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Wild Numbers: Getting Better Fiscal Accountability in Canada's Municipalities

The budgets of the majority of Canada's municipalities give little useful insight to councillors, ratepayers or voters about what their city will spend during the upcoming year, how it will finance that spending, and what the consequences for its fiscal position will be. The gap between the spending a reader of a typical major city's budget would anticipate for the year and actual expenses for that same year averaged a startling nine percent since 2009. More informative budgets would help citizens and elected representatives understand their cities' financial positions, and encourage better financing and investment decisions.

William B.P. Robson and Farah Omran

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The Study In Brief

Canada's municipalities deliver services that are critical to quality of life, and require major commitments of resources in taxes, fees and intergovernmental transfers. But their budgeting practices, and people's ability to measure their municipality's performance against its budget commitments, are nowhere near the level appropriate to this importance.

This report looks at the annual spending projections in the budgets of 31 of Canada's largest municipalities since 2009, and the results reported in those municipalities' financial statements at the end of each of those years. It asks what a councillor, or taxpayer, or citizen – a person who is motivated and numerate, but non-expert, would infer from each budget, and how close this same person would judge the municipality had come to its spending targets when inspecting the municipality's reported expenses.

In most municipalities, simply finding numbers that describe spending plans in budgets is a challenge: very few budget documents even contain numbers on the same accounting basis used in the financial statements. Users who do put the time and effort into finding numbers describing their municipality's operating and capital spending plans, and compare them to the expenses reported after year end, would typically conclude that the municipality did a terrible job of hitting its budget projections. Over the past nine years this study looks at – from 2009, when Canada's cities began reporting their results using Public Sector Accounting Standards (PSAS), to 2017, the most recent year available – these 31 cities have typically undershot those projections on average over that period; and missed them in one direction or another by an average of 9 percent.

Improving this situation is partly a matter of presenting budgets using the same comprehensive PSAS-consistent revenue and expense numbers that municipalities already use in their financial statements. Provinces that mandate municipal budgets prepared in other ways – splitting operating and capital budgets, with the latter prepared on an antiquated cash basis – should stop doing so. Either way, municipalities can show PSAS-consistent numbers as supplementary information on their own, and can take other steps to ensure that their budgets represent the full picture of the municipality's activities and its claim on citizens' resources.

Better matching of results with budget plans will also require councillors, ratepayers, and voters to demand – and get – timely budgets, regular updates in interim reports, and rapid publication of final results. Those are all key tools to help them compare budget plans to past results, and current results to past plans – and, when circumstances warrant, demand corrective action.

Councillors, ratepayers, and voters should insist on better numbers from their municipalities, and on the improved fiscal accountability the better numbers will make possible.

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Control over public money is central to democratic government, whether nationally, provincially or locally.

Municipal governments are particularly important when it comes to the services and infrastructure that affect most Canadians' lives on daily basis. They also impose significant claims on Canadians' resources through fees, property taxes, and the transfers they receive from other levels of government. Ideally, municipal governments would provide information of a quality, and exercise fiscal controls of an effectiveness, commensurate with the importance of the decisions they make.

Sadly, in most of Canada's major cities, they do not. Municipal budgeting in Canada needs to be better. As the C.D. Howe Institute's 2018 report card on Canada's most populous municipalities documents, most local governments present budget information that even experts cannot reconcile with financial results (Robson and Omran 2018c). Readers can understand neither the upcoming year's plans in relation to the recent past, nor how closely the city's results after the year has ended resemble that year's budget plans. A reader of these documents who tried to compare budget projections with results year by year would conclude that, over the past nine years, most cities have undershot their targets, and missed them in one direction or another by an average of 9 percent. While this figure likely overstates the variance between budget targets and results that might appear if budgets and financial statements used consistent accounting, it has implications beyond potential cynicism on the part of users who conclude that municipal finances are out of control. We also note that Canada's cities have tended to run substantial surpluses over time, and have accumulated large amounts of cash on their balance sheets – both of which were not likely intended by the councillors who voted on their budgets.

In the years ahead, we hope more of Canada's cities will follow the lead of those few – Surrey and Vancouver in British Columbia, and York in Ontario being the best examples – that present budgets using the same public-sector accounting standards (PSAS) they use in their financial statements, with the key revenue and expense numbers shown where a non-expert user can readily find and identity them. Provinces that mandate cash budgets and otherwise regulate cities in ways that discourage PSAS-based budgets should stop doing so. As cities publish PSAS-based budget information or adopt PSAS-based budgets formally, councillors and taxpayers will be able to track results against budget commitments more closely. That should not only make budget projections more meaningful, it should help municipalities make better decisions about the building and financing of capital projects, and better match the costs they impose on their citizens with the critical services they provide.

Measuring Fiscal Accountability

Canadians who pay attention to debates in their municipal councils and engage with their local representatives might question our claims that control over public funds at the local level is weak. Councillors vote overall budgets and tax

This study is part of an ongoing project on fiscal accountability at the C.D. Howe Institute, and builds on a number of previous studies, notably Dachis, Robson and Omran (2017) on municipal financial reporting, and Robson and Omran (2018a) on the quality of senior governments' financial reporting and Robson and Omran (2018b) on the reliability of senior governments' budget projections. We thank our colleague Alex Laurin and many reviewers and municipal officials for input and helpful comments on an earlier draft, notably Brian Johnston, Harry Kitchen, Enid Slack and Almos Tassonyi. Responsibility for the views expressed and any remaining errors is ours.

rates, and scrutinize specific expenses. Every fall features a debate over balancing the budget, with warnings about hikes in property tax rates or cuts in services. But formal control is not the same as effective control. What matters is whether the votes of councillors – and, by extension, the votes of the people who elect them – prompt actions that correspond to their expectations, and whether councillors can understand why deviations occur, and correct problems when they find them.

