

Education Spending and Public Student Enrolment in Canada, 2016 Edition

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SUMMARY

■ To accurately understand education spending, both enrolment changes and the effects of price changes must be considered.

■ For Canada as a whole, over the last decade (2004-05 to 2013-14), the increase in per-student spending in public schools is 25.8% (once adjustments have been made for inflation). Specifically, per-student education spending in public schools, accounting for changes in prices, increased from \$9,876 to \$12,427 between 2004-05 and 2013-14.

■ Saskatchewan saw the largest increase in per-student spending in public schools (after adjusting for inflation). That province experienced a 39.0% increase—from \$10,476 in 2004-05 to \$14,562 in 2013-14. The smallest increase was in British Columbia (18.3%). Per-student spending in public schools in all 10 provinces

increased over this period (after accounting for the effects of inflation).

■ In aggregate, Canada increased education spending in public schools by \$12.7 billion more between 2004-05 and 2013-14 than was necessary to account for enrolment and price changes. If per-student spending in public schools had remained constant over this period, the aggregate amount of education spending in public schools in 2013-14 would have been 20.3% lower.

■ Provincially, Saskatchewan recorded the largest difference (28.2%) between the actual spending on public schools and what would have been required to account for price and enrolment changes. The smallest difference between actual spending on public schools and what was necessary to account for inflation and enrolment changes was in British Columbia (14.6%).

Introduction

In an ongoing effort by the Barbara Mitchell Centre for Improvement in Education to provide Canadians with basic information regarding the state of K-12 education, this bulletin focuses on the change in per-student education spending in public schools over the last decade (2004-05 to 2013-14). It is an update to, and based on the study by, Clemens, Van Pelt, and Emes (2015).

The bulletin has five short sections. The first explains the increase in total education spending on public schools by province over the last decade (2004-05 to 2013-14). The second shows enrolment numbers for each of the provinces for public schools over the same period. The third calculates per-student spending in public schools over time, which combines the data from the first two sections. Section four then adjusts the data from section three to account for inflation (i.e., price changes). Section five compares the actual increases in education spending on public schools by province with the amount predicted by enrolment changes in order to give a better context for the increases in spending in public schools across the country. The bulletin ends with a brief conclusion.

I. Total education spending on public schools

This first section examines total spending in public schools over the last decade (2004-05 to 2013-14). It is important to recognize several aspects of this measure. First, it is limited to spending on public schools, as distinct from spending on public education. This means government spending on independent schools in Quebec and the four western provinces is ex-

cluded (where the respective provincial governments do provide funding to those schools).¹

Second, Statistics Canada's currently available data includes some small categories of revenue and spending that could be considered non-governmental and are difficult to remove. Specifically, "Fees & Other Private Sources" is included in this bulletin's data series. The category includes rentals and leases, investment revenues, capital fund-sourced revenues, other fees, trust account revenues, interschool transfers, and adjustments. These items represent a comparatively small amount of revenues and spending relative to the entire envelope of spending on public schools. However, it is important to recognize that the measure relied on for this bulletin may include a small amount of private revenues and spending.

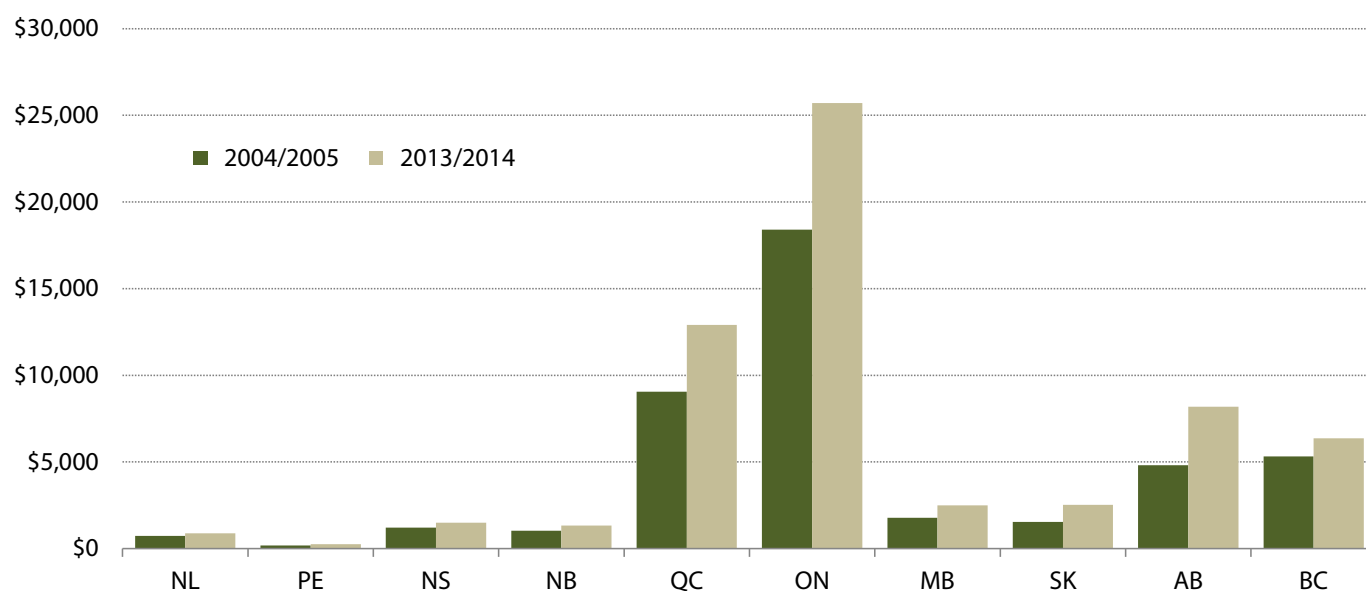
In addition, the dataset used includes several categories of spending on public schools that are often ignored or purposefully excluded. Specifically, this dataset includes spending on capital (particularly new school construction and renovations to existing schools), as well as contributions to teacher pension plans. The inclusion of these spending categories is particularly important given their relative growth in recent years (Van Pelt, Emes, and Clemens, 2015).²

