# Appendix

## Business Tax Burdens in Canada's Major Cities: The 2018 Report Card

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This appendix comprises three sections: the evaluation underlying the Business Property Tax Report Card, a discussion on how we incorporated the selected American cities into the METR analysis, and a summary of our methodology and data.

## Business Property Tax Report Card Evaluation

Our Business Property Tax Report Card rates the structural simplicity and informational transparency of both provincial and local components of a business property tax regime. The online appendix to our 2015 edition contains baseline commentary on each of our 20 jurisdictions, to which we added updates where required in 2016 and 2017. No further updates are required for 2018.

As done previously, we score each jurisdiction out of 10 with respect to simplicity and transparency against the ideal we described in the main text – the further away from this ideal, the lower the score. We assign letter grades to these scores according to the scheme outlined in Table A1. The results of this exercise are summarized in Table A2, where the overall assessment for a province is the simple average across its four scores for simplicity and transparency. While we recognize that any qualitative analysis such as this requires some degree of subjective judgement by the evaluator, we have approached this exercise as objectively as possible and are confident that the scores assigned are reasonable and reflective of our experience with estimating effective business property tax rates over the past several years.

**Table A1: Scoring Scheme**

| Lower Threshold | Upper Threshold | Grade |
|---|---|---|
| 8< | 10 | A |
| 6< | 8 | B |
| 4< | 6 | C |
| 2< | 4 | D |
| 0 | 2 | F |

Source: Authors' design.

**Table A2: Business Property Tax Report Card – 2017**

| Province | Provincial BPT Regime | | | | Municipal BPT Regime | | | | Overall Assessment | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Simplicity | | Transparency | | Simplicity | | Transparency | | | |
| | Score | Grade | Score | Grade | Score | Grade | Score | Grade | Score | Grade |
| British Columbia | 8.00 | B | 9.00 | A | 8.00 | B | 9.00 | A | 8.50 | A |
| Alberta | 6.50 | B | 3.50 | D | 6.00 | C | 8.00 | B | 6.00 | C |
| Saskatchewan | 5.00 | C | 3.50 | D | 6.00 | C | 7.00 | B | 5.38 | C |
| Manitoba | 4.50 | C | 3.00 | D | 2.00 | F | 5.00 | C | 3.63 | D |
| Ontario | 2.00 | F | 2.00 | F | 4.50 | C | 7.50 | B | 4.00 | D |
| Quebec | 3.00 | D | 2.50 | D | 4.00 | D | 6.50 | B | 4.00 | D |
| New Brunswick | 8.00 | B | 9.00 | A | 10.00 | A | 9.00 | A | 9.00 | A |
| Nova Scotia | 7.00 | B | 2.50 | D | 2.50 | D | 7.00 | B | 4.75 | C |
| Prince Edward Island | 9.50 | A | 10.00 | A | 9.50 | A | 7.50 | B | 9.13 | A |
| Newfoundland | - | - | - | - | 7.00 | B | 7.00 | B | 7.00 | B |
| Group Average | 4.75 | C | 3.66 | D | 5.44 | C | 7.55 | B | 5.40 | C |

Source: Authors' calculations from government websites.

## Business Taxes in Five Major American Cities[1]

Our ongoing analysis of Canadian business taxes supports this conclusion: METR estimates without property taxes ignore about half the tax burden facing investors. Having now examined business taxes in five major American cities, we conclude that the same limitation applies generally to them as well. In three of the five cities (Boston, New York and Chicago), the property tax generates well over half the METR, while in the two California cities the share is just under a half.

1 The five US cities examined here include the three largest in that country (New York, Los Angeles and Chicago), as well as two major technology hubs (Boston and San Francisco). Business tax regimes differ substantially within the group; further differences would no doubt emerge if American cities beyond these five were brought into the picture.

With one exception,[2] the states in which the five cities are located do not have state-wide property taxes. In contrast, municipalities in nine of the Canadian provinces (all but Newfoundland and Labrador) share property tax room with provincial governments.

Sales tax room also differs between the two countries. Canadian provinces do not permit municipalities to occupy sales tax room, whereas three of the four US states considered here (all but Massachusetts) share sales tax room with municipalities. Most Canadian sales taxes, namely those in provinces with Harmonized Sales Tax, are value-added taxes, while US sales taxes considered here, like those in British Columbia, Saskatchewan and Manitoba, are non-value-added. Due to business input tax credits, value-added sales taxes are not considered taxes on business investment, and thus do not form part of the METR.

