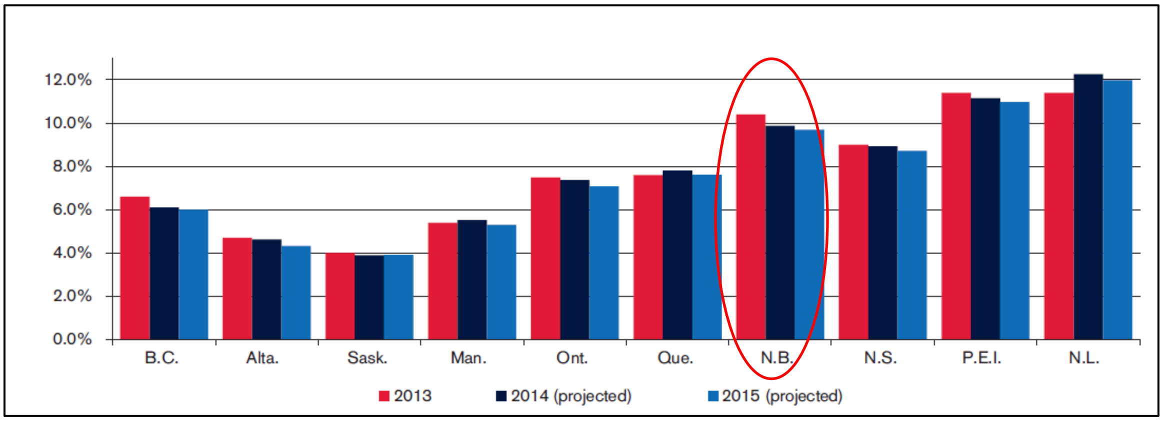
[5] Statistics Canada, http://www.statcan.gc.ca/daily-quotidien/150303/dq150303a-eng.htm
[6] The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014

Exhibit 2.11 - Unemployment rates by province



Source: The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014 (unaudited)

The labour market in New Brunswick has remained weak in recent years

2.59 The labour market in New Brunswick has remained weak in recent years. The unemployment rate has been among the highest in Canada, as shown in Exhibit 2.11.

2.60 This trend could constrain the Province's ability to generate more tax revenues both on the personal and corporate levels.

Exhibit 2.12 - Population components by age by jurisdiction (2014)

	Canada	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.
< 15 years	16.1%	14.6%	18.3%	18.9%	18.7%	16.0%	15.4%	14.6%	14.1%	15.9%	14.4%
> 64 years	15.7%	17.0%	11.4%	14.5%	14.6%	15.6%	17.1%	18.3%	18.3%	17.9%	17.7%
Dependent pers.	**31.8%**	**31.6%**	**29.6%**	**33.4%**	**33.3%**	**31.6%**	**32.5%**	**32.9%**	**32.4%**	**33.8%**	**32.1%**
15 to 64 years	68.2%	68.4%	70.4%	66.6%	66.7%	68.4%	67.5%	67.1%	67.6%	66.2%	67.9%
Dependency ratio	46.6%	46.2%	42.1%	50.1%	49.9%	46.3%	48.2%	49.1%	48.0%	51.0%	47.4%
Median age	40.4	41.9	36.0	37.0	37.7	40.4	41.8	44.3	44.1	43.3	44.6

Source: The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014 (unaudited)

New Brunswick's aging population poses fiscal challenges

2.61 The age of a region's population has a significant effect on the local economy as it plays a role in the composition of the labour force, income distribution and demand for goods and services. It also has a notable impact on how governments structure their revenues and expenditures. Particularly, population aging poses mounting challenges for the provincial government because of the pressure it exerts on health-care and social programs as well as its impact on labour force renewal.

New Brunswick has the second oldest population in Canada

2.62 Among provinces, New Brunswick is recognized as having the second oldest population in Canada with a median age of 44.3 years, only behind Newfoundland. New Brunswick has tied with Nova Scotia in having the highest percentage of people older than 64 years than any other province, as shown in Exhibit 2.12. Additionally, population growth was concerning in New Brunswick. According to Statistic Canada, New Brunswick recorded a population decline of 0.3% in 2014, while Canada's population rose by 1.1% in the same period. A low rate of natural increase and a high level of interprovincial outmigration are challenges for New Brunswick.