The specific definition used for this dataset is the following: "public elementary and secondary education expenditures" less "direct government expenditures on public education by the Department of National Defence," "federal school expenditures," and "special education

¹ For more information on the state of funding of both public and independent schools in Canada, see Clemens, Palacios, Loyer, and Fathers (2014).

² An updated 2016 edition of this study will be released later this year.

Figure 1: Spending on Public Schools (\$ millions)



Source: Statistics Canada, 2016c.

expenditures on public education” (Statistics Canada, 2016c).

Table 1 includes data for spending on public schools starting in 2004-05 through to 2013-14; figure 1 presents this data graphically. In aggregate, spending on public schools in 2013-14 amounted to \$62.6 billion, an increase of \$18.2 billion or 41.1% from 2004-05 when spending on public schools was \$44.3 billion.

The largest provincial increase in spending on public schools over the last decade (2004-05 to 2013-14) was in Alberta, which experienced a 70.3% rise. The smallest increase was recorded in neighbouring British Columbia (19.8%). Half of the provinces had marked increases in spending on public schools—in excess of 40.0% (figure 1).

II. Enrolment in public schools

As explained in a previous essay in this series (Van Pelt and Emes, 2015), aggregate spending

Table 1: Education spending in government schools

	2004-05 (\$ mil- lions)	2013-14 (\$ mil- lions)	2004/05 – 2013/14, nominal change (\$ millions)	Percent- age change
Canada	44,341	62,562	18,222	41.1%
NL	737	888	151	20.5%
PE	173	250	77	44.4%
NS	1,209	1,499	289	23.9%
NB	1,024	1,326	302	29.5%
QC	9,046	12,906	3,860	42.7%
ON	18,402	25,703	7,301	39.7%
MB	1,776	2,487	712	40.1%
SK	1,532	2,525	993	64.8%
AB	4,807	8,186	3,379	70.3%
BC	5,315	6,366	1,051	19.8%

Source: Statistics Canada, 2016c.

Table 2: Enrolment in Public Schools, 2004-05 to 2013-14 (number of students)

	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	Percent Change, 2004-05 to 2013-14
Canada	5,253,442	5,212,533	5,163,824	5,115,188	5,086,549	5,074,254	5,051,493	5,030,628	5,030,184	5,034,378	-4.2%
NL	79,485	76,806	74,343	72,111	70,641	69,666	68,655	67,830	67,479	67,293	-15.3%
PE	22,395	21,948	21,366	20,811	20,325	19,956	21,162	20,832	20,406	20,133	-10.1%
NS	145,396	142,304	138,661	135,303	133,134	130,548	128,133	125,541	122,643	121,029	-16.8%
NB	117,144	114,819	112,014	110,286	108,405	106,395	104,421	102,579	101,079	99,921	-14.7%
QC	1,233,100	1,216,293	1,204,622	1,188,903	1,187,612	1,189,632	1,179,801	1,172,148	1,176,852	1,183,590	-4.0%
ON	2,123,904	2,118,546	2,103,465	2,087,586	2,070,735	2,061,390	2,051,865	2,043,117	2,031,195	2,015,385	-5.1%
MB	184,353	182,373	180,042	179,322	177,960	177,498	177,678	178,920	179,289	179,109	-2.8%
SK	176,069	174,206	166,498	167,181	164,763	166,002	167,043	168,354	171,348	173,385	-1.5%
AB	550,983	551,739	560,562	559,119	564,051	567,810	573,102	578,115	594,549	611,874	11.1%
BC	596,172	589,388	578,626	571,267	565,875	562,740	557,100	550,746	542,877	539,625	-9.5%

Source: Statistics Canada, 2015 and 2016b.

on public schools misses a critical component: enrolment. Any analysis of education spending that ignores enrolment risks materially misrepresenting the reality of education spending. An increase in aggregate education spending that is less than the increase in enrolment results in a per-student decrease in spending on education. Alternatively, a reduction in education spending that is less than a reduction in enrolment results in an increase in per-student spending. It is, therefore, critical to account for changes in enrolment when analyzing education spending.