The two countries are somewhat alike when corporate income taxes are considered. No Canadian municipality levies a corporate income tax, while four of the five US cities (all but New York) likewise do not levy a corporate income tax. All of the four states considered here levy corporate income tax, as do all Canadian provinces.

The two countries are also somewhat alike where land transfer taxes are concerned. Three of the four US states considered here (all but California) levy land transfer taxes, while eight of the 10 Canadian provinces (all but Alberta and Nova Scotia) levy them. Four of our five U.S. cities (all but Boston) levy land transfer taxes, while three of our 10 Canadian cities (Toronto, Montreal and Halifax) levy them.

Brief city-specific observations follow at this point.

*New York*

New York's METR is higher than METRs for the other four US cities, and is also higher than the METRs for the five largest Canadian cities we survey. Despite this burden, however, business investment in New York appears healthy. This illustrates an important point regarding METRs. While a relatively high METR will limit investment to projects with high gross-of-tax returns, an ample supply of such projects may nonetheless exist due to other investment-relevant factors (e.g., agglomeration economies, skilled labour pool, public services etc.) not captured by METRs.

New York's property tax rate applies uniformly to all property classes. However the city uses taxable assessment to discriminate against businesses. Taxable assessment for businesses is officially 45 percent of market value compared with just 6 percent for residential – a business-residential tax ratio of 7.5:1. However, a New York State agency (the Office of Real Property Tax Services) says the city's assessment methodology makes the effective ratio even higher: almost 10:1 (the actual levels of assessment as a share of market value are 38.72 percent for business and 3.88 percent for residential). Relatively high tax ratios tilt the land market toward residential as opposed to business development.

Besides its corporate income tax, New York also levies an income tax on unincorporated businesses and a commercial rent tax in its central business district. Data limitations preclude both these taxes being included in our METR estimates.

2 Massachusetts levies a state-wide business property tax on land, buildings and "personal property" (primarily machinery and equipment not affixed to buildings and land). Four of our five US cities (all but New York) tax personal property as well as buildings and land. The property tax base across Canada excludes personal property (i.e., it consists of buildings and land only).

*Boston*

Like New York, Boston taxes business property more heavily than residential property. However, Boston achieves this by treating tax rates rather than taxable assessment differentially. Boston's effective tax rates (2.52 percent for business and 1.05 percent for residential) result in a business-residential tax ratio of 2.4:1. Apart from its business property tax, Boston does not levy taxes with a direct negative impact on business investment.

*Chicago*

Like New York, Chicago levies a uniform tax rate on all property classes, but still imposes a higher burden on businesses via different levels of taxable assessment. Officially, businesses are assessed at 25 percent of market value while residential property is assessed at 10 percent, meaning the business-residential tax ratio is officially 2.5:1. However, an Illinois state agency says the actual levels of assessment in Cook County, which includes Chicago, are 19.8 percent for business and 8.88 percent for residential as a share of market value. The implied effective tax ratio is hence 2.23 (19.8 / 8.88).

Chicago has additional business taxes as follows: Personal Property Lease Transaction Tax; Real Property Transfer Tax; Use Tax for Titled Personal Property; Use Tax for Non-titled Personal Property. Data limitations preclude the first and last of these taxes from being incorporated into our METR estimates. The Use Tax for Titled Personal Property is aggregated with Cook County's sales tax and thus brought into the METR.

*San Francisco and Los Angeles*

Business tax regimes in these cities are similar so our comments here apply to both except where noted otherwise.

California's Proposition 13, approved by referendum 40 years ago, amended the state constitution. The constitution now caps property tax rates at 1 percent, with any add-ons requiring direct voter approval by local referenda. Voter-approved add-ons now permit tax rates of 1.172 percent in San Francisco and 1.114 percent in Los Angeles.[3] The latter rate becomes 1.138 percent once Los Angeles' personal property tax rate of 1.192 percent is blended in. Based on allocation formulas, cities, counties and other local taxing authorities share the revenue attainable with these tax rates.

Proposition 13 also implemented an acquisition value assessment system. Beginning with a 1975-value assessment roll, assessments have been increased annually by 2 percent or by the inflation rate, whichever is lower. Sale of a property results in reassessment to market value as of the sale date. When a new building is constructed, its market value is added to the underlying land value, which is not reassessed unless a sale accompanies the new construction. The tax rates noted above apply uniformly to business and residential property so the tax ratio is 1.0. Thus the property tax is neutral between business and residential development.