Conclusion

2.63 Based on the information we gathered and analyses we conducted, we found there is no immediate risk of default on New Brunswick debt. Two important indicators associated with the level of debt (interest costs to revenue and Debt-to-GDP) are reasonably in line with other provinces in Canada. The costs of servicing the public debt have been relatively stable, due to the low interest rate environment and the Department's low risk debt management policies.

2.64 However, the Province could potentially face a higher level of debt in the future, given the sluggish economic growth[7] in New Brunswick, the potential for stagnant or declining revenue, and an aging population.

2.65 The above mentioned circumstances may not allow the Province to handle a public debt burden as high as some other provinces with higher potential long-term growth prospects.

2.66 It is possible New Brunswick's key debt indicators could fall out of a reasonable range compared to other provinces. Consequently, investors could demand higher returns on New Brunswick bonds, or in a worst case scenario, lose confidence in the New Brunswick government's ability to repay its debt.

2.67 As a result, the Province must be diligent in monitoring the level of the public debt and take appropriate action to control its rate of growth. In similar circumstances, some governments have made difficult choices. For example, Saskatchewan and Canada's debt to GDP ratios reached concerning levels in the mid-1990s. However, their respective governments took actions

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[7] The Rebalancing Act: Managing Through Fiscal and Economic Adjustment, DBRS, December 2014

such as reducing spending, disposing of assets and restructuring fiscal policies. These steps led to long-term improvements in their fiscal situations. On the other hand, Greece and the city of Detroit did not take appropriate action, and their experiences clearly show the ultimate consequences of a failure to act.

Does the Provincial Debt Management Practice Mitigate Important Risks?

2.68 Our audit objective was:

To determine if the Department of Finance follows a prudent debt management practice to mitigate risks associated with public debt.

2.69 The International Monetary Fund (IMF) and World Bank issued the Guidelines for Public Debt Management in 2001. The Guidelines were amended in 2003 and revised in 2014. The Guidelines have been widely used by countries as a benchmark to improve public debt management.

2.70 The Guidelines are designed to assist policymakers in considering reforms to strengthen the quality of their public debt management and reduce their country's vulnerability to international financial shocks.

2.71 We reviewed the Guidelines and used relevant best practices to develop our audit criteria. These criteria provide the framework for the remainder of this section of the report.

What is debt management?

2.72 Debt management is the process of establishing and executing a strategy for managing a jurisdiction's debt in order to raise the required amount of funding, achieve its risk and cost objectives.[8]

Debt management strategy

2.73 Our first criterion was: *the Department should have a comprehensive, well documented and approved Debt management Strategy.*

2.74 A debt management strategy sets a government's objectives and plans for the management of its domestic and foreign debt. It should include[9]:

[8] Guidelines for Public Debt Management, prepared by the Staffs of the International Monetary Fund and the World Bank, December 2003
[9] ibid

- the desired composition of the public debt portfolio;
- the government's preferences with regard to a cost-risk trade-off;
- a strong focus on managing the risk exposure embedded in the debt portfolio; and
- potential variations in the cost of debt servicing and its impact on the budget and the level of public debt.

2.75 Debt issued domestically with a term of ten years or longer is currently preferred. The Department's current annual borrowing plan is designed to take advantage of historically low interest rates to manage interest costs and reduce the future risks of re-financing maturing debt.

2.76 One of the Department's debt management objectives is budget certainty with little volatility in the costs of servicing the public debt. This is consistent with the Department's low risk approach.

The Department has no comprehensive debt management strategy

2.77 Currently there is no comprehensive debt management strategy at the Department, although the Department has been following a relatively low-risk and non-complex practice, such as issuing long term fixed rate debentures.

2.78 There are many factors that must be considered in debt management decisions, such as debt costs, budgetary risk, debt rollover and market impact. Without a comprehensive debt management strategy, it would be difficult to balance these competing considerations and to assess the cost-risk trade-offs of different borrowing approaches.