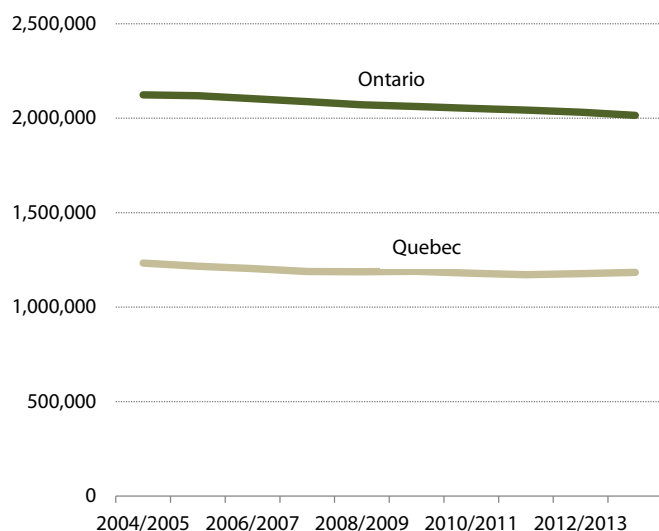
Table 2 contains enrolment data for Canada as a whole and for the individual provinces between 2004-05 and 2013-14, the most recent data available. Figures 2a to 2d illustrate the provincial enrolment over the same period by region.

Total enrolment in public schools in Canada declined by 4.2% between 2004-05 and 2013-14, from 5.3 million to a little over 5.0 million students. As figures 2a to 2d illustrate, Alberta was the only province to experience an increase in public school enrolment over the entire period (11.1%).³

The other nine provinces all saw a drop in public school enrolment over the period. The largest declines in public school enrolment were in Atlantic Canada, which ranged from a drop of 10.1% in Prince Edward Island to a decline of 16.8% in Nova Scotia. Outside of Atlantic Canada, British Columbia recorded the largest fall in

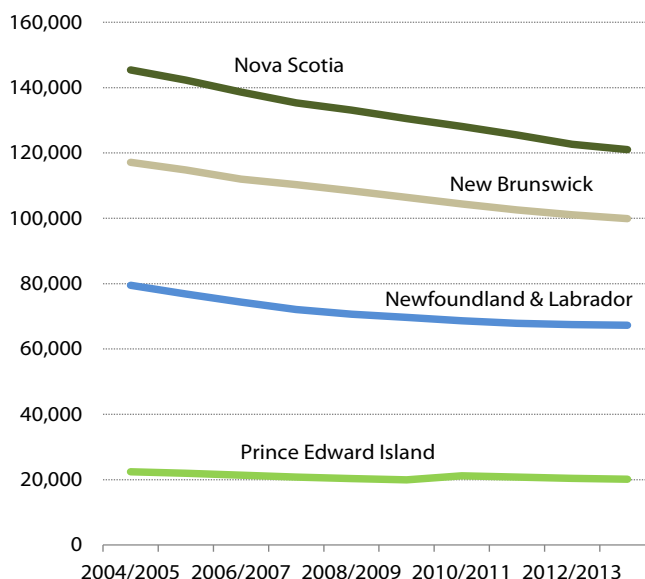
³ It is important to note, however, that Alberta's enrolment change is consistent with the rest of Canada when calculated as a share of population. Specifically, enrolment-to-population fell by 10.3% in Alberta and by 12.9% in Canada as a whole.

Figure 2a: Enrolment in Public Schools, Ontario and Quebec (number of students)



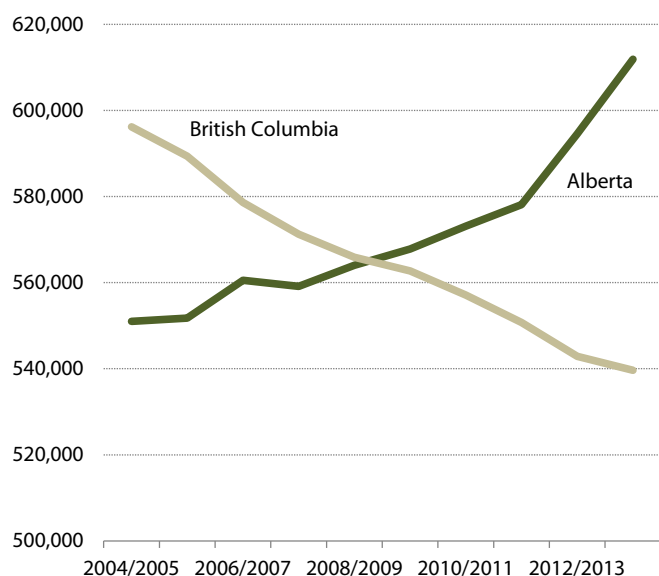
Source: Statistics Canada, 2015 and 2016b.

