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Big Spenders: Canada's Senior Governments Have a Bad Budget Habit

Canada's federal, provincial and territorial governments routinely overshoot the targets they set in their annual budgets. Since 2000, they have spent \$91 billion – some \$2,500 per Canadian – more than they budgeted, and raised \$142 billion – almost \$4,000 per Canadian – more than they budgeted. Canadian governments spend far more, and tax far more heavily, than they would if they had delivered what their budgets promised.

William B.P. Robson and Farah Omran

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THE STUDY IN BRIEF

In 2018, Canada's senior governments raised and spent some \$810 billion on program expenditures and interest payments. They provided defence and police services, delivered or paid for health and education, and employed thousands of people. This activity – and the taxes, fees and borrowing that support it – should reflect the preferences of Canadians and their elected representatives.

Formal accountability exists. Governments typically present budgets to legislatures around the start of the fiscal year, and budget votes are votes of confidence on which governments stand or fall. Legislatures vote on estimates that authorize spending in particular areas. Governments table their public accounts, which present the audited results for actual revenues and expenses, after the end of the fiscal year.

Our review of budget projections versus actual results since 2000, however, reveals that actual accountability – effective control of public money through legislatures – leaves much to be desired. Comparing the expenses and revenues projected in the budgets of Canada's federal, provincial and territorial governments at the beginning of each year with the results reported in their public accounts after the end of the year reveals that governments routinely miss their budget targets by economically meaningful amounts, and that these misses are far from random.

Year-end expenses and revenues typically come in above what governments promised in their budgets. Over the 18 fiscal years since 2000/01, Canada's senior governments overshot their expense targets by \$91 billion. By now, that cumulative overshoot means that they are spending \$2,500 more per Canadian than they would have if they had hit their annual spending targets. More startling is the cumulative revenue overshoot over this period: \$142 billion. They are raising nearly \$4,000 per Canadian more than they would have if they had hit their annual revenue targets. In short, Canada's senior governments are spending more, and taxing Canadians more heavily, than they would be if they delivered on their budget commitments.

Comparing the annual patterns of overshoots and undershoots over time raises a further concern. Rather than overshoots of expenses coinciding with undershoots of revenue, or vice versa, as would happen if government finances were responding to economic cycles, overshoots on either side of the ledger tend to coincide – which suggests that governments are spending “windfalls” and/or managing their bottom lines.

Encouragingly, the tendency to overshoot and miss budget targets more generally, and the troubling annual patterns, seem to have become less pronounced over the past 18 years. Several steps, including estimates that are more timely and presented in the context of the government's fiscal plan, a stronger role for legislative committees that authorize spending, and faster and more frequent publication of actual results, could further improve the record. Canada's senior governments should improve the quality of their budget forecasts and their adherence to those forecasts, and legislators and voters should hold them accountable for doing so.

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Canada's federal, provincial and territorial governments raised and spent some \$810 billion in 2018.

They collected taxes on personal income and consumption, business profits, imports and property, and charged fees for a wide range of services. They provided defence and police services, produced directly or paid for health, education and a variety of cultural and social programs, employed hundreds of thousands of people and paid about \$62 billion in interest on their debt. We presume that these activities reflect Canadians' preferences and that their elected representatives have both the knowledge and the ability to hold governments to account for the collection and use of public funds.

Formal accountability does exist. Governments present budgets to legislatures around the start of each fiscal year, and votes on budget implementation bills are votes of confidence. Governments also present estimates that authorize spending in particular areas, and that ought to reflect the budget's fiscal framework. Actual accountability, however, leaves much to be desired.

A comparison of the actual revenues and expenses published in the audited financial statements of Canada's senior governments after year-end reveals that these governments routinely miss their budget targets by significant amounts – and the patterns in these misses suggest they are not simply random accidents. Over the 18 fiscal years since 2000/01, these governments have overshoot

their expense targets by a cumulative \$91 billion, almost \$2,500 for every Canadian, with the western provinces and territories showing the biggest misses relative to current spending.¹ Over the same period, revenue has overshoot budget projections by an even larger amount: a cumulative \$142 billion, or nearly \$4,000 per Canadian. In short, Canada's senior governments are spending more, and taxing Canadians more heavily, than they have said they would in their annual budgets this century.

Despite the cumulative extra fiscal burden, some trends over the 18 years give grounds for optimism about the future. Most senior governments have missed their budget targets by smaller amounts in more recent years, and although the pattern of misses suggests a tendency toward in-year splurges and/or a desire to manage the bottom line, that tendency has also become less pronounced. Canadians, especially in provinces and territories where the misses are larger and the patterns more suspicious, should insist on more transparency about the reasons for in-year surprises, and their elected representatives should be more aggressive in addressing such problematic practices as the chronic underprediction of revenues and late-in-the-year spending blowouts. The tendency for positive in-year revenue overshoots to coincide with positive in-year spending overshoots suggests that Canada's

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1 Although we have data on budgeted and actual revenues and expenses of senior governments going back to fiscal year 1996/97, the tally in this *Commentary* begins in 2000/01, the first fiscal year of the newly constituted Northwest Territories and Nunavut.

senior governments are not exercising care over public funds consistent with their huge influence on Canada's economy and Canadians' lives.

MEASURING FISCAL ACCOUNTABILITY

Canada's senior governments have in place key elements of formal control over public money. Budgets generally appear before the beginning of the fiscal year, main estimates are presented at the same time or shortly afterward, and financial statements are published after year-end. The C.D. Howe Institute's annual report on the quality of these financial reports (the latest is Robson and Omran 2019) has documented improvements over time as governments have conformed better to public sector accounting standards and made the key numbers more visible and consistent among the main documents.

Formal control and effective control, however, are not the same thing. Although legislatures and their committees vote on fiscal plans and many programs, their scrutiny can be cursory and incomplete. On the revenue side, legislators have unique powers to vote on changes in tax bases and rates, but these powers are under constant pressure from the executive branch, and the federal and provincial parliaments all too often end up ratifying actions well after they occur. As for the bottom line – the difference between revenues and expenses, which determines the change in a government's net worth and its capacity to provide public services in the future – legislatures have limited ability to learn about and react to deviations from the fiscal plan. So governments have considerable scope to manage the bottom line by adjusting expenses or massaging the numbers to achieve a preferred result.

Budgets versus Results

What ultimately matters – a critical test of whether control over public money is effective – is the outcome. That is the inspiration for the C.D.

Howe Institute's annual effort to assess fiscal accountability in Canada by comparing intentions to results. Our investigation focuses on the two primary documents at the start and finish of the annual fiscal cycle, which runs from April 1 to March 31 – namely, the budget, which comes at the start of the cycle, and the financial statements, which typically appear after the end of the cycle, in the summer or early fall.

The budget is the core statement of a government's fiscal priorities. These typically get extensive legislative debate, wide media coverage and attention from the interested public. Moreover, as the object of a confidence vote, the budget can determine whether the government continues in office. The financial statements, audited by the relevant legislative auditor, are the definitive report of what actually happened. They should, and typically do, present consolidated revenues and expenses for the year, with the difference between them equal to the government's net worth (usually the "accumulated deficit") between the beginning and the end of the year.

Measuring Hits and Misses

Comparing the revenue and expense projections in the budget at the beginning of the year with the actual amounts reported after year-end should be a straightforward way to measure how reliable a budget is and to draw some lessons about narrowing any predictable gaps between projections and results. Making such comparisons over time, however, has not always been quite that simple. If all governments had presented their consolidated revenues and expenses consistent with public sector accounting standards over the years, we could simply have looked at the appropriate dollar amounts in each document and considered the differences between them. The only arithmetic required would have been to express changes in percentages to allow comparisons among jurisdictions of different sizes.

Even today, not all of Canada's senior governments present numbers in their budgets that are consistent with public sector accounting standards (Robson and Omran 2019); in the past, these deviations were more frequent and more serious. However, since the numbers in the budgets were those that legislators – and voters – relied on, they are the numbers that we, too, are obliged to use.² Expressing changes in revenues and expenses in percentage terms accomplishes something further in those cases. Sometimes budgets net some revenues against expenses, reducing the level of both; sometimes governments exclude some activities from their budgets and/or their financial statements. Either way, discrepancies between the two documents distort measures that are based on dollar amounts. By comparing percentage changes in revenues and expenses in budgets to percentage changes in revenues and expenses in the financial statements, we can compare jurisdictions of different sizes and reduce the distortions from inconsistent presentations in the two documents.³

Expenses

The key numbers for the past 18 years appear in

Table 1. Budgeted changes in expenses are in the top panel, actual changes in expenses are in the middle panel and the differences between them are in the bottom panel.