2.79 One of the important functions of a debt management strategy is to define the objectives of debt management practices. For example, within certain tolerance for risks which we will discuss later, a well-developed debt management strategy would allow the government to assess the costs and risks of different debt structures, such as floating vs. fixed rate or short-term, medium-term vs. long-term bonds. This will ensure a thoughtfully balanced debt portfolio, which is important for the fiscal stability of the Province. A debt management strategy would also ensure long term consistent debt management practices in New Brunswick.

Recommendation

2.80 **We recommend the Department develop a comprehensive debt management strategy and have it approved by Cabinet.**

Risk Management

2.81 Our second criterion was: *the Department should clearly establish its risk tolerance.*

2.82 Our third criterion was: *the Department should carefully monitor and evaluate the risks inherent in the structure of the Province's debt. These risks should be mitigated to the extent feasible by modifying the debt structure, taking into account the cost of doing so.*

2.83 An appropriate debt management strategy depends on the government's tolerance for risk. Therefore, determining **risk tolerance** is an important component in public debt management.

2.84 **Risk tolerance** is defined by IMF as "the degree of risk a government is willing to take".[10] It may evolve over time depending on the size of the government debt portfolio, and the government's vulnerability to tough economic and financial conditions.

2.85 In order to develop appropriate **risk tolerance**, a government should[11]:

- Identify and understand the nature of the risks it's facing and assess the sensitivity to changing financial market conditions;
- Determine the tolerance of the organization for the risks identified;
- Determine the mechanics required to execute the strategic decisions; and
- Develop and implement the necessary processes to execute the risk management program.

2.86 We reviewed the Department's financial risk framework. It identified a number of financial, reputational and accounting risks. They were well described and documented.

2.87 Some targets were set to limit certain risks, for example:

"*Limit interest rate exposure by limiting floating rate debt*

[10] Guidelines for Public Debt Management, prepared by the Staffs of the International Monetary Fund and the World Bank, December 2003
[11] ibid

to 20% of Funded Debt for Provincial Purposes;" and "Limit total foreign currency exposure to 10%"[12] of total portfolio.

2.88 Setting these targets helps the Department achieve one of its most important debt management objectives which is to manage volatility in debt service towards the government's goal of budget certainty.

2.89 The Department regularly monitors these targets to ensure the limits are not breached.

Province's risk tolerance has not been established

2.90 However, the framework does not establish the Province's **risk tolerance** in terms of an acceptable dollar variation from the budget of servicing public debt due to financial markets movement such as changes in interest rates.

2.91 Without the **quantified risk tolerance**, it is difficult to establish long term and short term debt management objectives. It would be also impossible to measure whether the objectives were met.

The existing Risk Management Committee has conflicting roles

2.92 We also noted the framework was approved by the Risk Management Committee, which consists of a group of Treasury Division employees at the Department. This Division is also the group which executes the framework.

2.93 We believe it is inappropriate to have the framework approved by a committee which also executes the policy, nor is it a best practice in the public debt management field. For example, management of British Columbia's debt portfolio is overseen by a Risk Committee. The Risk committee's primary objective is to set risk policies and parameters that balance costs and risk within acceptable control standards. The Risk Committee is comprised of the Deputy Minister of Finance, the Deputy Minister of the Environment, the Assistant Deputy Minister, Provincial Treasury, and members from the financial and academic community.[13]

Recommendations

2.94 We recommend the Department establish the Province's risk tolerance in terms of an acceptable dollar variation

[12] Long-Term Borrowing Policy No. 2015-05-11 LTB, Treasury Division, Department of Finance,
[13] www.fin.gov.bc.ca/PT/dmb/riskcomm.htm

from the budget of servicing public debt due to financial markets movement.

2.95 **We recommend the Department form a risk committee independent of the Treasury Division to review and approve all risk management related policies.**

Sensitivity Analysis

2.96 Our fourth criterion was: *the Department should conduct sensitivity analysis based on the volatility of interest rate and other market conditions.*

2.97 At certain points such as new issuance and renewal of existing provincial bonds, variability in financial markets will lead to a change in the cost of funds for the Province and therefore potential variances from budget forecasts of servicing the public debt. The impact of these movements in financial markets should be firmly understood through rigorous analysis based on current market volatility.