Aside from property taxes, investors in San Francisco and Los Angeles pay gross receipts taxes. A gross receipts tax is an income tax with no deductions for expenses such as labour cost or raw material cost. For example an investor projecting a profit margin of 5 percent will view a 0.1 percent tax on gross receipts as equivalent to a 2.0 percent tax on net income. It follows that the tax's impact will depend on the ratio of net to gross income projected by individual investors.

This departure from neutrality is compounded by a complex rate structure, with Los Angeles' rates ranging from 0.1 percent to 0.5 percent dependent on industry classification. San Francisco's rates range from

3 The California assessment system discussed in the next paragraph makes statutory and effective business property tax rates identical for new investment.

0.075 percent to 0.475 percent depending on industry classification and the dollar value of gross receipts. With such complexity, data limitations preclude inclusion of these gross receipts taxes in our METR estimates.

## Methodology and Data

We have updated our data to bring our Canadian METR analysis into 2018. We have also expanded our data and updated our methodology to bring our five selected American cities into the picture so as to provide for a Canada-US comparison. This section summarizes relevant methodological updates and modelling inputs, with an emphasis on the estimation of effective business property tax rates in Canada.

### Methodological Updates and Key Modelling Inputs

We continue to use the general modelling framework developed in Found (2014) as the basis of our METR analysis. As indicated in the main text, however, we have updated our methodology to make our results comparable to those of Bazel, Mintz and Thompson (2018) who develop METR estimates for Canada, the United States and other countries. The methodological update is straightforward: we now define the METR as a percentage of the gross-of-tax, rather than net-of-tax, rate of return on the marginal business investment.

This update has two distinct effects on the METR, all else being equal. First, as the gross-of-tax rate of return is larger than the net-of-tax rate of return, METR contributions are decreased in absolute terms for each business tax (subject to the rounding of results). Second, given the non-linear structure of the METR, the proportionate decrease in a business tax's METR contribution increases with the size of that tax's initial METR contribution under the former methodology. The revision thus causes changes in relative METR contributions across business taxes. As the business property tax was by far the largest contributor to the METR under the former methodology, the proportionate reduction in this tax's METR contribution far exceeds that of any other business tax. As a result, the business property tax now represents about half rather than two-thirds of the METR among our Canadian municipalities.

To extend our METR analysis outside Canada, we adopt the general approach of McKenzie (2016) whereby the METR is the business tax hurdle faced by a hypothetical Canadian investor. In respect of international METR analysis, this approach permits continuance of the non-tax modelling inputs we already use for our Canadian METR analysis. Tables A3-A10 summarize key modelling inputs used to inform the METR analysis.

**Table A3: National Corporate Investment Shares by Province**

| Parameter | BC | AB | SK | MB | ON | QC | NB | NS | PE | NL | Canada |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | (*percent*) | | | | | | | | | | |
| National Corporate Investment Share | 11.67 | 29.87 | 6.18 | 3.97 | 27.63 | 13.68 | 1.49 | 1.56 | 0.21 | 3.75 | 100 |

Sources: Statistics Canada; authors' calculations.

## Table A4: Maximum Personal Income Tax and Dividend Tax Credit Rates by Province – 2018

| Parameter | BC | AB | SK | MB | ON | QC | NB | NS | PE | NL | Canada |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | (*percent*) | | | | | | | | | | |
| PIT Rate on Interest – Federal* | 33.00 | 33.00 | 33.00 | 33.00 | 33.00 | 33.00 | 33.00 | 33.00 | 33.00 | 33.00 | 33.00 |
| PIT Rate on Interest – Provincial* | 16.80 | 15.00 | 14.50 | 17.40 | 20.53 | 25.75 | 20.30 | 21.00 | 18.37 | 18.30 | 18.58 |
| PIT Rate on Interest – Total* | 49.80 | 48.00 | 47.50 | 50.40 | 53.53 | 58.75 | 53.30 | 54.00 | 51.37 | 51.30 | 51.58 |
| Enhanced PIT Credit Rate on Dividends – Federal* | 20.73 | 20.73 | 20.73 | 20.73 | 20.73 | 20.73 | 20.73 | 20.73 | 20.73 | 20.73 | 20.73 |
| Enhanced PIT Credit Rate on Dividends – Provincial* | 13.80 | 13.80 | 15.18 | 11.04 | 13.80 | 16.37 | 19.32 | 12.21 | 14.49 | 7.45 | 13.95 |
| Enhanced PIT Credit Rate on Dividends – Total* | 34.53 | 34.53 | 35.91 | 31.77 | 34.53 | 37.10 | 40.05 | 32.94 | 35.22 | 28.18 | 34.68 |
| Net-of-Credit Enhanced PIT Rate on Dividends – Total** | 32.60 | 31.43 | 30.44 | 34.39 | 35.05 | 36.95 | 31.95 | 36.21 | 33.28 | 36.84 | 33.67 |