Table 2 summarizes the reliability of each government's budget projections over the entire period. Two measures, bias and accuracy, capture key characteristics of their performance.

Bias – the average difference between projected and actual changes – is the arithmetic mean of the differences in the third panel of Table 1. It shows whether a government tended to overshoot or undershoot its budget targets. From the point of view of fiscal accountability, a smaller number – less tendency either way – is better. In calculating the consequences of misses over time, overshoots and undershoots will cancel each other, so the sign of the difference is relevant. But we also care about closeness to projections regardless of sign, so the absolute value of the bias is a useful measure when comparing performance across governments.

Our statistical measure of accuracy – capturing the differences between projected and actual changes in the third panel, regardless of direction – is the square root of the sum of the squared

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- 2 It sometimes happens that a government releases a fiscal update late in the year with innovations so major – such as changes in tax rates or restatements of results – that it is tantamount to a fresh budget. Sometimes, especially after an election, a new government tables an entirely new budget during the fiscal year. We used the projected revenues and expenses from the budget closest to the beginning of the fiscal year, since it is the one that prefigures the entire fiscal year. This approach helped to reduce gaps in our comparisons of annual revenues and expenses, which improved our measures of cumulative over- and undershoots and our ability to compare like time periods among the different jurisdictions.
 - 3 More precisely, for budgets, we calculated percentage changes in revenues and expenses projected for the upcoming year relative to the previous year. For the financial statements, we calculate percentage changes in revenues and expenses for the year just ended – the same year to which the budget projections pertained – relative to the previous year. (Happily, we encountered no instances of inconsistent presentations within the same budget or financial statement.) Contrasting the percentage changes in the two documents created a risk that inaccuracies in budget estimates for the year about to end could affect the percentage changes calculated from the budget. In particular, if the estimates for the year about to end tended to be too low, the percentage changes in the budget tended to be too high, which meant that our estimates of overshoots were too low. In our view, this risk was the lesser of two evils. Comparing dollar amounts in budgets and financial statements using different accounting would have treated differences that reflected items included, excluded or treated differently as overshoots or undershoots that could have been much larger than the differences in growth rates that matter for our comparisons.

Table 1: Budgeted and Actual Expenses of Canada's Senior Governments, Fiscal Years 2000/01–2017/18

	Budget Change (percent)													
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU
2000/01	0.6	-1.3	1.8	3.6	-0.6	-1.2	2.8	-2.3	3.1	-0.6	1.5	-1.9	4.8	3.2
2001/02	5.1	7.4	12.5	5.8	1.7	2.2	3.4	6.6	5.4	0.5	-0.2	-1.1	4.5	1.8
2002/03	3.3	-0.3	-8.1	-0.8	2.2	3.5	2.0	4.4	1.5	0.9	1.3	-4.4	5.1	2.0
2003/04	2.8	-2.4	0.2	3.4	4.1	7.1	4.3	4.3	5.5	3.8	4.7	-6.8	5.7	3.2
2004/05	2.3	-2.6	2.9	0.9	1.1	6.9	3.1	2.3	0.4	4.9	-3.6	5.1	2.7	-6.5
2005/06	1.9	4.7	5.7	1.1	3.5	4.2	3.3	3.2	5.5	4.2	1.4	5.0	1.5	-2.3
2006/07	5.0	3.7	4.0	0.1	3.4	2.1	4.1	1.7	3.7	6.3	2.6	-3.1	0.8	2.6
2007/08	4.6	3.9	11.7	1.6	5.8	2.6	4.0	2.9	8.8	5.1	8.0	-0.6	4.7	2.8
2008/09	2.3	1.1	9.7	4.6	3.3	0.2	3.6	2.7	11.1	2.5	6.4	-0.9	-1.5	4.0
2009/10	8.9	4.9	-1.8	-0.9	1.8	11.9	3.3	5.9	12.2	6.7	9.2	4.4	1.0	1.3
2010/11	4.8	2.3	4.2	0.1	1.6	6.9	3.9	1.6	14.4	0.4	0.8	-0.8	5.6	-7.5
2011/12	3.6	2.2	0.5	-2.5	2.3	1.0	3.5	-1.6	11.8	6.2	1.3	-3.4	2.9	-2.5
2012/13	1.2	-1.2	3.3	1.6	-3.9	1.5	3.0	1.3	2.1	3.7	1.0	4.1	0.8	-7.8
2013/14	0.9	0.8	-1.1	1.4	3.1	2.9	2.6	2.5	1.9	-0.9	1.9	2.0	1.8	6.6
2014/15	-0.5	1.7	-4.5	1.5	1.5	2.7	1.9	1.9	3.3	1.1	0.8	-1.6	7.2	0.6
2015/16	2.7	2.3	3.1	0.5	1.9	1.9	1.5	1.5	2.3	1.3	-0.4	4.7	-2.7	2.2
2016/17	6.9	2.3	3.6	2.0	3.2	1.4	2.5	3.5	4.8	1.9	2.3	2.8	-3.9	1.4
2017/18	4.8	2.3	2.1	2.4	3.3	4.7	3.6	3.6	-3.4	3.6	3.5	1.7	-7.3	4.1
2018/19	2.9	3.5	0.4	0.5	3.7	6.0	4.5	2.5	2.5	1.8	4.6	5.4	-3.8	4.7
	Actual Change (percent)													
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU
2000/01	5.7	1.1	9.5	2.5	2.8	-0.5	4.8	-2.3	6.1	0.2	10.4	4.3	5.8	10.3
2001/02	1.9	10.2	10.0	7.0	1.8	3.0	3.2	7.5	5.2	5.2	3.6	5.9	8.9	7.9
2002/03	3.7	1.1	-1.5	0.6	3.1	4.0	3.7	4.3	6.2	1.9	2.2	3.4	5.4	5.0
2003/04	3.4	1.1	6.0	6.2	7.2	7.4	3.6	3.9	8.2	6.2	12.0	9.6	5.5	7.2
2004/05	10.9	1.5	11.2	3.8	2.6	7.5	4.8	2.1	-3.1	6.6	0.3	11.6	5.4	3.0
2005/06	-0.7	7.2	11.8	9.3	7.3	5.7	4.3	5.9	7.7	6.2	1.7	1.8	7.0	8.8
2006/07	6.3	4.8	9.1	7.4	5.4	5.0	5.4	5.3	0.2	6.2	3.2	8.0	4.1	5.4
2007/08	4.8	7.3	20.4	3.9	8.8	9.5	5.9	7.4	6.3	8.9	8.1	7.4	10.6	7.5
2008/09	2.6	3.5	7.8	20.6	4.2	0.4	4.0	6.4	9.8	3.8	7.9	6.6	4.6	11.0
2009/10	14.8	2.8	-1.0	-2.5	4.4	11.3	9.9	5.8	16.7	3.7	11.3	10.3	2.9	4.1
2010/11	-1.4	2.3	2.7	8.6	5.1	4.9	4.6	4.6	3.5	-1.8	1.1	5.6	2.8	3.3
2011/12	0.4	6.6	5.2	0.9	10.7	1.3	3.7	-1.6	3.2	6.3	3.5	2.3	3.3	6.9
2012/13	0.1	-1.0	4.7	3.1	-2.2	-0.1	2.7	3.0	-1.7	3.8	0.3	5.4	5.9	5.7
2013/14	0.6	0.4	9.1	-3.2	4.0	3.1	5.1	-0.4	2.3	2.9	3.6	6.2	4.5	5.6
2014/15	1.3	2.4	-2.8	1.2	3.1	2.0	0.9	4.2	0.4	0.4	0.5	2.0	13.6	4.1
2015/16	5.7	5.5	1.2	8.3	3.3	3.5	0.7	-1.7	3.2	1.3	1.4	5.4	-1.4	4.7
2016/17	5.0	4.1	8.4	-2.0	3.7	1.5	2.1	4.2	1.5	1.2	3.8	3.4	0.0	2.4
2017/18	6.4	6.2	4.2	-3.5	2.6	7.8	4.8	2.8	-1.4	6.1	4.0	1.6	-0.1	6.4