2.98 Interest rates and foreign exchange rates would be the most typical variables for sensitivity analyses.

2.99 The Department currently conducts **sensitivity analysis** on interest rates on an annual basis. It calculates how a 1% increase on long term interest rates would impact public debt servicing costs and sinking fund earnings.

2.100 A **sensitivity analysis** related to changes in foreign exchange rates is not being performed, as currently there is no unhedged foreign currency debt in the portfolio.

The Department conducted sensitivity analysis

2.101 We concluded the Department conducted **sensitivity analysis** based on the volatility of interest rate.

Debt portfolio stress test

2.102 Our fifth criterion was: *to assess risk, the Department should regularly conduct stress tests of the debt portfolio on the basis of the economic and financial shocks to which the government are potentially exposed.*

Definition of a stress test

2.103 A **stress test** is a type of analysis conducted under significant unfavorable economic scenarios which is designed to determine whether an organization has enough capital to withstand the impact of such adverse developments[14].

2.104 **Stress tests** focus on a few key risks such as credit risk, market risk, and liquidity risk to assess what the Province's financial health is likely to be in crisis situations. The results of **stress tests** depend on the assumptions made in various economic scenarios, which are described by the IMF as "unlikely but plausible."[15]

2.105 This assessment is often conducted using financial models ranging from simple scenario-based models, to more complex models involving highly sophisticated statistical and simulation techniques.

2.106 When constructing such assessments, debt managers need to factor in the risk that the government will not be able to roll over its debt and will therefore be forced to default. This also has long-term costs that are much broader than just those associated budget implications.

2.107 "In general, models used should enable government debt managers to undertake the following types of risk analysis:

- Projecting expected future debt servicing costs over a medium- to long-term horizon based on assumptions regarding factors affecting debt-servicing capability, such as: new financing requirements, assumptions for future interest rates and exchange rates;
- Generating a "debt profile," consisting of key risk indicators of the existing and projected debt portfolio over the projected horizon;
- Calculating the risk of future debt servicing costs in both financial and real terms by summarizing the results of **stress tests** that are formulated on the basis of the economic and financial shocks to which the government and the [Province]

[14] Guidelines for Public Debt Management, prepared by the Staffs of the International Monetary Fund and the World Bank, December 2003

[15] How did Markets React to Stress Tests, IMF working paper, April 2015

more generally are potentially exposed. Risks are typically measured as the potential increase in debt servicing costs under the risk scenarios relative to the expected cost; and

- Summarizing the costs and risks of alternative strategies for managing the government's debt portfolio as a basis for making informed decisions on future financing alternatives."[16]

The Department does not perform full stress tests

2.108 We found the Department did not perform full **stress test** of its debt portfolio. The Province's current debt portfolio is relatively low risk and does not contain complex financial products. However, effective full **stress tests** would help the Department:

- better understand where the debt portfolio may be overexposed in terms of concentration;
- identify which types of debt within a certain concentration have more potential risks;
- expose the potential factors that will have the most adverse impact upon specific portfolios; and
- develop a roadmap to manage risks when the unexpected happens.

Recommendation

2.109 We recommend the Department regularly conduct a full stress test of its debt portfolio on the basis of the economic and financial shocks to which the Province is potentially exposed.

Authority for debt transactions

2.110 Our sixth criterion was: *the Department should clarify the authority to borrow and to issue new debt, invest, and undertake transactions on the government's behalf.*

2.111 Sound governance practice is an important component of debt management, given the magnitude of the Province's debt portfolios.

2.112 Moreover, the investors and other third party organizations involved need assurances that the debt managers have the legal

[16] Guidelines for Public Debt Management, prepared by the Staffs of the International Monetary Fund and the World Bank, December 2003

authority to represent the government, and that the government stands behind any transactions into which its debt managers enter.

2.113 An important feature of the legal framework is the authority to issue new debt, which is normally stipulated in the form of either borrowing authority legislation with a preset limit or a debt ceiling.