Sources: *Canada Revenue Agency; provincial websites; **authors' calculations.

## Table A5: General Parameters Common to All Capital Asset Classes

| Parameter | Value (*percent*) |
|---|---|
| Nominal Interest Rate on Debt* | 5.00 |
| Proportion of Investment Financed via Debt** | 36.76 |
| Proportion of Equity Held as Retained Earnings** | 37.20 |
| Inflation Rate*** | 2.00 |

Sources: *McKenzie (2016); **Statistics Canada; authors' calculations; ***assumed by authors.

## Table A6: Parameters Specific to Capital Asset Classes

| Parameter | Land | Buildings | Machinery | Inventories |
|---|---|---|---|---|
| | (*percent*) | | | |
| Distribution of Average Corporate Investment* | 11.00 | 36.66 | 21.31 | 31.03 |
| Real Economic Depreciation Rate** | 0.00 | 3.80 | 18.70 | 0.00 |
| Capital Cost Allowance Rate – Canada*** | 0.00 | 6.27 | 20.00 | 0.00 |
| Capital Cost Allowance Rate – United States**** | 0.00 | 6.67 | 100.00 | 0.00 |

Sources: *Statistics Canada; McKenzie et al. (1998); authors' calculations; **McKenzie et al. (1998); *** Canada Revenue Agency; Statistics Canada; Authors' Calculations; **** Internal Revenue Service.

## Table A7: Statutory Canadian Business Tax and Investment Tax Credit Rates by Municipality – 2018

| Parameter | Vancouver | Calgary | Saskatoon | Winnipeg | Toronto | Montreal | Moncton | Halifax | Char-lottetown | St John's |
|---|---|---|---|---|---|---|---|---|---|---|
| | (*percent*) | | | | | | | | | |
| Federal General CIT* | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Provincial General CIT* | 12.00 | 12.00 | 12.00 | 12.00 | 11.50 | 11.70 | 14.00 | 16.00 | 16.00 | 15.00 |
| Federal M&P CIT* | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Provincial M&P CIT* | 12.00 | 12.00 | 10.00 | 12.00 | 10.00 | 11.70 | 14.00 | 16.00 | 16.00 | 15.00 |
| Federal Atlantic ITC – Buildings* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| Federal Atlantic ITC – Machinery* | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| Provincial M&P ITC – Buildings* | 0.00 | 0.00 | 6.00 | 9.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.00 | 0.00 |
| Provincial M&P ITC – Machinery* | 0.00 | 0.00 | 6.00 | 9.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.00 | 0.00 |
| Provincial RST* | 7.00 | 0.00 | 6.00 | 8.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Provincial BPT** | 0.423 | 0.406 | 0.498 | 0.586 | 0.823 | 0.000 | 2.205 | 0.339 | 1.500 | 0.000 |
| Municipal BPT** | 0.639 | 1.469 | 0.686 | 1.879 | 0.966 | 3.558 | 2.475 | 3.035 | 2.360 | 1.971 |
| Provincial LTT*** | 3.000 | 0.000 | 0.300 | 2.000 | 2.000 | 1.500 | 1.000 | 0.000 | 1.000 | 0.400 |
| Municipal LTT*** | 0.000 | 0.000 | 0.000 | 0.000 | 2.000 | 1.000 | 0.000 | 1.500 | 0.000 | 0.000 |

Sources: *Canada Revenue Agency; provincial websites; **provincial and municipal websites; authors' calculations; ***provincial and municipal websites.