The Fiscal Cycle: Budgets and Financial Statements

Our starting point for this study is a comparison of the key spending numbers in the two primary documents in a city's annual fiscal cycle: the budgets they vote before or shortly after the beginning of the year, and the financial statements they present after the year is done. Budgets are the core expression of a city's fiscal priorities – as the annual fall debate over revenues, spending, and the difference between them testifies. The audited financial statements are the definitive report of what the city actually raised and spent, prepared according to the same accounting standards that apply to Canada's federal and provincial governments. Those PSAS-consistent statements show consolidated totals for the city's revenue and expense, and the difference between them – the bottom line that indicates whether the city's net worth rose or fell over the year.

Ideally, a reader would be able to compare the revenue and expense projections in each year's budget to past results – such as the estimated revenue and expense for the fiscal year about to end, or the actual results once the year has run its course. In the case of most senior governments in Canada, a user can do this comparison, and draw straightforward conclusions about how revenue and expense are expected to change from the past, or evaluate the reliability of budget projections, or act to correct large or persistent gaps between projections and results.

Obstacles to Understanding Municipal Budgets

This situation typically does not exist at the municipal level in Canada. The most serious problem is that, while Canada's cities report their year-end results on a PSAS-consistent basis, virtually every major city uses cash accounting in major parts of its budget. One key difference is that PSAS, like the accounting standards that prevail in the private sector, record revenues and expenses during the period when the related service or other transaction takes place, not when the cash itself changes hands: accrual rather than cash accounting.

This discrepancy does not affect the financial reporting of all activities. Cities typically use accrual accounting in some areas, such as accounts payable. In others areas, however, the discrepancy is very important, with capital projects being the salient example. Accrual accounting treats the purchase of a long-lived item such as a building or a road or a water-pipe as the creation of an asset, and records the expense related to that asset as it delivers its services – the objective being to amortize the asset over its useful life, so that its recorded value drops to zero at the point when it wears out. Cash accounting shows the entire expense as an outlay at the time it occurs. Most municipalities present two budgets at the beginning of the year – an operating budget and a capital budget – mainly using cash accounting. This practice creates a fundamental problem for a user who wants to compare intentions to results: the budget does not have a single line for total revenue or expense comparable to the consolidated revenue and expense totals in the audited financial statements.

A user seeking to compare budget projections to prior or same-year results in many of Canada's major cities will face further challenges. Aside from obscure placement of the key numbers and other gratuitous obstacles to the non-expert (Robson and Omran 2018c), there is another serious problem – municipal budgets that show the spending of a department, or for specific services or expenses, or of the municipality as whole, net of user fees and other non-property tax revenues. PSAS-based financial statements do not do this; they show consolidated revenue and expense figures that cover both types of activities, including municipal enterprises, and thus convey the municipality's total claim on resources.

City Budgets: The Perspective of a Motivated Non-Expert

These discrepancies – cash-based budgets versus PSAS-consistent financial statements, and budgets' exclusions of activities that appear in consolidated financial statements – mean that even experts will have trouble assessing how close a municipal government's results were to its budget projections. And most municipal councillors, ratepayers, and voters are not experts. The ones who will be interested in municipal finances will typically be motivated and numerate – able to understand numbers and do simple math. But they will not have the expertise, time and energy – or funds for accountants and consultants – to decode the numbers they find in a budget so as to make sense of the actual results.

The confusion will be most profound on the revenue side. "Capital financing" in municipal capital budgets includes all sources of funds: taxes and other revenues that potentially increase the city's net worth – such as fee income and grants from other levels of government – and funds raised by issuing debt, which do not add to net worth. Our assessment is that a numerate user who encountered this nonsensical mixture would stop, stymied in the attempt to calculate PSAS-consistent revenue projections from a typical city budget.

The spending side of a typical municipal budget also presents challenges, but a motivated and numerate non-expert would likely not feel baffled enough to quit. Our assessment is that this user would begin on the first page of the budget document, and look for the earliest figure identified as total spending in the operating budget and the earliest figure identified as total spending in the capital budget. Then, being motivated and numerate but non-expert, the user would add the two, and assume the resulting total was the municipality's planned spending for the year – and therefore the appropriate number to compare with total expense reported in the municipality's financial statements at the end of the year.[1]

The non-expert user, through whose eyes we are trying to see a city budget, might judge that the level of spending calculated from the budget in this manner is so different from the level of expense reported in the financial statements that the two cannot be comparable. We presume that, being motivated and numerate, she would not simply give up, but instead might seek a way to compare the planned change in the budget against the actual change in the financial statements. Imposing a burden on our user that should not be necessary, we presume that she looks at the total spending for the upcoming year she derived from the budgets against the equivalent total for the previous year and calculates a percent increase or decrease. She then does the same thing for the figures in the financial statements, comparing the reported expense for the year to the reported expense for the previous year, likewise expressed as a percent increase or decrease.[2]

1 A very astute reader might notice that some municipal budgets show transfers of funds between their operating and capital budgets, which could result in some double counting of spending when adding the operating and capital totals together. We think adjusting for these flows is too much to ask of a non-expert, and in any event, these transfers are small relative to the totals.

2 To recap, we divide the difference between the current-year spending anticipated in a budget and the prior-year spending in the same document by the prior-year expenditure to get a percentage change. We do the same to get a percentage change from the expense figures in the financial statements. We are thus using restated numbers for preceding years when budgets or financial statements contain restated numbers. For cities that do not report their previous year's capital budget, we stretch the assumption about our motivated reader to the limit, and use the amounts in the previous year's budget for the comparison.

Comparing percent changes as projected in budgets against percent changes as reported in financial statements not only reduces the distortions that different accounting and netting produce in straight dollar comparisons, but also allows us to compare over- and under-shoots among cities of different sizes.

So we proceed to what users might conclude from such evaluations of the budgets and financial statements of some of Canada's largest municipalities since the advent of PSAS-basis accounting in the financial statements in 2009.