Table 1: Continued

	Difference (percent)													
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU
2000/01	5.0	2.4	7.7	-1.1	3.4	0.7	2.1	0.0	3.0	0.8	8.9	6.2	1.0	7.1
2001/02	-3.2	2.8	-2.5	1.2	0.1	0.8	-0.2	0.9	-0.1	4.7	3.9	7.1	4.4	6.1
2002/03	0.4	1.4	6.5	1.3	0.9	0.5	1.7	-0.1	4.7	1.0	0.9	7.8	0.3	3.0
2003/04	0.6	3.5	5.7	2.8	3.0	0.4	-0.7	-0.4	2.7	2.4	7.3	16.4	-0.2	4.0
2004/05	8.6	4.1	8.3	2.9	1.5	0.6	1.7	-0.2	-3.6	1.6	3.9	6.4	2.7	9.5
2005/06	-2.6	2.5	6.1	8.1	3.8	1.5	0.9	2.8	2.2	2.1	0.3	-3.3	5.4	11.1
2006/07	1.3	1.1	5.1	7.3	2.0	2.9	1.3	3.7	-3.5	0.0	0.6	11.1	3.2	2.8
2007/08	0.2	3.4	8.7	2.3	3.0	6.9	1.9	4.5	-2.5	3.9	0.1	7.9	5.9	4.7
2008/09	0.3	2.4	-1.9	16.0	0.9	0.2	0.4	3.7	-1.2	1.3	1.5	7.5	6.1	7.1
2009/10	5.9	-2.1	0.9	-1.5	2.5	-0.5	6.6	-0.1	4.4	-3.0	2.2	5.8	1.8	2.9
2010/11	-6.1	0.0	-1.5	8.5	3.5	-2.0	0.7	3.1	-10.9	-2.2	0.3	6.5	-2.8	10.9
2011/12	-3.2	4.4	4.7	3.4	8.4	0.3	0.2	0.0	-8.6	0.1	2.3	5.7	0.4	9.4
2012/13	-1.1	0.2	1.4	1.5	1.7	-1.6	-0.3	1.7	-3.8	0.2	-0.7	1.2	5.2	13.5
2013/14	-0.2	-0.4	10.2	-4.6	0.9	0.2	2.5	-2.9	0.4	3.8	1.8	4.2	2.7	-1.0
2014/15	1.8	0.7	1.8	-0.2	1.6	-0.7	-1.0	2.3	-2.9	-0.7	-0.2	3.6	6.4	3.5
2015/16	3.0	3.2	-1.9	7.8	1.4	1.6	-0.8	-3.2	0.9	0.0	1.8	0.6	1.3	2.5
2016/17	-1.9	1.8	4.8	-4.0	0.5	0.1	-0.4	0.7	-3.3	-0.7	1.5	0.6	3.9	0.9
2017/18	1.6	3.9	2.1	-6.0	-0.6	3.1	1.2	-0.8	2.0	2.5	0.5	-0.1	7.2	2.3

Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors' calculations.

differences, which, unlike the bias measure, treats positive and negative differences the same, and weighs larger misses more heavily, penalizing governments with more erratic records.⁴

On the key question of overshooting versus undershooting, the bias measure delivers a clear verdict: over the past 18 years, Canada's senior governments have tended to spend more than

anticipated in their budgets. The average annual expense overshoot across all governments was 2.1 percent; only Newfoundland and Labrador registered an average expense undershoot.

Comparing each year's actual change to the same year's budgeted change effectively resets the meter every year, so it is fair to treat these misses as cumulative, with each year's surprise adding to the

4 Suppose two governments overshoot and undershoot year by year so that their biases over the period are similar, but one has consistently larger overshoots and undershoots. The accuracy measure would award the government that missed by smaller amounts, as reflected in a smaller number – a better score – and the one that missed by larger amounts, as reflected in a larger number – a worse score.

Table 2: Bias and Accuracy in Budget Forecasts of Expenses, Canada's Senior Governments, Fiscal Years 2000/01–2017/18

	Bias			Accuracy		Cumulative Misses	
	Mean Error (percent)	Absolute Mean Error (percent)	Rank	Root Mean Square Error (percent)	Rank	Amount (\$millions)	Ratio to 2018/19 Expenses (percent)
Federal	0.6	0.6	1	3.5	8	18,597	5
British Columbia	1.9	1.9	7	2.6	5	12,138	23
Alberta	3.7	3.7	12	5.4	11	19,476	35
Saskatchewan	2.5	2.5	10	5.9	12	3,363	23
Manitoba	2.1	2.1	9	2.9	6	4,168	24
Ontario	0.8	0.8	2	2.1	2	14,475	9
Quebec	1.0	1.0	5	2.0	1	14,353	13
New Brunswick	0.9	0.9	3	2.3	4	931	10
Newfoundland & Labrador	-1.1	1.1	6	4.3	10	-1,255	-15
Nova Scotia	1.0	1.0	4	2.2	3	1,627	15
Prince Edward Island	2.0	2.0	8	3.2	7	449	23
Yukon	5.3	5.3	13	6.9	14	684	49
Northwest Territories	3.1	3.1	11	4.1	9	822	43
Nunavut	5.6	5.6	14	6.8	13	1,255	56

Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors' calculations.

surprises that accumulated in previous years. Over the 18 years, those annual surprises added up to more than \$91 billion of unanticipated spending or, to give a sense of scale, almost \$2,500 more for each Canadian compared to what they would be spending if they had hit their annual targets.

For another relevant perspective on scale, the final column of Table 2 compares each jurisdiction's cumulative misses over the 18-year period to projected expenses in its latest budget. To emphasize, this is a measure of cumulative overshoots/undershoots; it says nothing about whether a government budgeted a lot of expenses or a little, or about whether it was wise to do so. A government that budgeted rapid increases in

expenses and achieved them, and a government that budgeted low or no increases in expenses and achieved them, would both have zeros in this column. The cumulative impact of overshoots over the 18 years raised expenses by 22 percent on average across all the senior governments. A typical government would be looking at spending between one-quarter and one-fifth less in the current fiscal year than it would if it had hit its budget targets over that period.

As for the best and worst records, Ottawa's average overshoot of 0.6 percent gives it the best – that is, the smallest – bias score among the 14 governments. Ontario and New Brunswick also did relatively well, with absolute bias scores of less

than 1.0 percent. Nova Scotia and Quebec come next, with scores of 1.0 percent.⁵ Saskatchewan and Alberta had the largest average expense overshoots – 2.5 and 3.7 percent, respectively – among the provinces. Yukon and Nunavut – with average overshoots of 5.3 and 5.6 percent – had the worst records of all.

The accuracy scores tell a slightly different story. Quebec's, Ontario's and Nova Scotia's root mean square deviations of 2.0, 2.1 and 2.2 percentage points, respectively, put them at the head of the class, while the federal government's accuracy score of 3.5 percentage points puts it in the middle of the pack – although its cumulative expense overshoot was relatively small, its year-to-year performance was more erratic. Alberta's and Saskatchewan's expense projections were the least reliable among the provinces, while those of Nunavut and Yukon were the worst of all.

Revenues

Although legislators have formal control over both the revenue and expense side of the ledger, revenue is less straightforward to control. Major in-year changes in taxation are problematic, ups and downs in the economy affect revenue with a lag and information about those impacts takes additional time to come to light. However, a similar review of budgeted and actual revenues yields some useful information, including the context for understanding misses on the expense side. Table 3 presents the revenue changes projected

in the senior governments' budgets over the past 18 years. The format is the same as Table 1's for expenses: budgeted changes are in the top panel, actual changes are in the middle panel and the differences between them are in the bottom panel. Also in parallel fashion, Table 4 summarizes each government's performance on the revenue side over the period: bias is the average difference between budgeted and actual changes; accuracy is the square root of the summed squares of the differences, penalizing larger misses either way.

Perhaps surprisingly, revenue overshoots were not only typical, but larger than their expense counterparts.⁶ Ontario is the only government to record an average revenue undershoot over the 18 years – a marginal 0.1 percent annually. Across all governments, actual revenues exceeded budgeted revenues by an average of 2.6 percent annually over the 18 years.