## Table A8: Effective Canadian Business Tax and Investment Tax Credit Rates by Municipality – 2018

| Parameter | Vancouver | Calgary | Saskatoon | Winnipeg | Toronto | Montreal | Moncton | Halifax | Charlotte-town | St John's |
|---|---|---|---|---|---|---|---|---|---|---|
| | (*percent*) | | | | | | | | | |
| Federal CIT | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| Provincial CIT | 12.00 | 12.00 | 11.86 | 12.00 | 11.27 | 11.70 | 14.00 | 16.00 | 16.00 | 15.00 |
| Federal ITC – Buildings | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.336 | 0.763 | 1.000 | 3.107 |
| Federal ITC – Machinery | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.336 | 0.763 | 1.000 | 3.107 |
| Provincial ITC – Buildings | 0.000 | 0.000 | 0.391 | 0.581 | 0.000 | 0.000 | 0.000 | 0.000 | 0.789 | 0.000 |
| Provincial ITC – Machinery | 0.000 | 0.000 | 0.526 | 1.503 | 0.000 | 0.000 | 0.000 | 0.000 | 2.046 | 0.000 |
| Provincial RST | 5.950 | 0.000 | 3.900 | 6.800 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Provincial BPT | 0.423 | 0.406 | 0.498 | 0.586 | 0.823 | 0.000 | 2.205 | 0.339 | 1.500 | 0.000 |
| Municipal BPT | 0.639 | 1.469 | 0.686 | 1.879 | 0.966 | 3.558 | 2.475 | 3.035 | 2.360 | 1.971 |
| Provincial LTT | 3.000 | 0.000 | 0.300 | 2.000 | 2.000 | 1.500 | 1.000 | 0.000 | 1.000 | 0.400 |
| Municipal LTT | 0.000 | 0.000 | 0.000 | 0.000 | 2.000 | 1.000 | 0.000 | 1.500 | 0.000 | 0.000 |

Source: Authors' calculations.

## Table A9: Statutory American Business Tax Rates by Municipality – 2018

| Parameter | Boston | New York | Chicago | San Francisco | Los Angeles |
|---|---|---|---|---|---|
| | *(percent)* | | | | |
| Federal CIT* | 21.00 | 21.00 | 21.00 | 21.00 | 21.00 |
| State CIT** | 8.00 | 6.50 | 9.50 | 8.84 | 8.84 |
| Municipal CIT** | 0.00 | 8.85 | 0.00 | 0.00 | 0.00 |
| State RST** | 6.25 | 4.00 | 6.25 | 7.25 | 7.25 |
| Municipal RST** | 0.00 | 4.88 | 4.00 | 1.25 | 2.25 |
| State LTT** | 0.456 | 0.400 | 0.100 | 0.000 | 0.000 |
| Municipal LTT** | 0.000 | 2.625 | 1.100 | 3.000 | 0.560 |
| State BPT** | 0.260 | 0.000 | 0.000 | 0.000 | 0.000 |
| Municipal BPT** | 2.520 | 4.731 | 1.817 | 1.172 | 1.138 |

Sources: *Internal Revenue Service; **state and municipal websites; authors' calculations.

| Table A10: Effective American Business Tax Rates by Municipality – 2018 | | | | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Boston** | **New York** | **Chicago** | **San Francisco** | **Los Angeles** | **Rationale** |
| | *(percent)* | | | | | |
| **Federal CIT** | 19.32 | 19.64 | 19.01 | 19.14 | 19.14 | State CIT-deductible |
| **State CIT** | 6.32 | 5.14 | 7.51 | 6.98 | 6.98 | Federal CIT-deductible |
| **Municipal CIT** | 0.00 | 6.99 | 0.00 | 0.00 | 0.00 | Federal CIT-deductible |
| **State RST** | 5.31 | 3.40 | 5.31 | 6.16 | 6.16 | Deemed 85 percent of statutory rate |
| **Municipal RST** | 0.00 | 4.14 | 3.40 | 1.06 | 1.91 | Deemed 85 percent of statutory rate |
| **State LTT** | 0.456 | 0.400 | 0.100 | 0.000 | 0.000 | Same as statutory |
| **Municipal LTT** | 0.000 | 2.625 | 1.100 | 3.000 | 0.560 | Same as statutory |
| **State BPT** | 0.260 | 0.000 | 0.000 | 0.000 | 0.000 | Adjusted to percentage of market value where applicable |
| **Municipal BPT** | 2.520 | 4.071 | 4.262 | 1.172 | 1.138 | Adjusted to percentage of market value where applicable |
| Source: Authors' calculations. | | | | | | |