Budgeted versus Actual Expense

The chief question we want to answer is: how helpful would a numerate but non-expert user find the projected figures for spending in Canada's major cities as guides to what actually happened? Ideally, we would look at the revenue side as well. The C.D. Howe Institute's examination (Robson and Omran 2018b) of the reliability of budget projections among Canada's senior (federal, provincial and territorial) governments reveals persistent overshoots of both revenue and expense projections, with a tendency for in-year surprises on the revenue and expense sides to coincide. This pattern is suggestive: it is not consistent with traditional prescriptions for managing through the economic cycle, and raises suspicions that governments are guilty of in-year "management" of their bottom lines. But as just noted, the revenue side at the municipal level is confusing enough to stump a numerate non-expert user at the outset. We therefore focus on the budget projections for spending only, using the percent changes from the prior year, and compare them to the results in the financial statements, using percent changes in expenses.

Choice of Years and Municipalities

We use the nine years – 2009 (the first year Canadian municipalities reported on a PSAS basis) to 2017 (the latest year available) – for our investigation, to limit the impact of any particular year on the results, highlight any persistent deviations and, tentatively, detect any trends.

We look at Canada's 25 largest municipalities by population, plus the six most populous regional municipalities in Ontario.[3]

Our Measures

The annual results from our investigation for each of the municipalities appear in Table 1 (excerpt shown below). For each city, we show projected changes in spending (operating and capital totals) calculated from the previous year in each year's budget in the first row. We show actual changes in expenses for the same year, calculated from the financial statements, in the second row. The differences between them are in the third row.

Excerpt Table 1: Budgeted and Actual Expenses (change in percent)

		2009	2010	2011	2012	2013	2014	2015	2016	2017
Brampton	Budgeted	10.0	-4.9	-0.7	0.0	14.0	5.2	-13.7	6.3	7.1
	Actual	4.4	8.8	10.1	8.9	4.7	10.0	2.9	12.6	-2.1
	Difference	-5.6	13.7	10.8	8.9	-9.3	4.8	16.6	6.3	-9.2

We summarize the apparent reliability of each government's budget projections over the entire period in Table 2 and graphically in Figure 1.

Two measures capture key characteristics of governments' fiscal performance:

- Bias, or the average difference between projected and actual changes. This is the arithmetic mean of the differences in the third rows for each city in Table 1. It shows whether governments tended to overshoot or undershoot their spending projections. From the point of view of fiscal

3 Regional municipalities, also referred to as upper-tier municipalities, provide much of the large-scale infrastructure in their areas while supplying fewer direct services than lower-tier municipal counterparts. Notwithstanding these differences, we can evaluate their budgets and financial reports by the same criteria as other municipalities.

Table 1: Budgeted and Actual Expenses (change in percent)

		2009	2010	2011	2012	2013	2014	2015	2016	2017
Brampton	Budgeted	10.0	-4.9	-0.7	0.0	14.0	5.2	-13.7	6.3	7.1
	Actual	4.4	8.8	10.1	8.9	4.7	10.0	2.9	12.6	-2.1
	Difference	-5.6	13.7	10.8	8.9	-9.3	4.8	16.6	6.3	-9.2
Burnaby	Budgeted	6.8	0.5	-1.8	6.4	-3.5	1.4	0.5	3.8	-4.5
	Actual	8.0	1.1	5.1	5.2	4.5	4.8	4.6	4.4	4.1
	Difference	1.3	0.6	6.9	-1.2	8.1	3.4	4.0	0.6	8.6
Calgary	Budgeted	2.7	-1.4	0.1	-2.4	4.7	2.5	2.8	-6.5	4.6
	Actual	12.0	7.5	0.5	1.6	10.9	2.7	3.9	2.9	4.0
	Difference	9.4	9.0	0.4	4.1	6.2	0.3	1.1	9.4	-0.5
Durham	Budgeted	9.0	4.2	9.6	1.7	-6.3	18.9	-7.8	-51.1	-5.0
	Actual	4.9	6.0	0.3	4.7	2.2	4.0	0.3	3.8	0.3
	Difference	-4.1	1.8	-9.3	3.0	8.4	-14.9	8.0	54.9	5.3
Edmonton	Budgeted	22.6	-0.6	-4.5	1.7	-6.3	-8.8	22.7	-7.9	-1.7
	Actual	2.7	7.4	8.0	2.8	8.6	7.5	6.3	2.6	4.2
	Difference	-19.9	8.0	12.6	1.1	14.9	16.3	-16.4	10.5	5.9
Gatineau	Budgeted	5.1	11.2	-3.7	6.6	8.5	3.3	14.4	-5.3	3.5
	Actual	1.7	7.6	4.9	9.9	1.5	3.7	-0.8	2.3	2.2
	Difference	-3.4	-3.6	8.6	3.3	-7.0	0.4	-15.2	7.6	-1.3
Halifax	Budgeted	-5.0	4.3	2.2	2.0	7.3	0.0	1.7	6.6	1.0
	Actual	4.0	3.0	6.8	1.0	4.4	6.0	0.4	0.5	3.2
	Difference	9.1	-1.3	4.5	-1.0	-3.0	6.0	-1.3	-6.1	2.2