As with expenses, it is fair to treat each year as a fresh start, and therefore fair to treat revenue overshoots as cumulative. Over the 18 years, they added up to \$142 billion of unanticipated revenues, meaning that, in the current fiscal year, the average Canadian will pay nearly \$3,900 more in taxes than would have been the case if governments had hit their budget projections. As Table 2 did for expenses, Table 4 shows, in its final column, the size of each jurisdiction's cumulative revenue misses relative to projected revenues in its latest budget. On average, the cumulative impact of overshoots over the past 18 years left projected revenues for 2018/19 almost one-third higher than they would

5 Although Quebec is not unique in having inconsistencies in its budget presentations over this period, it provides a notable example of the effect those inconsistencies can have on our measures. From 2004/05 to 2013/14, Quebec prominently and consistently presented general fund figures in its budgets, which we used in our calculations. If we had used the non-consolidated figures in the public accounts for years when the budget was presented on a non-consolidated basis, Quebec would have ranked first in both bias and accuracy of spending overshoots (a small improvement), and second in bias and first in accuracy of revenue overshoots (a significant improvement).

6 Some observers of fiscal policy expect governments to over-predict revenues for the sake of producing healthier fiscal projections in their budgets; see, for example, Jochimsen and Lehmann (2015). Canada's experience is the opposite.

Table 3: Budgeted and Actual Revenues Changes of Canada's Senior Governments, Fiscal Years 2000/01–2017/18

	Budgeted Change (percent)													
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU
2000/01	1.3	0.5	-1.6	9.8	1.3	-0.7	2.8	-1.5	3.9	0.2	-1.7	1.7	4.9	3.1
2001/02	-4.1	2.3	-10.7	-11.1	0.6	-1.0	0.5	4.4	5.7	1.8	0.6	0.9	1.6	5.5
2002/03	0.3	-3.6	-5.6	2.3	0.6	4.9	2.0	1.2	0.7	3.1	-0.4	-2.4	-13.1	-2.5
2003/04	3.4	4.1	-2.9	-2.8	4.6	7.8	4.3	4.4	1.8	3.8	4.6	1.1	10.3	10.4
2004/05	3.4	3.2	-9.4	1.8	4.0	14.8	3.1	4.6	-3.8	4.2	3.1	2.1	6.9	2.7
2005/06	2.3	1.1	-4.9	-9.2	-0.3	5.9	3.3	2.8	3.5	4.4	3.1	5.0	1.9	5.4
2006/07	2.8	-0.3	-6.3	-3.5	3.4	2.1	4.4	0.1	2.3	5.1	3.1	1.1	2.0	2.5
2007/08	1.9	-1.7	-4.7	-6.2	5.8	2.6	1.3	2.8	12.2	5.8	8.0	-3.3	4.3	2.9
2008/09	-1.1	-2.3	2.2	-0.3	1.3	0.4	0.1	2.7	-3.4	2.3	6.8	1.0	-4.5	4.5
2009/10	-4.9	-1.9	-11.1	-12.4	-0.4	2.7	-0.4	-0.6	-29.5	-1.0	6.7	5.3	3.4	5.6
2010/11	8.0	5.8	1.3	-0.8	1.7	10.8	2.9	1.8	5.6	3.7	3.0	7.9	5.0	5.9
2011/12	5.7	3.6	4.7	-1.8	2.0	2.1	4.8	2.1	-1.1	-3.1	2.1	5.6	3.0	7.0
2012/13	2.8	2.8	4.6	1.9	0.3	2.7	5.9	5.2	-10.9	4.3	1.3	7.3	9.5	9.5
2013/14	3.8	4.6	1.4	1.9	3.0	2.3	5.0	1.8	0.1	3.3	2.8	2.4	2.5	2.5
2014/15	4.7	1.9	-1.5	-2.2	1.1	2.8	2.9	4.3	0.5	3.7	1.6	3.7	10.8	0.8
2015/16	3.9	1.3	-11.5	0.9	1.2	5.0	4.3	0.6	0.2	1.6	0.5	2.1	-0.6	1.4
2016/17	-1.2	2.3	-3.6	1.1	3.1	3.2	3.2	5.1	15.0	3.8	3.3	2.7	-0.9	1.4
2017/18	4.3	-0.1	4.8	3.4	2.9	6.3	3.7	4.1	0.3	3.0	4.6	2.7	0.7	5.1
2018/19	4.5	1.6	2.1	2.2	4.1	1.5	2.2	1.8	4.5	0.6	4.6	3.8	-2.9	5.5
	Actual Change (percent)													
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU
2000/01	8.1	10.2	26.9	15.3	6.5	2.8	7.7	1.3	6.7	6.4	4.4	13.7	20.9	9.3
2001/02	-3.0	-5.5	-13.9	-10.3	-0.1	-1.2	-1.4	7.9	-1.3	1.0	4.2	-4.3	9.1	-4.2
2002/03	3.6	-3.3	3.4	6.6	3.3	3.6	4.2	-1.3	1.4	0.5	-2.7	6.8	-11.2	10.5
2003/04	4.4	8.2	14.2	1.6	4.7	-0.7	4.3	4.2	2.9	6.8	5.4	11.6	2.6	5.2
2004/05	6.6	14.4	13.3	18.8	11.5	13.8	4.3	9.8	6.3	8.7	9.3	12.4	12.4	9.7
2005/06	4.8	7.7	21.4	5.5	2.3	8.2	5.5	5.7	23.9	5.6	4.8	9.8	11.3	12.5
2006/07	6.2	7.0	7.4	5.2	6.0	7.3	8.6	5.2	-0.6	5.3	5.2	5.6	8.0	17.1
2007/08	2.7	3.4	0.0	13.9	9.2	7.4	5.2	4.8	29.3	11.6	5.7	2.2	11.9	-5.1
2008/09	-3.8	-3.7	-6.2	24.9	3.4	-6.8	-0.3	2.1	20.9	-0.7	5.7	5.4	-5.3	7.8
2009/10	-6.2	-2.0	0.2	-16.7	-0.9	-1.2	7.6	-1.7	-15.5	0.8	8.4	7.3	3.0	3.4
2010/11	8.5	6.6	-1.8	7.7	4.4	11.3	5.5	6.4	11.5	7.2	2.6	7.7	1.9	6.4
2011/12	3.5	2.6	11.1	0.5	4.6	2.4	4.6	3.6	6.5	-2.5	2.7	9.3	3.9	7.2
2012/13	3.0	0.5	-2.4	2.7	0.7	3.3	2.0	-0.3	-14.8	3.5	0.6	8.9	16.7	6.6
2013/14	5.9	4.0	16.9	0.7	4.4	2.2	6.1	-0.3	-0.2	-0.7	5.9	3.1	-0.9	6.9
2014/15	3.9	5.5	0.1	-2.5	3.7	2.3	2.9	7.2	-7.5	5.7	2.1	2.3	14.4	5.2
2015/16	4.6	3.2	-14.1	-3.0	0.6	8.3	4.4	-0.6	-13.7	2.6	1.9	-0.4	-0.1	2.6
2016/17	-0.7	8.1	-0.5	-0.1	4.4	3.4	2.8	6.2	19.7	2.7	4.4	3.5	2.3	-0.6
2017/18	6.9	1.1	11.8	2.9	3.4	7.0	5.2	4.9	1.7	6.7	8.2	3.4	-0.8	9.7