Figure 2c: Enrolment in Public Schools, Atlantic Canada (number of students)



Source: Statistics Canada, 2015 and 2016b.

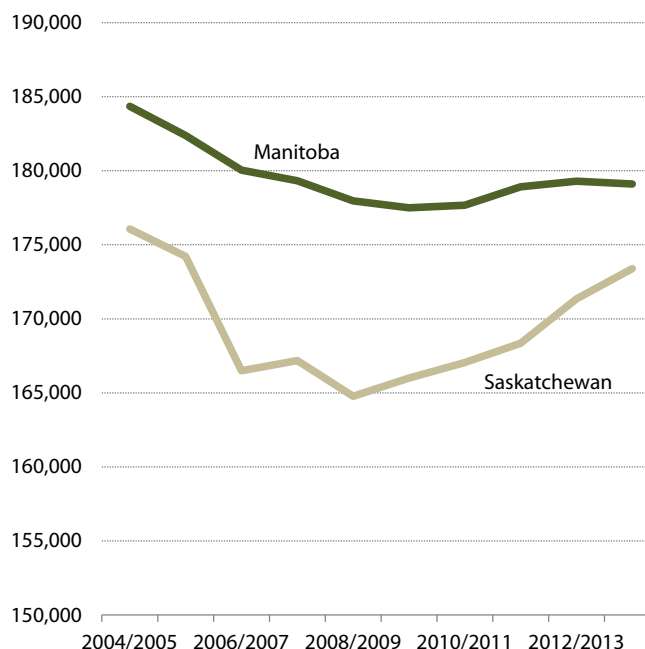
Figure 2b: Enrolment in Public Schools, Alberta and BC (number of students)



Update note: Alberta's enrolment change is consistent with the rest of Canada when calculated as a share of population. Specifically, enrolments to population fell by 10.3% in Alberta and by 12.9% in Canada as a whole.

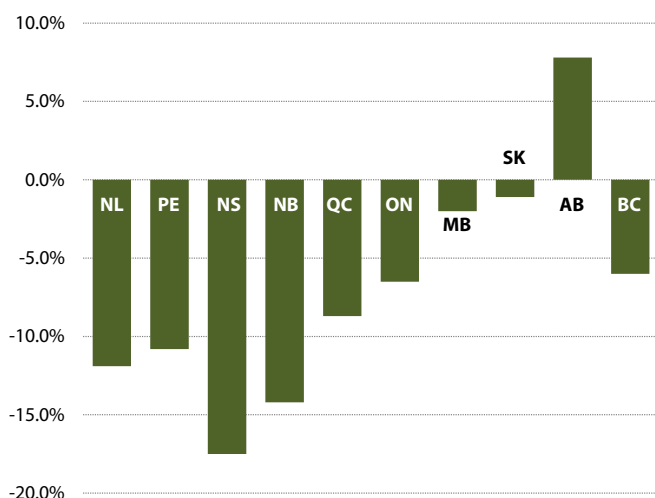
Source: Statistics Canada, 2015 and 2016b.

Figure 2d: Enrolment in Public Schools, Manitoba and Saskatchewan (number of students)



Source: Statistics Canada, 2015 and 2016b.

Figure 3: Change in School-Aged Population, by Province (2005-2014)



Sources: Statistics Canada, 2016d.

public school enrolment: 9.5%. The other provinces experienced drops of between 1.5% (Saskatchewan) and 5.1% (Ontario).

The declines in public school enrolment over this period are generally due to a combination of a slow growing or even shrinking school-age population (depending on the province) and the transition of students to independent schools⁴ and homeschooling.⁵

Figure 3 illustrates the percentage change in the number of people of school age (ages 5 to 17) by province between 2005 and 2014. In only one province did the number of residents that were school-aged rise: Alberta (7.8%). In all the remaining provinces, the absolute number of

residents that were of school age fell over this period. The reduction in the school-aged population ranged from -1.1% in Saskatchewan to -17.5% in Nova Scotia.