Table 1: Continued

		2009	2010	2011	2012	2013	2014	2015	2016	2017
Halton	Budgeted	23.7	-8.0	-14.8	52.4	89.6	-32.5	3.8	-3.0	-8.5
	Actual	3.7	4.9	3.1	1.7	4.4	1.7	4.8	4.5	3.9
	Difference	-20.1	12.9	17.9	-50.7	-85.2	34.2	1.0	7.5	12.4
Hamilton	Budgeted	9.1	10.6	-4.0	14.1	1.2	2.1	2.0	1.1	5.6
	Actual	5.4	-1.4	2.5	0.5	0.3	4.6	5.5	1.8	2.1
	Difference	-3.7	-12.0	6.4	-13.7	-0.9	2.5	3.5	0.7	-3.5
Kitchener	Budgeted	9.9	3.1	-24.8	-1.3	32.1	-0.5	7.3	-1.1	4.3
	Actual	-5.8	-4.8	0.3	1.5	1.2	6.3	-4.8	1.2	8.0
	Difference	-15.7	-7.9	25.2	2.8	-30.9	6.8	-12.1	2.3	3.7
Laval	Budgeted	5.5	-5.7	8.0	1.4	-5.5	2.7	-5.1	2.0	8.2
	Actual	1.0	4.8	3.0	4.4	9.1	-2.7	2.9	2.8	5.5
	Difference	-4.5	10.5	-5.0	3.0	14.6	-5.4	8.0	0.8	-2.7
London	Budgeted	-0.4	-5.9	-2.4	0.4	2.3	3.5	1.1	9.7	4.7
	Actual	1.9	4.6	4.5	-1.1	1.0	6.9	1.6	1.0	6.3
	Difference	2.3	10.4	6.9	-1.5	-1.3	3.4	0.5	-8.7	1.6
Longeuil	Budgeted	49.9	1.5	6.0	7.3	2.7	4.1	-7.5	-6.5	3.0
	Actual	8.1	1.0	6.1	2.9	6.0	-1.6	4.1	1.6	1.6
	Difference	-41.8	-0.5	0.0	-4.5	3.3	-5.7	11.6	8.1	-1.4
Markham	Budgeted	-1.3	-9.8	5.4	14.3	21.7	-8.0	0.0	9.9	-5.4
	Actual	7.5	-0.4	8.2	4.3	0.9	6.2	6.9	1.4	-0.3
	Difference	8.8	9.4	2.9	-10.1	-20.8	14.1	6.9	-8.5	5.1
Mississauga	Budgeted	-6.4	18.5	-7.1	-5.5	1.9	9.4	4.6	5.8	2.1
	Actual	-2.7	2.9	7.8	1.1	4.1	9.1	-3.8	6.9	2.3
	Difference	3.6	-15.6	15.0	6.6	2.2	-0.3	-8.4	1.1	0.3

Table 1: Continued

		2009	2010	2011	2012	2013	2014	2015	2016	2017
Montreal	Budgeted	5.5	-3.0	11.5	8.1	4.5	-4.0	4.2	3.3	5.7
	Actual	-1.5	-3.8	26.6	3.1	5.3	-7.9	9.1	1.0	1.7
	Difference	-7.0	-0.9	15.2	-5.0	0.8	-3.9	4.9	-2.3	-4.0
Niagara	Budgeted	7.9	-2.3	2.0	4.7	10.1	2.8	-4.1	2.6	5.4
	Actual	6.6	7.2	-14.6	5.9	-4.3	6.4	4.5	1.2	5.2
	Difference	-1.3	9.4	-16.6	1.1	-14.4	3.6	8.6	-1.3	-0.1
Ottawa	Budgeted	-2.2	8.6	4.4	6.3	47.2	-34.2	2.3	-0.9	11.0
	Actual	-0.7	4.6	3.1	3.2	2.6	7.3	2.8	1.2	0.6
	Difference	1.5	-4.0	-1.2	-3.1	-44.6	41.5	0.5	2.1	-10.4
Peel	Budgeted	19.1	-12.2	21.4	0.0	8.7	16.9	-22.8	4.7	15.4
	Actual	8.2	7.1	7.6	4.6	2.9	3.9	3.0	5.3	5.4
	Difference	-10.9	19.4	-13.8	4.7	-5.9	-13.0	25.9	0.6	-10.0
Quebec City	Budgeted	3.7	6.8	6.7	43.0	10.6	-4.4	6.7	-2.9	6.3
	Actual	3.5	13.7	7.1	4.6	2.7	-0.4	-1.3	2.3	5.9
	Difference	-0.1	6.9	0.3	-38.4	-7.9	4.0	-8.0	5.2	-0.4
Regina	Budgeted	2.4	3.8	6.0	-2.3	9.5	24.5	5.0	-8.6	2.0
	Actual	17.0	-11.2	0.7	9.1	2.8	23.2	-8.7	14.3	3.9
	Difference	14.6	-15.0	-5.2	11.3	-6.7	-1.3	-13.7	23.0	1.8
Richmond	Budgeted	19.7	24.7	-2.4	-4.7	0.0	49.8	-3.3	-39.5	3.7
	Actual	5.9	1.6	3.9	1.3	3.3	9.8	3.5	1.6	8.9
	Difference	-13.7	-23.1	6.3	6.1	3.3	-39.9	6.8	41.0	5.2
Saskatoon	Budgeted	10.3	19.4	8.5	1.1	16.4	-2.4	2.5	-7.9	7.7
	Actual	8.4	5.4	2.3	4.2	11.8	3.2	10.1	-5.4	8.7
	Difference	-1.9	-14.0	-6.2	3.0	-4.6	5.6	7.6	2.5	0.9

Table 1: Continued

		2009	2010	2011	2012	2013	2014	2015	2016	2017
Surrey	Budgeted	2.1	28.1	16.2	4.1	15.0	-5.0	12.2	5.1	5.4
	Actual	10.1	9.3	8.5	3.6	3.5	14.1	2.4	4.2	6.0
	Difference	8.0	-18.8	-7.7	-0.5	-11.5	19.0	-9.9	-0.9	0.6
Toronto	Budgeted	7.6	11.7	-2.6	2.9	-0.5	1.4	-4.9	10.0	-2.9
	Actual	5.1	5.9	1.0	-2.7	1.6	2.5	3.5	0.5	-2.3
	Difference	-2.6	-5.8	3.6	-5.6	2.1	1.1	8.4	-9.6	0.6
Vancouver	Budgeted	5.9	29.7	-4.1	-3.4	1.9	3.8	4.4	3.9	14.0
	Actual	4.4	9.4	4.7	0.4	1.1	3.4	1.3	5.6	9.7
	Difference	-1.4	-20.4	8.8	3.8	-0.8	-0.4	-3.0	1.7	-4.2
Vaughan	Budgeted	88.6	-24.5	10.9	1.4	8.4	-7.8	11.1	-1.7	13.6
	Actual	9.0	9.1	8.4	-0.1	6.8	7.2	3.3	2.3	3.3
	Difference	-79.5	33.6	-2.4	-1.5	-1.6	15.0	-7.8	4.0	-10.3
Waterloo	Budgeted	21.3	5.5	5.0	1.9	7.6	3.6	11.7	-12.9	-6.0
	Actual	11.5	-0.1	0.9	7.1	3.4	2.2	3.4	6.3	8.9
	Difference	-9.8	-5.6	-4.1	5.2	-4.2	-1.3	-8.3	19.2	14.9
Windsor	Budgeted	9.9	2.9	-9.0	0.2	-0.3	8.9	-1.3	3.8	-2.5
	Actual	0.5	-0.2	-1.2	3.0	-0.1	1.3	3.6	2.2	0.1
	Difference	-9.4	-3.0	7.9	2.8	0.1	-7.6	4.9	-1.6	2.6
Winnipeg	Budgeted	6.4	-0.5	-3.2	6.2	0.9	4.0	15.3	43.6	-32.3
	Actual	8.4	3.0	7.5	2.1	7.5	7.7	-1.2	5.8	1.2
	Difference	2.0	3.5	10.6	-4.1	6.6	3.7	-16.5	-37.8	33.5
York	Budgeted	21.2	1.7	3.6	10.6	5.9	0.5	-9.4	1.6	9.1
	Actual	0.3	3.1	17.5	6.7	10.7	12.3	-11.6	4.3	9.6
	Difference	-20.9	1.5	14.0	-3.9	4.9	11.8	-2.1	2.8	0.5