Table 3: Continued

	Difference (percentage points)													
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU
2000/01	6.8	9.6	28.6	5.5	5.3	3.4	5.0	2.8	2.8	6.2	6.1	12.0	16.0	6.2
2001/02	1.0	-7.8	-3.2	0.8	-0.7	-0.2	-1.9	3.5	-7.0	-0.8	3.5	-5.2	7.5	-9.6
2002/03	3.2	0.3	8.9	4.3	2.7	-1.3	2.2	-2.5	0.7	-2.5	-2.3	9.1	1.9	13.0
2003/04	1.0	4.1	17.1	4.3	0.1	-8.5	0.1	-0.2	1.1	3.0	0.8	10.4	-7.7	-5.2
2004/05	3.2	11.2	22.7	17.0	7.5	-1.0	1.1	5.2	10.1	4.5	6.2	10.3	5.5	7.0
2005/06	2.5	6.7	26.3	14.6	2.6	2.3	2.3	2.9	20.4	1.2	1.7	4.8	9.3	7.0
2006/07	3.4	7.4	13.8	8.7	2.6	5.2	4.2	5.0	-2.9	0.2	2.0	4.5	6.0	14.6
2007/08	0.8	5.2	4.6	20.1	3.4	4.8	3.9	2.0	17.1	5.8	-2.3	5.5	7.6	-8.0
2008/09	-2.8	-1.4	-8.4	25.2	2.0	-7.2	-0.4	-0.6	24.3	-3.0	-1.1	4.4	-0.8	3.3
2009/10	-1.4	-0.2	11.3	-4.3	-0.5	-3.9	8.1	-1.2	14.0	1.8	1.7	2.0	-0.3	-2.2
2010/11	0.4	0.8	-3.1	8.5	2.7	0.5	2.6	4.6	5.9	3.5	-0.4	-0.2	-3.2	0.5
2011/12	-2.3	-1.0	6.4	2.3	2.6	0.3	-0.2	1.4	7.5	0.6	0.7	3.6	1.0	0.2
2012/13	0.2	-2.2	-7.0	0.8	0.4	0.6	-3.9	-5.5	-3.9	-0.8	-0.7	1.6	7.2	-2.9
2013/14	2.0	-0.6	15.5	-1.2	1.4	-0.1	1.1	-2.1	-0.3	-4.0	3.2	0.7	-3.4	4.4
2014/15	-0.7	3.5	1.6	-0.3	2.5	-0.5	-0.1	3.0	-8.0	2.0	0.5	-1.4	3.6	4.3
2015/16	0.7	1.9	-2.6	-4.0	-0.6	3.3	0.0	-1.3	-13.9	1.0	1.4	-2.5	0.4	1.2
2016/17	0.5	5.8	3.1	-1.2	1.3	0.2	-0.4	1.1	4.8	-1.1	1.1	0.9	3.2	-2.0
2017/18	2.5	1.2	7.0	-0.6	0.4	0.7	1.4	0.8	1.5	3.7	3.6	0.7	-1.5	4.7

Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors' calculations.

have been had governments hit their budget targets in the past.

Ontario, with its marginal 0.1 percent undershoot, recorded the smallest revenue bias over the period. New Brunswick, Nova Scotia, Ottawa, Quebec and Prince Edward Island were also among the better performers, with annual overshoots averaging around 1.2 percent. Not surprisingly, provinces more dependent on revenue from natural resources – which are more volatile than other tax bases and which tended to surprise on the upside during this period – recorded the largest annual overshoots: Alberta at 7.9 percent, Saskatchewan at 5.6 percent, and Newfoundland and Labrador at 4.1 percent.

Turning to accuracy, the federal government's root mean square error of 2.5 percentage points

was the best – that is, the lowest – score among the 14 governments. Prince Edward Island, Manitoba, New Brunswick, Quebec and Nova Scotia all scored around 3.0 percentage points. Ontario's revenue accuracy score of 3.5 percentage points puts it mid-pack: its good bias score reflects a tendency for its mid-range errors to cancel out. The natural-resource-dependent jurisdictions, more affected by commodity price swings, did poorly.

UNDERSTANDING BUDGET HITS AND MISSES

Having looked at the differences between budgeted and actual revenues and expenses separately, we can now consider them together for insights into some

Table 4: Bias and Accuracy in Budget Forecasts of Revenues, Canada's Senior Governments, Fiscal Years 2000/01–2017/18

	Bias			Accuracy		Cumulative Misses	
	Mean Error (percent)	Absolute Mean Error (percent)	Rank	Root Mean Square Error (percent)	Rank	Amount (\$millions)	Ratio to 2018/19 Revenues (percent)
Federal	1.2	1.2	4	2.5	1	45,911	14
British Columbia	2.5	2.5	9	5.2	8	15,323	28
Alberta	7.9	7.9	14	13.4	14	40,122	84
Saskatchewan	5.6	5.6	13	10.0	12	7,798	55
Manitoba	2.0	2.0	7	2.8	3	3,533	21
Ontario	-0.1	0.1	1	3.5	7	1,495	1
Quebec	1.4	1.4	5	3.0	5	18,880	17
New Brunswick	1.1	1.1	2	3.0	4	1,082	11
Newfoundland & Labrador	4.1	4.1	12	10.7	13	4,428	58
Nova Scotia	1.2	1.2	3	3.1	6	2,012	19
Prince Edward Island	1.4	1.4	6	2.8	2	354	18
Yukon	3.4	3.4	11	5.7	9	378	27
Northwest Territories	2.9	2.9	10	6.2	10	620	35
Nunavut	2.0	2.0	8	6.6	11	600	28

Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors' calculations.

of the reasons governments miss their targets, and some possible ideas for making misses less serious in the future.

Links between Revenue and Expense “Surprises”

Students of fiscal policy in a macroeconomic context might find it odd that governments tend to overshoot both their revenue projections and their expense projections. The standard prescription for fiscal management is that in booms governments should let revenues rise and expenses fall, as both naturally will tend to do, while in busts they should let revenues fall and expenses rise. That kind of

countercyclical policy likely stabilizes aggregate demand, and it unquestionably limits disruptive changes in tax rates and programs. Pursued successfully, it would produce annual overshoots and undershoots in revenues that are negatively correlated with annual overshoots and undershoots in expenses.

During the period surveyed here, however, annual overshoots and undershoots on both sides of the ledger were positively correlated. Governments reporting higher-than-projected revenues in a given year typically reported higher-than-expected expenses in the same year, and larger revenue surprises tended to coincide with larger expense surprises (Table 5). Only in Newfoundland and

Labrador, Nova Scotia and Nunavut was the correlation negative, and in six jurisdictions the positive correlation exceeded the 0.40 figure that standard statistical tests say is significant for this many observations.

Governments sometimes justify extra spending during booms on the basis that economic growth attracts people and generates unexpectedly high demand for public infrastructure, schools and other public services. But those impacts affect capital spending more than current spending – approving and building a hospital or a road takes years, not months – and play out over longer periods than the annual measures we are looking at. The business cycle and its expected impact on governments attempting to stabilize the economy, tax rates and programs is not the explanation for what we have seen in Canada over the past 18 years.

Why Might Revenue and Expense Surprises Coincide?

One less happy explanation for the positive correlation between annual surprises on the revenue and expense sides of government budgets is that governments deliberately under-predict revenue in their budgets. Later in the year, when revenues come in ahead of projections, they react to an emerging better-than-projected bottom line by authorizing extra spending or by looking for ways to recognize spending planned for future years in the current fiscal year.⁷ Another explanation for the positive correlation is that governments manipulate the timing of both revenues and expenses to achieve a predetermined bottom line.

Table 5: Correlation of Revenue and Expense “Surprises,” Canada’s Senior Governments, Fiscal Years 2000/01–2017/18

	Coefficient of Correlation	Rank
Federal	0.33	7
British Columbia	0.24	4
Alberta	0.75	13
Saskatchewan	0.64	12
Manitoba	0.26	5
Ontario	0.47	10
Quebec	0.81	14
New Brunswick	0.39	8
Newfoundland & Labrador	-0.01	3
Nova Scotia	-0.06	2
Prince Edward Island	0.57	11
Yukon	0.44	9
Northwest Territories	0.30	6
Nunavut	-0.10	1

Note: The 18-year period makes the statistically significant correlation coefficient 0.4 with a two-tailed 10 percent significance level.

Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors’ calculations.

Since the standard stabilizing prescription dictates a negative correlation between revenue and expense surprises, and a positive correlation suggests problematic behaviour, we rank the results in Nunavut, Nova Scotia, and Newfoundland and

7 The federal government prebooked spending on a large scale in the late 1990s and early 2000s, including transfers to foundations that did not even exist at the end of the relevant fiscal years, prompting a series of complaints from the auditor general (see, especially, Canada 2001, 1.29–1.34). A current instance is Manitoba, where the provincial auditor general qualified his audit opinion on the 2017/18 financial statements in part because the government recorded as an expense a transfer to trust accounts that did not exist at the time (Manitoba 2018, 76–7).

Labrador as relatively good, and those in Ontario, Prince Edward Island, Saskatchewan, Alberta, Quebec and Yukon as relatively bad.

HAVE FISCAL CONTROLS IMPROVED?

The economic climate has changed in many ways over the past 18 years. Breaking the period into thirds, the first six years featured robust growth, the second six featured a financial crisis and a slump and the last six featured sluggish growth. Governments have changed at least once in every jurisdiction. The quality of fiscal reporting has generally improved over the period (Robson and Omran 2019). What does a comparison of Canadian governments' performance relative to budget projections during these three six-year periods suggest about progress or slippage?