III. Per-student spending in public schools

The decline in public school enrolment in nine of the 10 provinces means that the per-student increases in spending are larger than the simple aggregated spending increases presented in Section I. Table 3 and figure 4 present data on per-student spending in public schools between 2004-05 and 2013-14.

Canada as a whole (including the three territories) recorded a 47.2% increase in per-student spending in public schools between 2004-05 and 2013-14—from \$8,440 in 2004-05 to \$12,427 in 2013-14. This is higher than the noted increase in aggregate spending of 41.1% over the same period because of the influence of declining student enrolment.

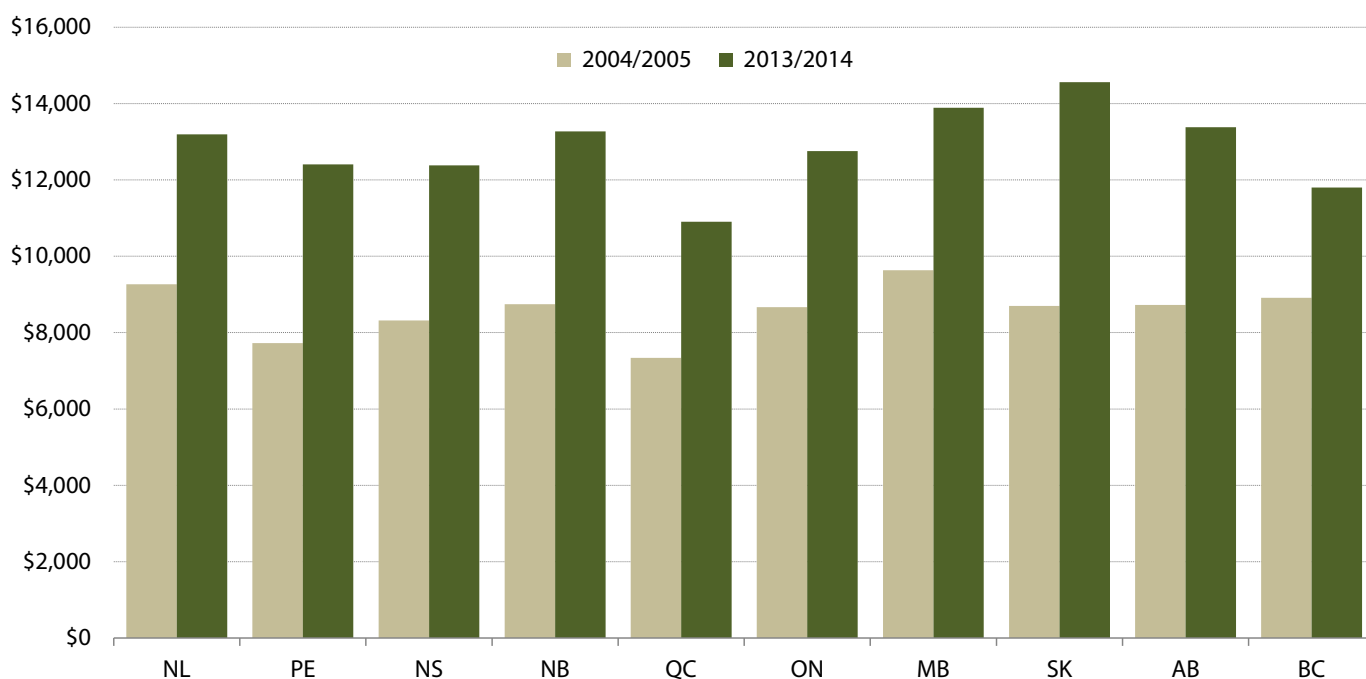
All of the provinces, including Alberta, recorded increases in per-student spending in public schools over the period 2004-05 to 2013-14 (figure 4). Saskatchewan had the largest increase. Per-student spending in that province's public schools went from \$8,702 in 2004-05 to \$14,562 in 2013-14, an increase of 67.3% (table 3). In fact, among the provinces, Saskatchewan now has the highest per-student spending level in public schools.

Nine provinces recorded a rise in per-student spending in public schools of over 40.0%, and four of them (PEI, NB, SK, and AB) experienced per-student spending increases in excess of 50.0%. British Columbia recorded the smallest increase: 32.3%. Simply put, all of the provinces introduced marked increases in per-student spending in public schools over this period.

⁴ For more information on independent schools in Canada, see Clemens, Palacios, Loyer, and Fathers (2014) and Allison, Hasan, and Van Pelt (2016). For more on changing enrolments within the public, independent, and home school sectors from 2000 to 2013, see Van Pelt, Clemens, Brown and Palacios (2015).

⁵ For information on home schooling in Canada, see Van Pelt (2015).

Figure 4: Per-Student Spending in Public Schools by Province (\$)



Source: Statistics Canada, 2015, 2016b, 2016c.