Source: Municipalities' budget and financial statements documents; authors' calculations.

Table 2: Bias and Accuracy in Budget Forecasts of Expenses

	Bias		Accuracy		Total Misses (*$millions*)	Total Misses Compared to 2017 Expenses (*percent*)
	Mean Error (*percent*)	Rank	Mean Absolute Error (*percent*)	Rank		
Brampton	4.1	26	9.5	20	172	21
Burnaby	3.6	24	3.8	2	102	16
Calgary	4.3	28	4.5	6	990	15
Durham	5.9	30	12.2	27	659	108
Edmonton	3.7	25	11.7	24	883	23
Gatineau	-1.2	14	5.6	11	-68	-10
Halifax	1.0	13	3.8	1	31	3
Halton	-7.8	31	26.9	31	-401	-37
Hamilton	-2.3	20	5.2	10	-356	-16
Kitchener	-2.9	22	11.9	25	-82	-17
Laval	2.1	19	6.1	13	132	13
London	1.5	16	4.1	3	131	12
Longeuil	-3.4	23	8.5	19	-19	-4
Markham	0.9	9	9.6	21	-2	0
Mississauga	0.5	5	5.9	12	21	2
Montreal	-0.2	2	4.9	7	-412	-6
Niagara	-1.2	15	6.3	14	-127	-11
Ottawa	-2.0	18	12.1	26	-220	-5
Peel	-0.3	3	11.6	23	-172	-6
Quebec City	-4.3	27	7.9	16	-529	-26
Regina	1.0	12	10.3	22	15	2
Richmond	-0.9	10	16.2	29	23	4
Saskatoon	-0.8	7	5.2	9	-34	-3
Surrey	-2.4	21	8.5	18	-247	-33
Toronto	-0.9	8	4.4	4	-1243	-8
Vancouver	-1.8	17	4.9	8	-201	-11
Vaughan	-5.6	29	17.3	30	-47	-12
Waterloo	0.7	6	8.1	17	32	2
Windsor	-0.4	4	4.4	5	-27	-3
Winnipeg	0.2	1	13.1	28	199	13
York	0.9	11	6.9	15	-226	-7

Note: Rank reflects the absolute value of the mean error: it penalizes overshoots and undershoots of equal magnitudes equally, without regard to direction.

Source: Municipalities' budget and financial statements documents; authors' calculations.

accountability, a smaller number – less tendency either way – is better.

- Accuracy, or the average difference between projected and actual changes, regardless of the direction of the difference. This is also an arithmetic mean, but calculated from the absolute values of the differences.[4] It yields an indicator of how far the results tended to be from the projections in either direction. From the point of view of fiscal accountability, a smaller number – signifying a less erratic record – is also better on this scale.[5]

The Results: Best and Worst

So how reliable would our reader find her city's budgets as a guide to results over the past nine years? The answer depends on the municipality.

Over the period, Canada's largest municipalities and regions tended to undershoot the expense targets in their budgets by about 1 percent on average. The tendency to undershoot shows more clearly in the bias measures for each individual city, with average undershoots over the nine years in 23 of them, and average overshoots in eight. There is a wide range of results across the individual municipalities; from an average undershoot of 8 percent for Halton, to an average overshoot of 6 percent in Durham.