Results versus Intentions

At a high level, the story with respect to biases and accuracy is positive. We summarize the bias and accuracy scores for each government over each of the three six-year periods in Table 6. Since our concern was not whether expenses (or revenues) were too high or too low in general, we compared absolute values of biases, treating misses either way as equally problematic.

Most indicators of fiscal management registered better during the most recent six years than during the first six. On the expense side, only the Northwest Territories recorded a larger absolute bias in the last six years than in the first six. The unweighted average of the 14 governments' absolute biases dropped from 2.9 percent in the first six years to 2.3 in the middle six and to 1.1 percent in the last six. Some of that improvement likely reflects offsetting errors, but the corresponding improvement in accuracy – although smaller in magnitude – is notable. Accuracy was better in 10 of the 14 jurisdictions in the last six years than in the first six. The average of the 14 governments' root

mean square errors was 3.8 percentage points in the first six years, rose to 4.4 points in the middle six years – which included the global financial crisis and slump – and dropped to 2.8 points in the last six years.

Turning to revenues, our measures show more pronounced improvements. The absolute biases were smaller for every government in the last six years than in the first six. The average across all governments dropped from 4.4 percent in the first six years, through 3.0 percent in the middle six, to 0.5 percent in the last six – a drop of almost 4 percentage points over the 18-year period. Accuracy scores similarly improved everywhere, with the average of the 14 governments falling from 7.0 in the first six years, through 5.5 percentage points in the middle six, to 3.0 in the last six.

Correlations between Revenue and Expense Surprises

Comparing correlations between over- and undershoots on the revenue and expense sides during the three six-year periods (Table 7) also suggests some improvement – in the sense that a bad situation might have become slightly less bad. To repeat, negative correlations between in-year surprises indicate automatic stabilization (good fiscal management), while positive correlations create the suspicion of splurges and managing the bottom line (bad management). So the fact that the bulk of the correlations – 9 out of 14 – were positive in the last six years is bad. But negative correlations for five governments in those years are the best for any of the three periods, and the fact that the average correlation across all governments dropped from the first and middle six-year-periods is encouraging.

To provide more detail on improved versus more suspicious patterns of in-year surprises over the full period, Figure 1 shows rolling correlations between revenue and expense under- and overshoots for each government, using five-year windows, so that the observation for 2000/01 records the

Table 6: Improvements and Deteriorations in Fiscal Accountability, Canada's Senior Governments, by Six-Year Periods, Fiscal Years 2000/01–2017/18

	Revenues (<i>percent</i>)														
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU	National Average
Bias:															
First 6 Years	3.0	4.0	16.7	7.8	2.9	-0.9	1.5	1.9	4.7	1.9	2.7	6.9	5.4	3.1	4.4
Middle 6 Years	-0.3	1.8	4.1	10.1	2.1	-0.1	3.0	1.9	11.0	1.5	0.1	3.3	1.7	1.4	3.0
Last 6 Years	0.9	1.6	2.9	-1.1	0.9	0.7	-0.3	-0.7	-3.3	0.1	1.5	0.0	1.6	1.6	0.5
Absolute Difference, Last vs First 6 Years	-2.1	-2.4	-13.8	-6.7	-2.0	-0.2	-1.2	-1.3	-1.4	-1.8	-1.2	-6.9	-3.8	-1.5	-3.9
Accuracy:															
First 6 Years	3.5	7.5	20.0	9.8	4.0	3.9	2.6	3.2	9.8	3.6	4.0	9.1	9.1	8.4	7.0
Middle 6 Years	2.1	3.8	8.8	14.2	2.5	4.4	4.2	3.0	14.0	3.1	1.5	3.8	4.2	7.0	5.5
Last 6 Years	1.4	3.1	7.7	1.8	1.3	1.4	1.8	2.8	7.0	2.4	2.1	1.4	3.9	3.5	3.0
Absolute Difference, Last vs First 6 Years	-2.1	-4.5	-12.3	-8.0	-2.7	-2.5	-0.8	-0.4	-2.8	-1.1	-1.9	-7.6	-5.2	-4.9	-4.1
	Expenses (<i>percent</i>)														
	Federal	BC	AB	SK	MB	ON	QC	NB	NL	NS	PE	YK	NT	NU	National Average
Bias:															
First 6 Years	1.5	2.8	5.3	2.5	2.1	0.8	0.9	0.5	1.5	2.1	4.2	6.8	2.3	6.8	2.9
Middle 6 Years	-0.3	1.5	2.7	6.0	3.4	1.3	1.9	2.5	-3.7	0.0	1.2	7.4	2.4	6.3	2.3
Last 6 Years	0.5	1.5	3.1	-0.9	0.9	0.4	0.2	-0.4	-1.1	0.8	0.8	1.7	4.5	3.6	1.1
Absolute Difference, Last vs First 6 Years	-0.9	-1.2	-2.2	-1.6	-1.2	-0.3	-0.7	-0.1	-0.4	-1.3	-3.4	-5.1	2.2	-3.2	-1.7
Accuracy:															
First 6 Years	4.4	2.9	6.4	3.8	2.5	0.8	1.4	1.2	3.1	2.5	5.2	8.9	3.1	7.4	3.8
Middle 6 Years	3.8	2.7	4.7	8.2	4.1	3.2	2.9	3.1	6.2	2.2	1.4	7.7	4.0	7.0	4.4
Last 6 Years	1.8	2.2	4.8	4.7	1.2	1.6	1.2	2.2	2.6	1.9	1.3	2.3	4.9	5.9	2.8
Absolute Difference, Last vs First 6 Years	-2.6	-0.7	-1.6	0.9	-1.3	0.8	-0.1	0.9	-0.5	-0.6	-3.9	-6.5	1.8	-1.5	-1.1

Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors' calculations.

Table 7: Correlation of Surprises, by Six-Year Periods

	Correlation of Surprises			
	First 6 Years	Middle 6 Years	Last 6 Years	Difference Last - First 6 Years
Federal	0.58	0.00	0.04	-0.54
British Columbia	0.37	0.05	0.35	-0.02
Alberta	0.84	0.59	0.83	-0.02
Saskatchewan	0.63	0.71	-0.54	-1.17
Manitoba	0.21	0.22	0.12	-0.09
Ontario	0.64	0.63	0.45	-0.19
Quebec	0.80	0.89	0.47	-0.33
New Brunswick	0.27	0.45	0.19	-0.08
Newfoundland & Labrador	-0.12	0.44	-0.11	0.01
Nova Scotia	-0.36	0.15	-0.30	0.06
Prince Edward Island	0.52	0.46	0.56	0.04
Yukon	0.25	0.50	-0.09	-0.34
Northwest Territories	0.46	0.60	0.25	-0.21
Nunavut	0.17	-0.20	-0.59	-0.76
National Average	0.37	0.39	0.12	-0.26

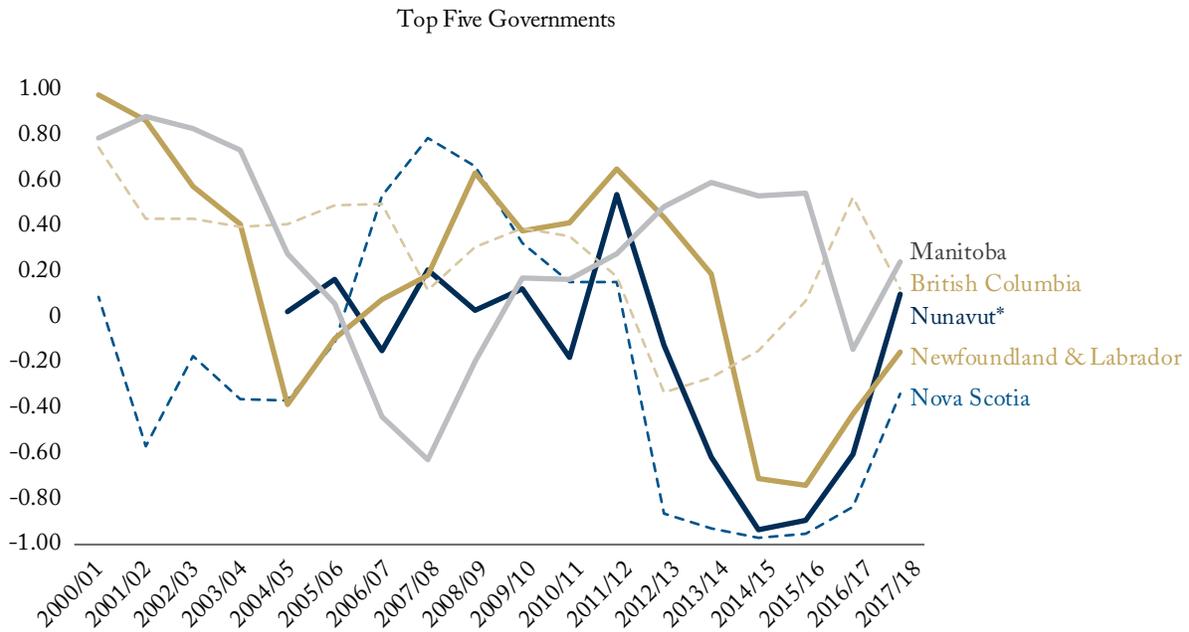
Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors' calculations.