2.114 The *Provincial Loans Act* allows the Minister of Finance to borrow on a short-term and long term basis. When the specific borrowings are prepared for each bond issuance, the Minister approves the specific terms (rate, maturity, etc) provided it is within the general guidelines previously approved by Cabinet. An information package is then forwarded to Cabinet notifying them of the specific details within 30 days.

2.115 The annual *Loan Act* provides the authority for new borrowing. Each Act approves a certain amount of new borrowing. If the entire amount is not immediately borrowed, the remainder is carried forward until such time as it is needed.

2.116 We found the Department follows the Acts and ensures the proper authorizations are in place prior to undertaking transactions.

The legislative framework for debt management is sound

2.117 We concluded the legal framework for debt management was sound. The Department ensures it has appropriate authorizations prior to initiating a transaction.

Permissible debt products

2.118 Our seventh criterion was: *the Department should clearly state in its policy what is a permissible product and what is not.*

2.119 We reviewed the Statement of Investment Policy and Goals for the Province's general sinking fund. It clearly stated the assets eligible for investment and the requirements for diversification.

The Department's policies do not specify permissible debt products that may be issued by the Province

2.120 On the borrowing side, however, the policies did not clearly specify which products are permitted and which are not.

2.121 Straightforward instruments were most commonly used, including currency swaps, interest rate swaps and forward foreign exchange contracts. Complex derivatives were avoided.

2.122 However, without clearly stating the permissible products, there is a risk that a decision will be made to enter into a debt arrangement inconsistent with the Department's low risk approach.

Recommendation

2.123 We recommend the Department clearly state in its borrowing policies which debt products may be issued by the Province and which may not.

Transaction limits for Department staff members

2.124 Our eighth criterion was: *the Department should establish transaction limits and authorities for all the staff members involved in debt management activities.*

Transaction limits (in dollars) have not been established for individual staff

2.125 As mentioned previously, the Treasury Division acts within the parameters of the annual *Loan Acts* and the *Provincial Loans Act*.

2.126 There are a small number of staff members at the Treasury Division who are involved in debt management activities. Transactions must be approved before they can be executed. It's unlikely that unauthorized transactions would be processed.

2.127 However, there are no individual sub-limits for Division staff members who are involved in the debt management activities.

2.128 Operating within the Acts but without sub limits essentially gives all the staff members the same limits and authority provided to the Minister. Without individual sub-limits there is a risk that staff members may take on an inappropriate amount of risk or enter into transactions that are contrary to the overall debt management strategy.

Recommendation

2.129 We recommend the Department document in its policy the limits and authorities for all levels of staff who can undertake borrowing and investment related transactions.

Transparency in debt management

2.130 Our ninth criterion was: *the Department should regularly release the government's objectives, guidelines, and strategies, as well as medium-term financing needs and targets, in terms of debt composition, average maturity, and other indicators.*

2.131 The case for transparency in debt management operations is based on two main premises[17]:

[17] Guidelines for Public Debt Management, prepared by the Staffs of the International Monetary Fund and the World Bank, December 2003

- effectiveness can be strengthened if the goals and instruments of policy are known to the public and if the authorities can make a credible commitment to meeting them; and
- transparency can enhance good governance by requiring greater accountability from public institutions involved in debt management.

2.132 The Government of Canada publishes a Debt management Strategy which sets out its objectives, strategy and plans for the management of its domestic and foreign debt, other financial liabilities and related assets.

2.133 Ontario Financing Authority, which manages the debt of the Province of Ontario, releases its borrowing program for future years and medium-term borrowing outlook on its website.

2.134 The government of British Columbia outlined in its 2014 budget its strategy for debt management with its strategic goals.

The Department's debt management objectives and targets are not publicly reported

2.135 The Department annually releases, in Volume I of Public Accounts, indicators of financial health, including net debt-to-GDP and the cost of servicing the public debt as a proportion of total revenue.

2.136 The objectives of debt management are defined in the Department's policies. We believe the Department is able to project the government's medium-term financing needs and targets, in terms of debt composition, average maturity, and other indicators.