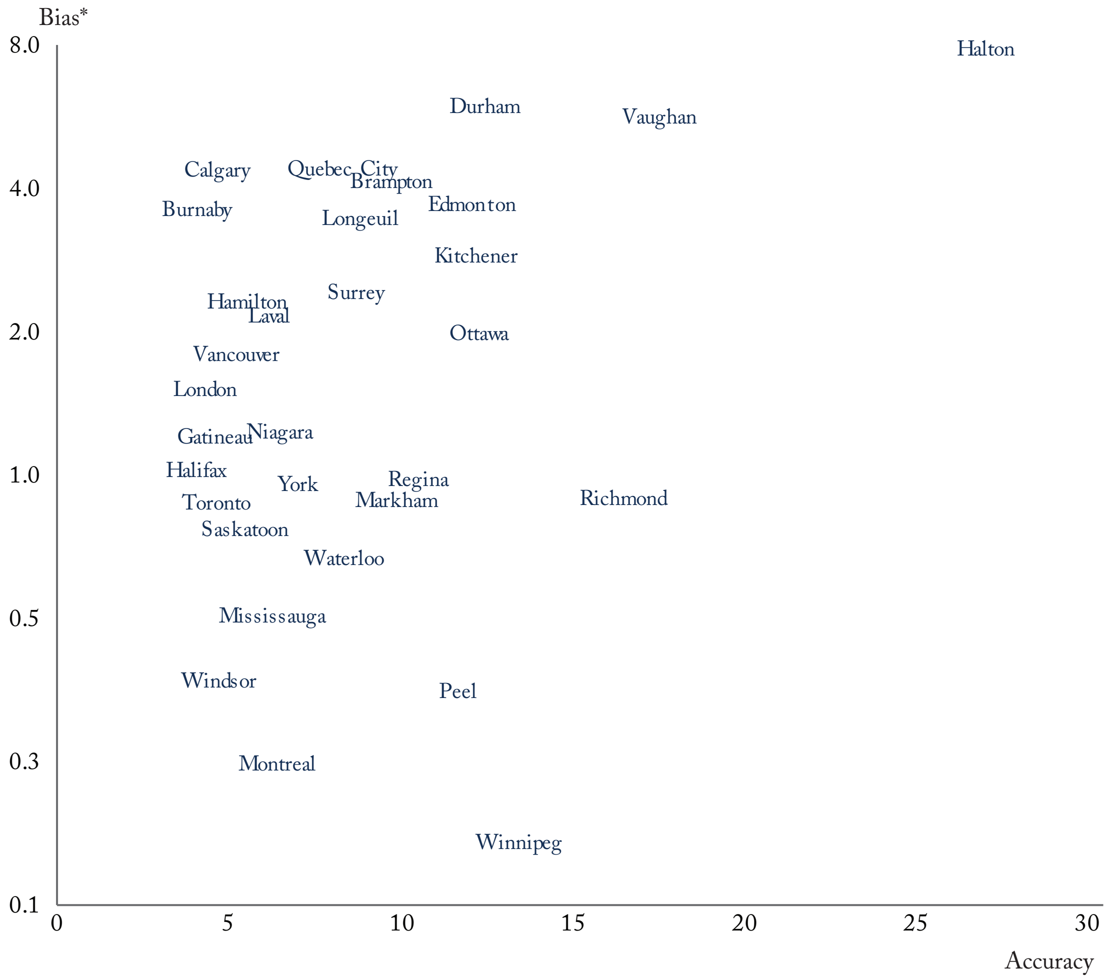
When it comes to accuracy – the average annual deviation in either direction – the nine-year average across all our cities is 9 percent. The best performances are from Burnaby and Halifax, with annual misses averaging less than 4 percent over the nine years, and the worst are from Halton and Vaughan, with annual misses averaging about 22.1 percent.

As each of the measures tells a different story, we plot both bias and accuracy scores for each municipality in Figure 1. Some municipalities score well in bias (a low score for that measure in Figure 1) but poorly in accuracy (a high score for that measure in Figure 1). Richmond and Winnipeg are in this group. Some – like Calgary and Burnaby – score poorly in bias but well in accuracy. Generally though, and not surprisingly, we see municipalities such as Toronto and Halifax in the area of this Figure that signifies a good score for both bias and accuracy, and municipalities such as Vaughan, Durham and Halton in the area that signals a worse score for both. There are many reasons besides inconsistent accounting for variances between budget projections and results: fast-growing cities with larger capital projects are more exposed to problems with execution, for example; weather-related expenses such as snow removal, fire-fighting and floods vary from year to year; and the ups and downs of the economy will affect revenue and spending. Nevertheless, we are glad to note that Surrey, Vancouver and York, the municipalities that rank highest in the C.D. Howe Institute's report card (Robson and Omran 2018c), appear in the lower left (good) area of the Figure.

4 We use this in preference to another common measure of variance, which involves squaring the deviations (which also makes misses in either direction equally significant) before calculating the average. This method accords larger weight to larger deviations, and is the measure reported in the C.D. Howe Institute's report on senior governments (Robson and Omran 2018b). Because so much of the difference between municipal projections and results arises from discrepancies in capital budgets, squaring the deviations would disproportionately penalize municipalities that are growing more rapidly, so we average the absolute deviations instead.

5 Suppose two governments overshot and undershot year by year so that their biases over the period were similar, but one had consistently larger overshoots and undershoots. The accuracy measure would award the government that missed by smaller amounts – reflected in a smaller number – a better score, and the one that missed by larger amounts – reflected in a larger number – a worse score.

Figure 1: Bias and Accuracy



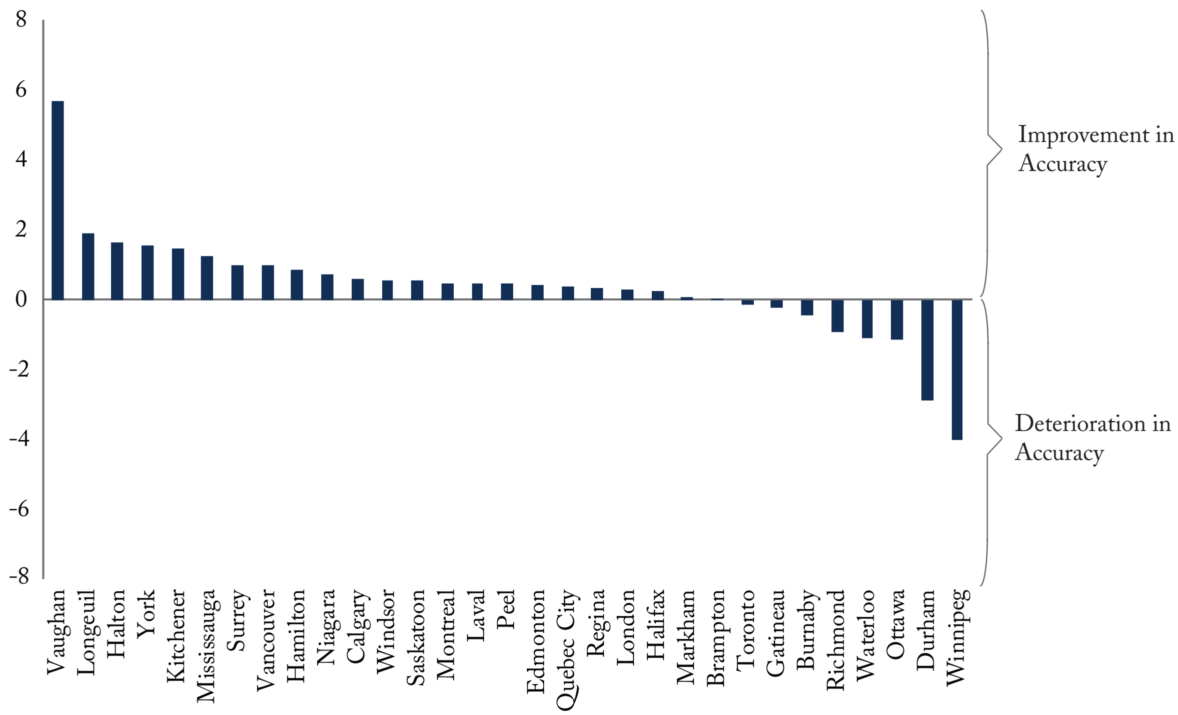
* Logarithmic Scale (base 2).
Source: Municipalities' budget and financial statements documents; authors' calculations.