correlation between in-year surprises over the five fiscal years from 1996/97 to 2000/01, and so on. Low (negative) numbers are good, signifying that in-year surprises affecting revenues and expenses were in opposite directions, as would occur when a government allows automatic stabilizers to work. High (positive) numbers are bad, signifying that in-year surprises affecting revenues and expenses were in the same direction, as would happen when a government spends “windfalls” or otherwise manages the bottom line. The top panel of Figure 1 shows the five governments with the lowest correlations (from Table 5), the middle panel shows the four with the mid-range results and the bottom

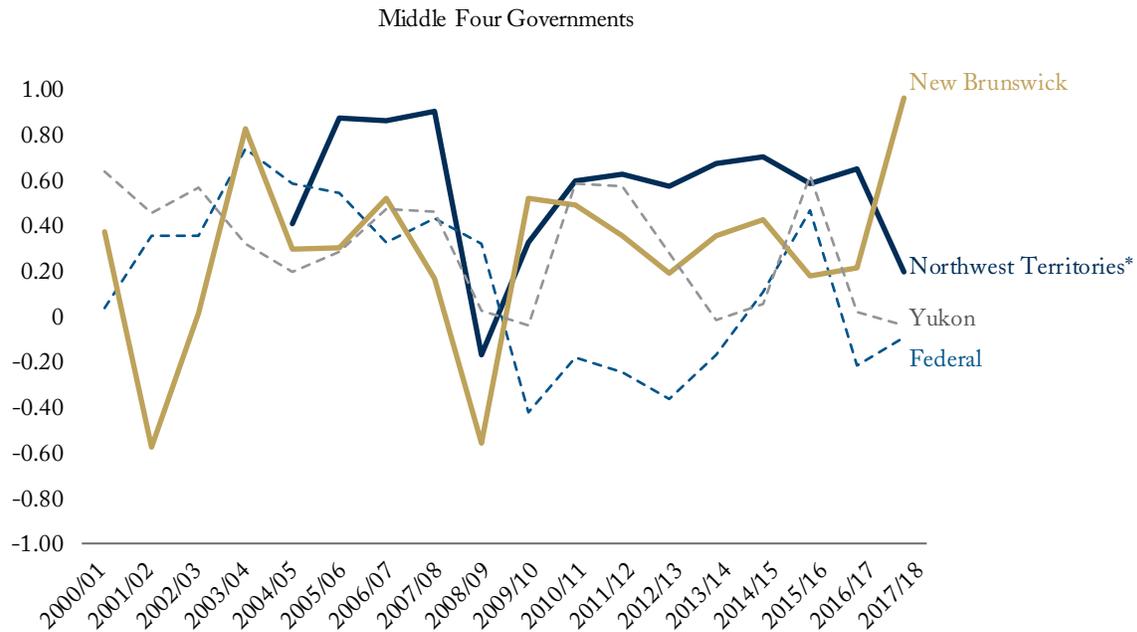
panel shows the five with the highest correlations – the ones that raise the most concerns.

Only three jurisdictions, Nunavut, Nova Scotia, and Newfoundland and Labrador, had negative correlations between revenue and expense over- and undershoots over the entire period. Those correlations were too small, however, to tell a convincing story of governments resolutely playing a stabilizing role – as Figure 1 reveals, those three jurisdictions frequently exhibited positive correlations over five-year intervals. British Columbia and Manitoba round out the top five performers – and their correlations were positive, just less so than elsewhere. In short, there is no

Figure 1: Correlation between In-year Surprises, Five-Year Windows, Canada's Senior Governments, Fiscal Years 1996/97-2017/18

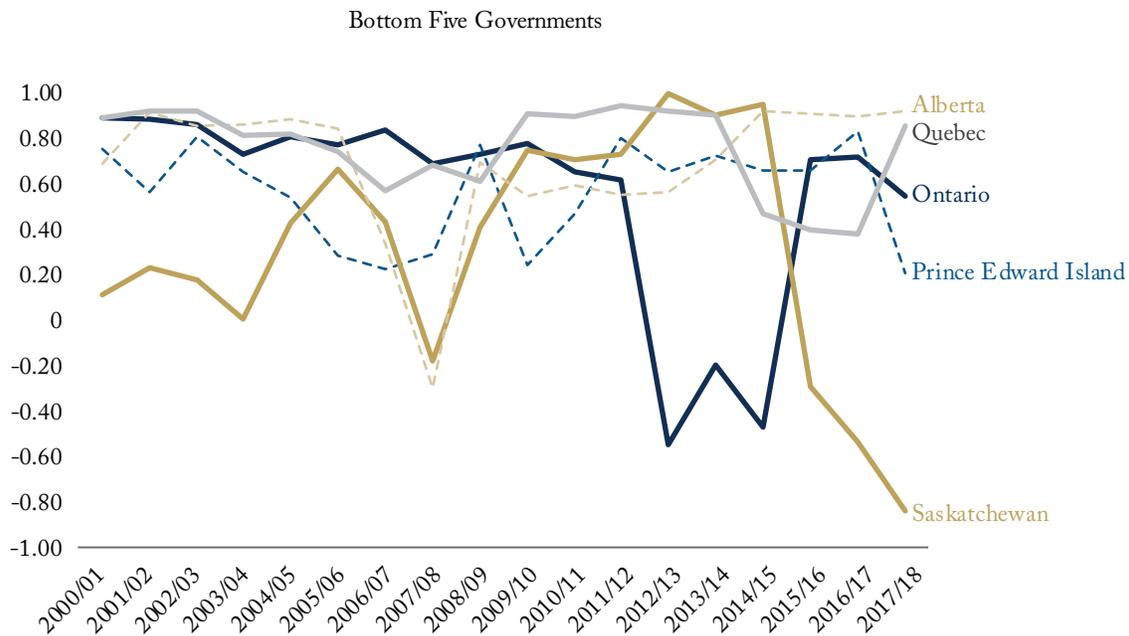


*Data for Nunavut only available starting 2000/01



*Data for Northwest Territories only available starting 2000/01

Figure 1: Continued



Notes: A negative correlation is consistent with countercyclical fiscal management. A positive correlation is consistent with cyclical fiscal management.

Sources: Federal/Provincial/Territorial Budget and Public Accounts documents; authors' calculations.

example of a Canadian senior government having persistently pursued traditionally recommended fiscal policy over the 18-year period.

The strongly negative correlations between in-year surprises in Nunavut, Nova Scotia – which had followed a stabilizing policy early in the period, and returned to it toward the end – and Newfoundland and Labrador are a principal reason for the improvement in correlation scores in the last six years of the period we looked at. We hope that the shrinking of the negative correlation in all three jurisdictions in recent years does not indicate a prolonged move toward less stabilizing policies.

In the middle of the pack are the Northwest Territories, New Brunswick, Yukon and the federal government, with the latter exhibiting a pattern of spending in-year surprises and managing the bottom line early in the period, a

more countercyclical fiscal stance later on and a troubling more recent period. During the early 2000s, when the auditor general of Canada was complaining about late-in-the-year splurges, the federal government exhibited the suspicious positive pattern, but by the time of the global financial crisis and slump, the five-year correlation had turned negative. By then, Ottawa was following the prescription of stabilizing the economy, tax rates and programs by letting in-year surprises on either side of the budget play out. More recently, the correlation has been positive or close to zero, as Ottawa has been responding to better-than-expected revenues with extra spending.