2.137 However, the Department's debt management objectives and targets are not publicly reported. Further, no future oriented information regarding debt portfolio performance is reported.

2.138 Without transparency, it is difficult for legislators and the public to assess the effectiveness of the Department's debt management operations and hold it accountable for that performance.

Recommendation

2.139 We recommend the Department publicly report the government's debt management objectives, guidelines, and strategies, as well as medium-term financing needs and targets, in terms of debt composition, average maturity, and other indicators.

Public reporting of debt portfolio

2.140 Our tenth criterion was: *the Department should provide the public with information on the past, current, and projected performance of the government debt portfolio, including its cost* *of debt.*

2.141 Capital markets react swiftly to new information and developments, and in the most efficient of these markets, participants react to information. Market participants will attempt to infer information that is not disclosed, therefore most debt managers regularly publish projected domestic borrowing programs.

No future oriented information regarding debt portfolio performance is reported

2.142 The Department provides the past and current performance of the Province's debt portfolio including its cost of debt through Volume I of the Public Accounts.

2.143 However, it does not provide projected future performance of the Province's debt portfolio as part of its reporting. This will enhance the transparency and promote greater accountability in public debt management.

2.144 In Chapter VI of Ontario's annual Economic Outlook and Fiscal Review, the Ontario government publishes its annual borrowing plan, medium-term borrowing outlook, and projected debt levels and net debt-to-GDP ratios in next 3 fiscal years.

Recommendation

2.145 **We recommend the Department provide the public with information on the projected future performance of the Province's debt portfolio, including its cost of debt.**

Reporting of emerging issues related to debt levels

2.146 Our eleventh criterion was: *the Department should inform the government on a timely basis of emerging debt sustainability issues.*

2.147 The higher the level of public debt, the more likely it is that fiscal policy and public debt are unsustainable. This is because, other things being equal, a higher debt requires a higher primary surplus to sustain it.

2.148 Although the responsibility for ensuring prudent debt levels lies with the fiscal authority (i.e. the Government of New Brunswick) debt managers' analyses of the cost and risk of the debt portfolio may contain useful information.

2.149 In addition, debt managers play an important role in setting the composition of that debt through their borrowing activity in financial markets on behalf of the government. This places them in direct contact with market participants. Their observations of investor behavior in both primary and secondary markets, as well as their discussions with market participants, may provide useful insights into the willingness of investors to hold that debt.

The appropriate communication channels exist to ensure any emerging debt level concerns are shared with the government on a timely basis.

2.150 We found there is regular communication between the Treasury Division and budgeting group regarding emerging financing needs, as well as unexpected large cash inflows and outflows.

2.151 The Assistant Deputy Minister in charge of the Treasury Division is part of the Department's senior management group, therefore the appropriate communication channels exist to ensure any emerging issues related to debt levels are shared with the government on a timely basis.

Conclusion

2.152 The Department has been following a relatively low-risk and non-complex debt management practice. However, it does not have an approved and well documented comprehensive debt management strategy.

2.153 Further, it can make improvement in some areas such as risk management, operations, and public reporting to mitigate potential risks associated with public debt.

Appendix I: Detroit Filed for Bankruptcy Protection in 2013

The city of Detroit, which for years paid its bills with borrowed money, is the largest city in U.S. history to file for bankruptcy protection. Here's a look at how the city spiraled into financial ruin and why it's in so much trouble:

WHAT HAPPENED?

For decades, Detroit paid its bills by borrowing money while struggling to provide the most basic of services for its residents. The city, which was about to default on a good chunk of its $14 billion-plus debt, now will get a second chance in a federal bankruptcy court-led restructuring. Detroit's budget deficit this year alone is estimated at $380 million, and Kevyn Orr, its state-appointed emergency manager, chose bankruptcy over diverting money from police, fire and other services to make debt payments. The move conserves cash so the city can operate, but it will hurt Detroit's image for years. It also leaves creditors with pennies on the dollar and places in jeopardy the pension benefits of thousands of city retirees.

WHY DID IT HAPPEN?