Has Control over Spending Improved?

With only nine years of projections and results to draw on, and the differences between the spending a reader of budgets would have anticipated and the actual expenses reported being so large, we offer only tentative observations about patterns among cities or trends over time. Faster-growing municipalities with larger capital budgets do appear, in general, to have worse scores – which would make sense, since the distortions of cash budgeting matter relatively more in those cities more exposed to project execution risks. If we plot the accuracy scores' nine-year trend, we see a tendency for the scores to improve in more cities than they deteriorate (Figure 2 shows the time trend for each city).

One change that would improve the bias and accuracy numbers for any municipality would be the adoption of PSAS-based budgets, and the display of the resulting consolidated revenue and expense numbers early and prominently enough in the budget document that our reader would readily find

Figure 2: Accuracy Nine-Year Trend, 2009-17



Note: The result for each city is the coefficient from a regression of its annual accuracy scores on a time trend.

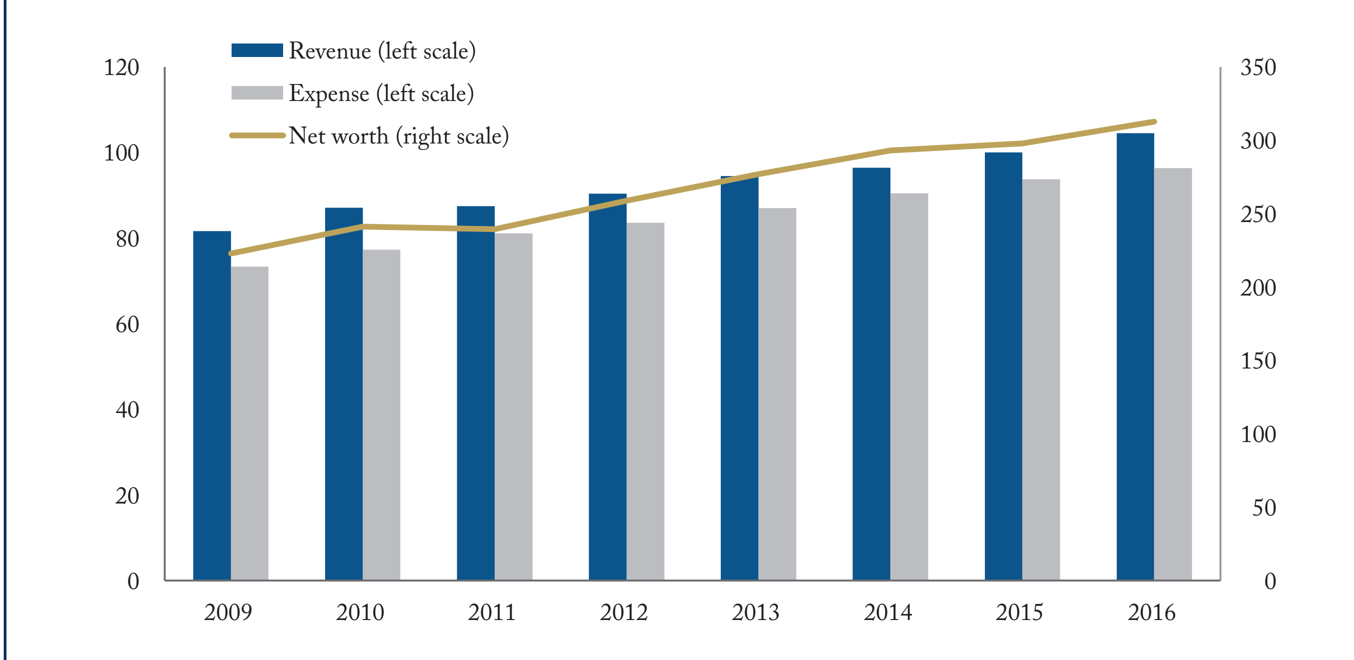
Source: Municipalities' budget and financial statement documents; authors' calculations.

them and confidently identify them. Even without any improvement in the ability of city officials or councillors to achieve budget targets, consistent accounting would straightforwardly tend to reduce the discrepancies between changes in spending calculated from cash-based budgets and changes in expense calculated from PSAS-based financial statements. It is reasonable to hope, moreover, that councillors and others getting more useful information when considering budgets, and when checking later how well their city's actions matched its professed intentions, would tighten the link between projections and results. Other elements of good financial reporting, such as timely presentation and informative reconciliations, could reinforce this beneficial effect.

Improving Municipal Fiscal Accountability in Canada

To summarize to this point, we note that the budgets of Canada's major cities are typically unhelpful for a non-expert user trying to anticipate what a city's end-of-year financial statements will show. As we comment in a companion report that grades the quality of the information in municipal budgets and financial reports (Robson and Omran 2018c), the problems councillors have understanding the consequences of their budget votes for their municipality's fiscal situation likely have real-world consequences. Budget debates typically focus on balancing a city's budget, with the separate capital budget highlighting potential cash

Figure 3: Municipal Revenue, Expense and Net Worth, $Billions



Source: Statistics Canada, Table 10-10-0020-01.

outlays that look dauntingly large – and therefore requiring large upfront charges to finance. One might imagine, therefore, that the overall fiscal condition of Canada's municipalities was bleak.