Table 3: Per-Student Spending in Public Schools, 2004-05 to 2013-14 (\$)

	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2004-05/ 2013-14 change (%)
Canada	8,440	8,910	9,466	9,986	10,628	11,154	11,601	11,845	12,067	12,427	47.2%
NL	9,268	8,445	8,821	10,105	10,953	12,611	12,491	12,754	12,865	13,190	42.3%
PE	7,724	7,674	8,484	8,971	10,102	12,013	11,373	11,317	11,899	12,409	60.7%
NS	8,318	8,964	9,706	10,216	10,867	11,510	11,955	12,031	12,191	12,382	48.9%
NB	8,742	9,283	9,914	10,339	11,396	11,951	13,053	13,181	13,538	13,271	51.8%
QC	7,336	7,723	8,051	8,892	9,191	9,448	9,882	10,200	10,412	10,904	48.6%
ON	8,664	9,190	9,600	10,010	10,651	11,316	11,946	12,117	12,299	12,753	47.2%
MB	9,633	9,975	10,241	10,672	11,188	11,571	11,894	12,150	12,950	13,887	44.2%
SK	8,702	9,141	9,526	9,821	10,545	11,643	11,821	13,106	14,196	14,562	67.3%
AB	8,724	9,371	11,043	11,034	12,367	13,235	13,537	13,489	13,231	13,378	53.3%
BC	8,914	9,346	9,939	10,679	11,204	11,035	11,094	11,418	11,836	11,797	32.3%

Source: Statistics Canada, 2015, 2016b, 2016c.

Table 4: Per-Student Spending in Public Schools, Adjusted for Price Changes, 2004-05 to 2013-14 (\$ 2014)

	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2004-05/ 2013-14 change (%)
Canada	9,876	10,225	10,629	10,957	11,631	11,987	12,114	12,186	12,303	12,427	25.8%
NL	11,060	9,902	10,195	11,352	12,272	13,793	13,211	13,218	13,111	13,190	19.3%
PE	9,211	8,946	9,717	9,933	11,204	13,079	12,030	11,731	12,094	12,409	34.7%
NS	9,901	10,458	11,113	11,353	12,097	12,543	12,549	12,387	12,403	12,382	25.1%
NB	10,158	10,609	11,117	11,398	12,531	12,869	13,575	13,484	13,736	13,271	30.6%
QC	8,468	8,767	8,999	9,737	10,001	10,156	10,308	10,419	10,558	10,904	28.8%
ON	10,204	10,635	10,909	11,123	11,794	12,229	12,523	12,525	12,589	12,753	25.0%
MB	11,322	11,498	11,571	11,792	12,286	12,607	12,587	12,655	13,192	13,887	22.7%
SK	10,476	10,784	10,927	10,906	11,589	12,624	12,471	13,613	14,535	14,562	39.0%
AB	10,669	11,032	12,382	11,996	13,456	14,260	14,237	14,030	13,570	13,378	25.4%
BC	9,971	10,280	10,743	11,306	11,862	11,529	11,322	11,525	11,956	11,797	18.3%

Source: Statistics Canada (2015, 2016b, 2016c).