It took decades of decay to bring down the once-mighty industrial giant that put the world on wheels. The city grew to 1.8 million people in the 1950s, luring them with plentiful jobs that paid good wages to stamp out automobiles for sale across the globe. But like many American cities, Detroit's fall began late that decade as developers starting building suburbs. Then came the 1967 riots that accelerated the number of white residents who moved to the cities north of Eight Mile Road, considered the region's racial dividing line. At the same time, auto companies began opening plants in other cities, and the rise of autos imported from Japan started to cut the size of the U.S. auto industry. Detroit's property values fell, tax revenue dropped, police couldn't control a growing murder rate, and many middle-class blacks fled the city for safer suburbs with better schools. By 2009, the auto industry collapsed along with the economy as a whole, eventually pulling the city down with it. Government corruption under former Mayor Kwame Kilpatrick only made things worse. In the 2000 census, Detroit's population fell under 1 million in as the exodus continued.

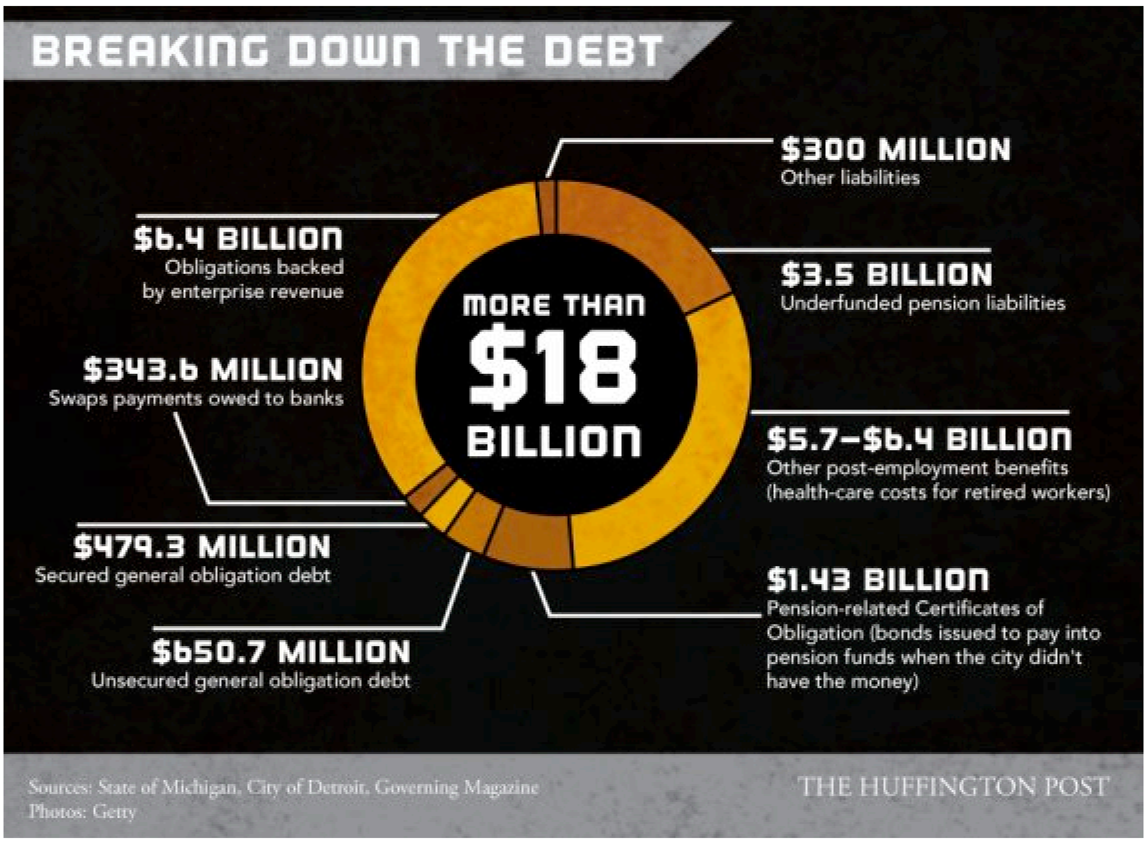
Source: "Detroit and Bankruptcy: How A Once-Great American City Endured Decades of Decay", by Tom Krisher and Dee-Ann Durbin, the Huffington Post, 09/17/2013
http://www.huffingtonpost.com/2013/07/18/detroit-and-bankruptcy-decay-how-went-bankrupt-why_n_3620004.html

Appendix I: Detroit Filed for Bankruptcy Protection in 2013
(continued)

What *is* Detroit's debt?