In fact, however, calculations using accrual accounting, which treats capital as an asset and expenses it only as it gets used, suggest that municipalities run consistent surpluses – and, unlike the federal and provincial governments, have substantial and growing net worth (Figure 3). What is more, the positive net worth of Canada's municipal governments reflects substantial holdings of financial assets – more than $100 billion as of mid-2018 – which suggests hesitation about launching capital projects that many of these cities clearly have the financial capacity to undertake.

Improving the usefulness of municipal budgets to elected representatives, voters and other non-experts will require two types of changes.

First, municipalities will need to start presenting their budgets in a manner that is consistent with the way they present their financial results. Budgets should contain PSAS-consistent information on both revenue and expense, and should present consolidated figures for both, including all activities and entities under the municipal government's control.

Second – and crucially, with the aid of the better budget information just described – councillors, ratepayers, and voters should hold municipal governments to account for presenting budget numbers that represent what the government actually plans to do. And they will need to hold their municipal governments to account for achieving those budget projections, or explaining and responding to deviations of actual results from these projections.

Municipal Budgets Should Match Municipal Financial Statements

Readers of this *Commentary* who wondered if a motivated and numerate, but non-expert, user of municipal budgets and financial statements could get as far as we presume with the numbers will easily anticipate our first recommendation: municipalities should present budgets that users can straightforwardly compare to their financial results. Municipalities have been presenting their results using PSAS for almost a decade. Almost none, however, is providing headline budget figures on the same basis. Only a handful of cities provide supplementary PSAS-consistent budget information. And those that do typically make it hard to find, or provide it late – after the budget itself has been approved (Robson and Omran 2018c).

The lack of PSAS-consistent budget numbers means that almost nobody, and certainly not the councillors whose votes authorize spending and the taxes that pay for it, has a clear idea of how the municipal budget will affect the municipality's claim on community resources or its financial position – even if the budget's projections turn out to be accurate. The solution is straightforward: present early and prominently in the key budget document the consolidated, PSAS-consistent revenue and expense totals.

In addition to the straightforward benefit of providing comparable numbers – letting the user see how much expense is expected to rise or fall, for example – PSAS-consistent municipal budgets would bring the benefits of accrual accounting and consolidation into the budget picture. Perhaps the most important benefit along these lines would be budgets that did not show capital projects as massive up-front outlays, which discourages capital projects in general, since they look expensive, and encourages imposing up-front charges to pay for them, which is not fair. Municipal budgets that showed capital-related expenses as annual charges reflecting the expected life of the assets – including assets in entities such as municipally owned corporations that may not appear in budgets at all – would promote financing that spreads the costs more fairly over time, and help keep the cost of assets in view as they wear out and the time to replace them nears (Robson and Omran 2018c). If Public Sector Accounting Standards make sense for the financial statements, which they do, they make sense for budgets as well.

Councillors Should Track Results Relative to Plan

Better budget information will be of use only if councillors, ratepayers, and voters use it to monitor how their municipal governments perform. Votes on specific programs should match the fiscal plan – or, if they do not, councillors must understand why, and whether their specific decisions require some offsetting action to keep the plan on track. If external circumstances – a natural disaster or an unexpectedly strong economy, for example – affect in-year performance, councillors should receive timely information about how the change is affecting the projections.

Key to this kind of accountability is timeliness of all financial presentations, including municipal budgets and financial statements themselves. As the C.D. Howe Institute's report card on municipal fiscal accountability documents, municipal budgets often appear in front of councillors so shortly before the fiscal year begins as to preclude effective scrutiny, or even after the fiscal year has already begun and money is already committed or spent (Robson and Omran 2018c).

As for results, it is inevitable that councillors will be considering a budget for the upcoming year before the current year has closed. Many municipal financial statements appear so late, however, that councillors do not even know the results from two years previous. Under those circumstances, there is almost no chance they will have timely information about the current year – which means they have no reliable baseline for the upcoming year, and can make no informed judgements about correcting anything that is going off track. Some senior governments publish their financial statements quickly: Alberta, for instance, publishes within three months of the fiscal year end. There is no reason why local governments cannot do the same.

Municipal councils should receive budgets before the start of the year, municipalities should publish audited financial statements no more than six months after year end, and councillors should receive regular in-year updates about how updated projections compare to the budget plan.

Canada's Municipalities Can Do Better

With municipal governments playing such major roles in Canadians lives, both in the services they deliver and the resources they use, we need better information on how they budget and what they actually do. The results summarized in this report testify to the challenges a user of these core documents would encounter in understanding the budget plans of Canada's major municipalities, and in tracking whether the municipality's results were consistent with its plans. To the extent that a numerate but non-expert user is able to find the key spending numbers in a municipality's budget and financial statements, that user would probably conclude that the municipality did a terrible job of hitting its budget projections. Our survey of budgets and results from Canada's most populous municipalities over the past nine years indicates that these cities have typically undershot those projections on average over that period; and missed them in one direction or another by an average of 9 percent.

Improving this situation is partly a matter of presenting better budgets that are prepared on the same basis – comprehensive PSAS-consistent revenue and expense numbers – as municipal financial statements. Municipalities should present this information at budget time, and we would urge provinces that mandate cash budgeting for their municipalities to stop doing so, and get their municipalities to present budgets that – like their counterparts in most provinces – are on a PSAS basis. And it is also a matter of councillors, ratepayers, and voters demanding timely information on interim and final results, so they can compare those results to budget projections and – when circumstances suggest it – demand corrective action.

Fiscal transparency and accountability in Canada have generally improved over the years. Federal, provincial and territorial governments typically present PSAS-consistent financial statements nowadays, and most now present budgets on the same basis. Other elements that help legislators and voters hold them to account, such as timely presentation of budgets, financial statements and interim results, are also better than they were. Canada's municipalities should likewise raise their game. Councillors, ratepayers, and voters should insist on better numbers from their municipalities, and on the improved fiscal accountability the better numbers will make possible.

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