IV. Accounting for inflation

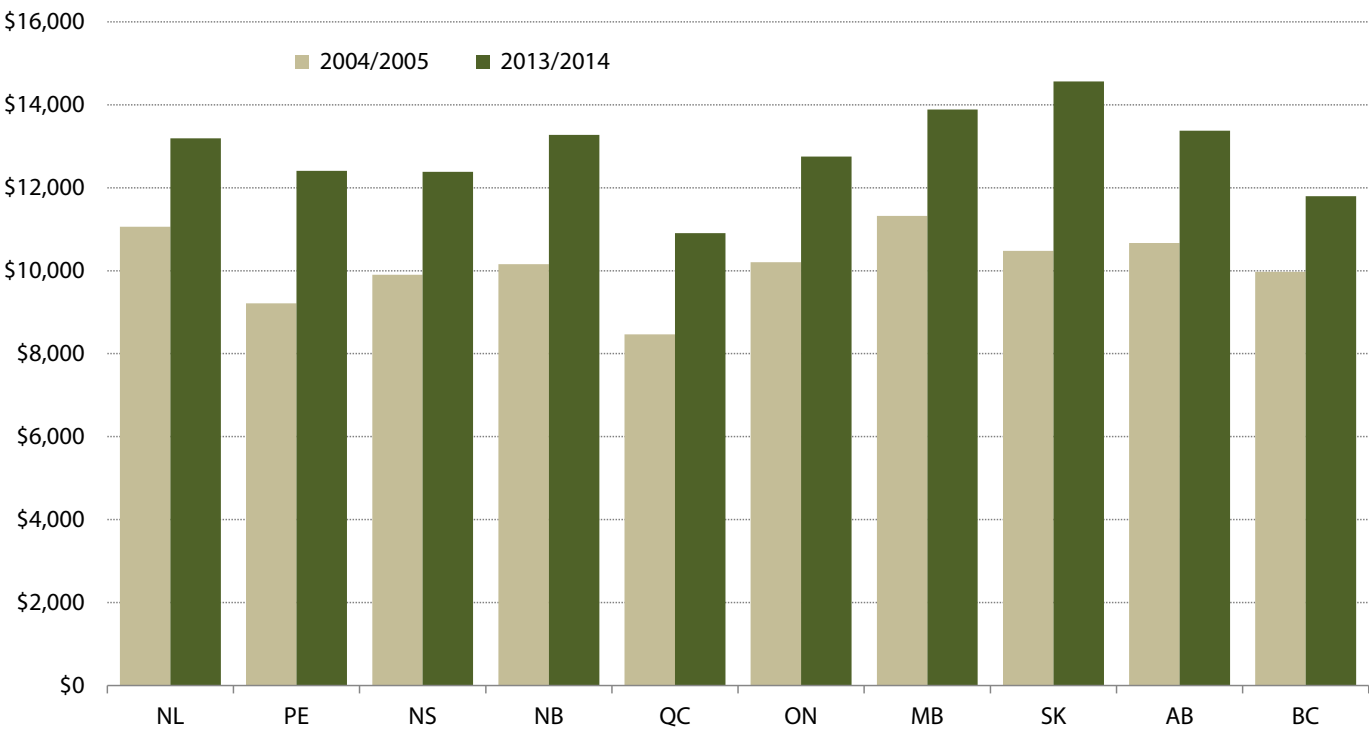
An important factor has been thus far left out of the analysis: the influence of changing prices. Inflation, or what is commonly referred to as an increase in the price level, refers to changes in prices that affect the real or effective value of money. Simply put, governments could well be spending more in nominal dollars on education over time, but if these increases are less than inflation, the real or effective level of spending could be decreasing. The reason for this seemingly counterintuitive result is that inflation erodes the value of money by making the goods and services purchased more expensive. This section recalculates the increases in per-student spending in public schools in each of the provinces adjusting for inflation over the time period. Table 4 and figure 5 present the recalculated numbers.

For Canada as a whole, over the last decade (2004-05 to 2013-14), the increase in per-student spending in public schools once inflation is adjusted for is 25.8%. In other words, accounting for changes in prices and enrolment, spending on public schools in Canada increased 25.8% between 2004-05 and 2013-14—from \$9,876 to \$12,427 per student (table 4).

After adjusting for inflation, the largest increase in per-student spending in public schools was in Saskatchewan, which experienced a 39.0% increase—from \$10,476 in 2004-05 to \$14,562 in 2013-14 (table 4). The smallest increase was recorded in British Columbia (18.3%).

The percentage increases in per-student spending in public schools in table 4 are all less than the increases calculated in table 3, which did not include the effect of inflation on spend-

Figure 5: Per-Student Spending in Public Schools, Adjusted for Price Changes (\$ 2014)



Source: Statistics Canada, 2015, 2015a, 2015b, 2015c.

ing. Note, however, that all 10 provinces recorded inflation-adjusted increases in per-student spending in public schools over this period.