The City of Detroit estimates that it owes more than $18 billion in short-term and long-term debt, but even that might be a lowball figure. Detroit currently spends 38 cents of every dollar on "legacy debt," or retiree health care, pensions and other costs. That's money that can't be spent on services desperately needed by businesses and residents, like firefighters, police officers, park upkeep, garbage pickup and streetlights.

The infographic below offers a visual breakdown of Detroit's debt.



Source: "The Only Detroit Bankruptcy Explainer You'll Need", by Ashley Woods, Huffington Post, 07/24/2013 (unaudited)
http://www.huffingtonpost.com/2013/07/24/detroit-bankruptcy-chapter-9_n_3640734.html

Appendix II: Greek Debt Crisis: How did the Greek Economy Get Into Such a Mess?

Source: Dan Roberts, 6 May 2010 the Guardian

Like many countries, the Greek government relies on borrowed money to balance its books. The recession has made this harder to achieve, because tax revenues are falling just as welfare payments start to rise. It doesn't help that, in Greece, tax evasion is commonplace and pension rights are unusually generous – but, to be fair, using public spending to even out the bumps of the global downturn is what most large developed economies are trying to do right now.

Unfortunately, investors have lost confidence in the Greek government's ability to walk this tightrope – so they have been demanding ever higher rates of interest to compensate for the risk that they might not get their money back. The higher its borrowing costs, the harder it is for the Greek economy to grow itself out of trouble.

Events began to spiral out of control when credit rating agencies downgraded Greek government debt to "junk" status, pushing the cost of borrowing so high that the country effectively had its international overdraft facility cancelled overnight. Fearing bankruptcy, Greece had to turn instead to the European Union and the International Monetary Fund (IMF) – the world's lender of last resort – for up to 120 billion euros of replacement lending.

But political opposition in Germany and IMF orthodoxy in Washington demands that the rescue package comes with strings attached: a tough series of public sector cuts designed to reassure international investors that the government can become creditworthy again.

The snag is, this traditional market response is complicated by Greece's membership of the single-currency euro club. This means it cannot stimulate growth by devaluing its currency, and nor can it cut interest rates any further, which would help, because these are decided by the European Central Bank in Frankfurt. Instead, the public sector cuts are almost certain to deepen the Greek recession, reducing tax revenues and making it even harder to service the debts in future.

What many investors fear is that the only way out of this vicious circle is for Greece to walk away from its existing debts and try to go it alone – potentially triggering a wave of similar defaults in other indebted European countries, and jeopardising the euro itself. In the meantime, what many Greeks fear is that the IMF option is just going to prolong the agony – and drive the country to the brink of political as well as economic collapse.

http://www.theguardian.com/world/2010/may/06/greek-debt-crisis-economy

Appendix III: Glossary

Debt management: the process of establishing and executing a strategy for managing a jurisdiction’s debt in order to raise the required amount of funding, achieve its risk and cost objectives.

Risk tolerance: The degree of risk a government is willing to take may evolve over time depending on the size of the government debt portfolio, and the government’s vulnerability to economic and financial shocks.

Quantified risk tolerance: risk tolerance in terms of an acceptable dollar variation from the budget due to financial markets movement such as changes in interest rates.

Sensitivity analysis: a technique used to determine how different values of an independent variable will impact a particular dependent variable under a given set of assumptions. This technique is used within specific boundaries that will depend on one or more input variables, such as the effect that changes in interest rates will have on a bond's price.

Stress test: a type of analysis conducted under significant unfavorable economic scenarios which is designed to determine whether an organization has enough capital to withstand the impact of such adverse developments.