The bottom panel of Figure 1 features the five governments with the most problematic correlations between in-year surprises on the revenue and expense sides of the ledger over the period: Ontario,

Prince Edward Island, Saskatchewan, Alberta and Quebec. Among this group, Ontario stands out because the correlation of in-year surprises turned negative early in this decade, indicating the province's willingness to let the economic cycle move the bottom line around. More recently, however, Ontario's correlation has turned strongly positive again – a period that coincided with objections about the government's financial reporting from the province's auditor general.

Saskatchewan's record is more encouraging. With the exception of the five-year period ending in 2007/08, the year of the global financial crisis, Saskatchewan tended to have positive – and rising – correlations through the early years of this century. That pattern suggests that the Saskatchewan government reacted to unexpected fluctuations in resources revenue by adjusting spending in the same direction, achieving stability in the bottom line at the expense of stability in the economy, tax rates and programs. More recently, however, Saskatchewan's in-year surprises have been negatively correlated, more consistent with a fiscal policy that allows fluctuations to the bottom line for the sake of more stability in the economy, taxes and programs.

Quebec is the province with the starkest record of positive correlations between in-year surprises. Its positive correlation between in-year revenue and expense surprises is the highest of all of Canada's senior governments, and it has never been negative over any five-year period since 1996/97. Quebec's large accumulated deficit and debt have been a high-profile concern over this period, and it is possible that an intense focus on hitting bottom-line targets made Quebec uniquely susceptible to in-year adjustments to spending to match in-year surprises – up or down – in revenues. Whatever the explanation, this profile of consistently high positive correlations tells the story of a fiscal policy that is less stabilizing for the economy, tax rates and programs than that of Canada's other senior governments.

IMPROVING FISCAL ACCOUNTABILITY IN CANADA

To summarize to this point, we note a tendency in more recent years for Canadian senior governments' end-of-year results to match their budget projections more closely and, more tentatively, somewhat less of a tendency for their revenue over- and undershoots to coincide with expense over- and undershoots. But these improvements, if they are real, are relative to a poor baseline of chronic overshoots and suspicious positive correlations between in-year surprises. Since solidifying any gains to date and making further progress are desirable goals, we close with some thoughts about how to ensure that future editions of this report show better numbers.

Healthy Finances and Sound Fiscal Plans

A couple of chronic problems we have identified – major overshoots of revenues relative to budget plans, and in-year spending, or aggressive accounting, to reduce the resulting better-than-projected bottom-line – likely arise more often when governments are under fiscal pressure and focus on the end-of-year surplus or deficit is intense.

As Ottawa did so conspicuously in the late 1990s and as most provinces have done most of the time, Canada's senior governments often project revenues conservatively in their budgets, which betrays concern about a credible and achievable bottom-line target, and indicates possible efforts by finance officials to restrain spending departments. However well this tactic works in the runup to the budget, its power dissipates as revenues come in above projections. Indeed, to the extent that a bottom-line target was central to spending plans, positive in-year revenue surprises will undercut the finance minister's ability to hold the line during the year. And if a much-larger-than-projected surplus threatens to undercut the minister's ability to hold

the line in the future, the temptation to reduce the surplus with last-minute spending – or with aggressive attempts to book future spending in the current year – gets stronger.

In general, this situation is less likely to arise when a government's fiscal health is not a high-profile issue. By the time of the financial crisis and slump, the federal government's finances were in much better order – and its need to show specific results on the bottom line was less – than had been the case in the 1990s. So it had latitude to respond to the slump with traditional countercyclical policies, signified by negative correlations between in-year surprises on the revenue and expense sides. Perhaps lack of pressure to achieve a given target for the bottom line helps explain why the territories – whose record in hitting revenue and expense targets is poor, but whose balance sheets are relatively healthy (and have the federal government as a backstop) – have less suspicious correlations between in-year revenue and expense surprises.

An alternative for a government under scrutiny for its borrowing and debt is to use a more middle-of-the-road revenue projection, and aim for a healthier surplus that can withstand some disappointment. Including a contingency reserve in spending to further protect the budget balance against adverse developments is open to objections that it legitimates a spending surprise in advance, but a contingency reserve is more transparent than a low-balled revenue forecast, and is less likely to produce problematic positively correlated revenue and expense surprises.

Fiscal Transparency and Accountability

Legislators and voters could do more to hold governments to account for the revenue and expense targets they set, and for their record in hitting them. Three examples follow, in the order in which various events occur during a government's annual fiscal cycle.

A critical update on the progress of the fiscal year then under way comes when the government

presents its budget for the following year. The projected outcomes for total consolidated revenues and expenses – the numbers we used in calculating the changes projected for the budget year – provide vital information about what the government has done and expects to do. If the government is on its way to overshooting revenue and expense projections from the prior budget, those projected outcomes are among the most timely and important indication of problems. Yet, amid all the hoopla about the budget projections – which, as we have documented in this report, are far from reliable – the interim numbers for the year under way get almost no attention.

Legislative and public scrutiny is also weaker than it should be when it comes to the estimates that authorize spending on particular programs. In many jurisdictions, legislators cannot easily understand the link between votes on spending and projections in the budget – whether what they are authorizing when they vote on the estimates is even consistent with the fiscal plan. In some cases, governments present estimates using cash accounting, which is incompatible with the accrual accounting now typical in budgets and financial statements. Another discrepancy arises when the estimates are prepared using similar accounting to the budget but a different aggregation of types of spending. A third problem arises where legislators do not get the estimates at the same time they see the budget, so that they are asked to authorize spending before even seeing the fiscal plan, or to authorize spending that is no longer consistent with the plan.

All senior governments should release their main estimates simultaneously with the budget, using the same accounting methods in both and showing clearly how the spending legislators are voting on aligns with the overall fiscal plan.

The need for legislatures to consider the estimates in the context of the fiscal plan applies with equal force to the supplementary estimates that authorize spending later in the fiscal year. These, coming at irregular intervals when

legislatures are occupied with other matters, get even less scrutiny than the main estimates, yet they are no less critical to determining if the government will hit its budget targets. General contingency reserves or reserves for specific events such as a natural disaster are a more transparent way to protect a planned budget surplus from adverse events than low-balling revenue. But the transparency is only as good as the use legislators make of their power to scrutinize spending. Legislative scrutiny is critical to ensure that contingency reserves do not become slush funds to cover spending that would not otherwise pass inspection.

A third element of fiscal accountability that could help governments achieve their budget targets is the timely publication of interim and final results. Much government spending does not require annual authorization: seniors' benefits and employment insurance are two prominent examples of federal programs that run on ongoing statutory authority. Ups and downs of revenue related to the business cycle, commodity prices and other economic developments outside a government's control occur all the time. A government that wants to achieve its fiscal targets in the face of unexpected developments needs, like any organization, timely operational and financial information to adjust course. Speed in assembling the information that appears in periodic financial updates and in the audited financial statements would improve the prospects for a realistic budget plan – including the interim figures for the current year.

There is no good reason financial results for the year ending on March 31 should still be a mystery more than three months later. Some governments release their financial statements quickly – Alberta law requires financial statements to be published before the end of June – but most receive their auditor's approvals and produce their reports far later than that (Robson and Omran 2019). With modern information technology, there is no reason

all senior governments could not publish a timely – quarterly or even monthly – fiscal monitor, and release their audited financial statements as early as June 30, and certainly no later than August 30. In this context, we note that Ontario's recent *Fiscal Sustainability, Transparency and Accountability Act*, alongside a number of other measures designed to make that province's financial presentations more accessible and meaningful, includes mandatory dates for interim updates and mid-year reviews. Timely updates and publication of audited numbers would give legislators, commentators and voters better opportunities to discover deviations between projections and results while it is early enough to do something about them, and to insist on budgets that address problems that scrutiny has revealed.

CANADA'S SENIOR GOVERNMENTS CAN DO BETTER

Canadians need more transparency and accountability in the fiscal policies of the governments that tax so much of their income and deliver programs that cost so much. Our investigation reveals that Canada's senior governments have improved their stewardship of public money over the past 18 years. Yet chronic overshooting of both revenues and expenses, and the suspicious positive correlation of in-year revenue and expense surprises, suggest that control of public funds in Canada still leaves much to be desired.

Most governments, most of the time, seem to be more intent on managing their annual bottom line than on stabilizing their economy, tax rates and programs. For all the attention budgets receive and the formal legislative accountability that surrounds both budgets and the estimates that authorize spending, governments' projections are far less reliable than they should be. Legislators and voters alike should demand that Canada's federal, provincial and territorial governments improve their budgets and their record in achieving them.

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