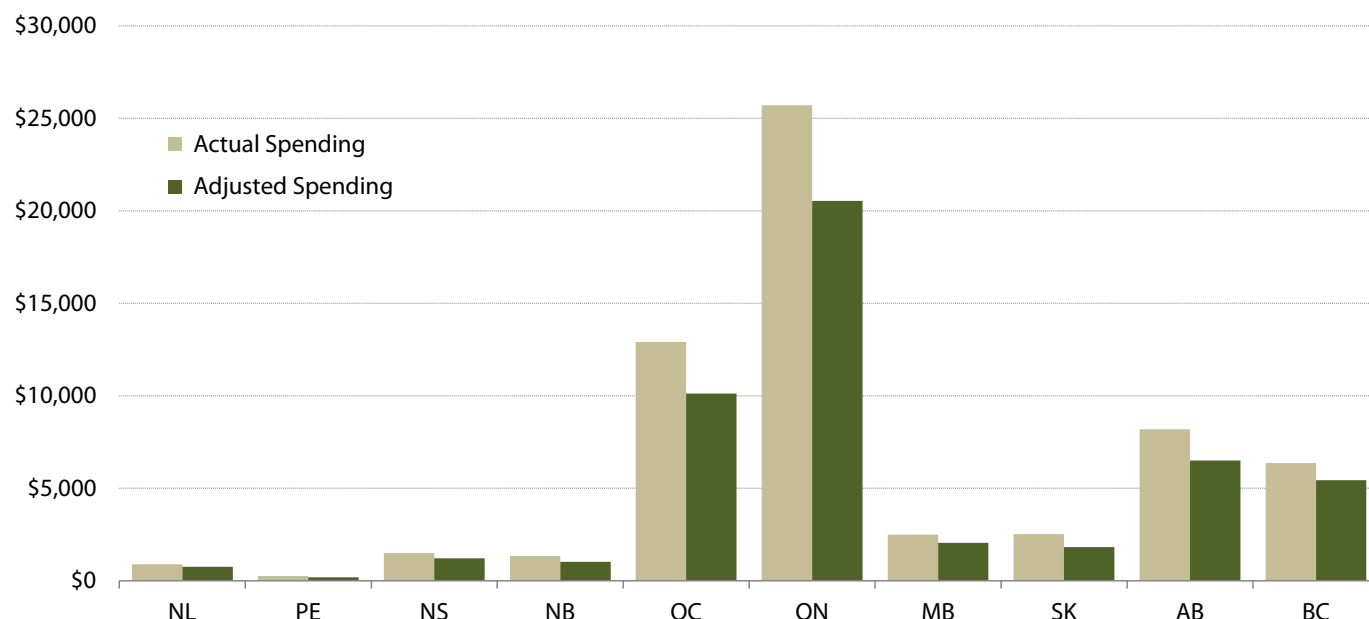
V: The spending increases in context

Inflation-adjusted increases in per-student spending in public schools ranging from 18.3% to 39.0% appear fairly large (table 4). However, there is no context provided within which to gauge how large or small the increases actually are. The following section compares the actual spending increases against the predicted increases based on enrolment in each of the provinces in public schools.

Put differently, this analysis is based on a counterfactual assumption wherein education spending is calculated for 2013-14 based on the

per-student level observed in 2004-05 adjusted for changes in enrolment and inflation. In other words, this section compares actual aggregate spending on public schools in 2013-14 with what the spending would have been, in total, if the per-student spending levels on public schools remained constant (adjusted for inflation) based on their 2004-05 values. Table 5 contains the calculations for both the actual spending and the counterfactual-based spending as well as the difference. Figure 6 illustrates the total spending on public schools based on two different scenarios relating to per-student spending. The first is the actual level of spending on public schools. The second scenario, referred to as “Adjusted Spending” illustrates what total education spending on public schools in each province would have been had the 2004-05

Figure 6: Comparing Actual and Adjusted Spending in Public Schools, 2013-14 (\$ millions)



Source: Statistics Canada, 2015, 2016a, 2016b, 2016c.

Table 5: Comparing Actual and Adjusted Spending in Public Schools, 2013-14 (\$ millions)

	Actual spending	Adjusted spending	Difference	Percent difference
Canada	62,562	49,838	-12,725	-20.3%
NL	888	750	-138	-15.5%
PE	250	188	-62	-24.7%
NS	1,499	1,210	-288	-19.2%
NB	1,326	1,024	-302	-22.8%
QC	12,906	10,112	-2,795	-21.7%
ON	25,703	20,533	-5,169	-20.1%
MB	2,487	2,044	-443	-17.8%
SK	2,525	1,813	-712	-28.2%
AB	8,186	6,498	-1,688	-20.6%
BC	6,366	5,434	-932	-14.6%

Source: Statistics Canada, 2015, 2016a, 2016b, 2016c.

per-student spending levels (adjusted for inflation) been maintained in 2013-14.

In aggregate, Canada increased education spending in public schools by \$12.7 billion more between 2004-05 and 2013-14 than was necessary to account for enrolment and price changes (table 5). If per-student spending in public schools had remained constant over this period, the aggregate amount of education spending in public schools in 2013-14 would have been 20.3% lower.

On a provincial basis, Saskatchewan recorded the largest difference between the actual spending on public schools and what would have been required to account for price and enrolment changes. Specifically, Saskatchewan had education spending on public schools in 2013-14 that was \$712 million more than necessary to account for inflation and enrolment

changes over the period (table 5). Put differently, spending on public schools in Saskatchewan would have been 28.2% lower had the province simply increased education spending on public schools to account for inflation and enrolment changes over the last decade.

The smallest difference between actual spending on public schools and what was necessary to account for inflation and enrolment changes was recorded by British Columbia (\$932 million or 14.6%).

The differences between the actual spending on public schools in 2013-14 versus what would have been the case if greater restraint were exhibited across the country to control spending increases illustrates the rather large increases in education spending in public schools implemented over the last decade (2004-05 to 2013-14).

VI. Conclusion

It is clear from the data presented that every province in Canada over the 2004-05 to 2013-14 period increased education spending beyond what was required to account for enrolment changes and inflation. This means real increases in per-student education spending in public schools across the country, which is contrary to the general perception that education spending in public schools has been cut.

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