## Estimation of Effective Business Property Tax Rates in Canada

We continue to aggregate local business property tax regimes under the heading of the municipality to which they are associated. For instance, the Management Committee of the School Tax on the Island of Montreal, while independent of the City of Montreal, is incorporated into our analysis under the heading "Montreal." To promote transparency and accountability, we make every reasonable effort to identify statutory business property tax rates by local levying authority in the data tables. Clearly, however, it would be too cumbersome to reflect these decompositions in the METR charts – we must strike a balance between precision and readability of the results.

For business property tax regimes with multiple classes of property, we estimate assessment-weighted average tax rates across the property classes. In many jurisdictions, effective business property tax rates differ from their statutory counterparts because of deviations from market-based property valuation such as assessment discounts and lags between assessed and market property values engendered by the assessment system. As per our standard practice, we account for assessment lags greater than one year by discounting statutory business property tax rates in accordance with our estimated property appreciation rates. Here is how the calculation works using Alberta's 2018 business property tax levied in Calgary as an example:

Statutory Business Property Tax Rate: 0.410 percent

Assessed-to-Market Value Ratio:[4] 0.916

Average Annual Appreciation Rate:[5] -5.00 percent

Assessment Lag: 1.5 years

Effective Business Property Tax Rate: $(0.0041)(0.916)/(1-0.05)^{1.5} = 0.406$ percent

Where applicable in our business property tax tables, we indicate the time period for which our estimated property appreciation occurred, which is lagged by at least one year due to assessment lags. In the presence of data currency limitations, we assume the latest estimable historical appreciation rates have continued into the present period. Tables A11-A29 summarize our estimation of effective business property tax rates in our 10 Canadian municipalities.

**Table A11: British Columbia BPT Rates – 2018**

| Property Class | Share of Assessment Base | Statutory BPT Rate | Industrial Property Tax Credit | Effective BPT Rate |
|---|---|---|---|---|
| | | *(percent)* | | |
| Utilities | 0.38 | 1.340 | 0.000 | 1.340 |
| Major Industry | 0.32 | 0.420 | 60.000 | 0.168 |
| Light Industry | 2.79 | 0.420 | 0.000 | 0.420 |
| Commercial | 96.51 | 0.420 | 0.000 | 0.420 |
| All Business | 100.00 | 0.424 | 0.189 | 0.423 |

Source: Authors' calculations from government websites.

4 Based on a 2018 equalized provincial average business property tax rate of 0.376 percent – see Table A13.

5 As reported by the City of Calgary through its annual "Assessment Roll Highlights."

## Table A12: Vancouver BPT Rates – 2018

| Property Class | Share of Assessment Base | Statutory BPT Rate | | | | Effective BPT Rate |
|---|---|---|---|---|---|---|
| | | City of Vancouver | Metro Vancouver | Other Authorities | Total | |
| | *(percent)* | | | | | |
| Utilities | 0.38 | 2.650 | 0.015 | 0.296 | 2.961 | 2.961 |
| Major Industry | 0.32 | 3.425 | 0.015 | 0.220 | 3.660 | 3.660 |
| Light Industry | 2.79 | 0.503 | 0.015 | 0.129 | 0.646 | 0.646 |
| Commercial | 96.51 | 0.503 | 0.011 | 0.106 | 0.620 | 0.620 |
| All Business | 100.00 | 0.520 | 0.011 | 0.108 | 0.639 | 0.639 |

Source: Authors' calculations from government websites.

## Table A13: Alberta BPT Rates – 2018

| Property Class | Statutory BPT Rate | | Assessed-to-Market Value Ratio | Average Appreciation Rate | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|---|
| | Levied in Calgary | Equalized Provincial Average | | | | |
| | *Percent (except Assessed-to-Market Value Ratio and Assessment Lag)* | | | | | |
| Non-Residential | 0.410 | 0.376 | 0.916 | -5.00 | 1.5 | 0.406 |

Source: Authors' calculations from government websites.

## Table A14: Calgary BPT Rates – 2018

| Property Class | Statutory BPT Rate | | | Assessed-to-Market Value Ratio | Effective BPT Rate |
|---|---|---|---|---|---|
| | General | BOT-Equivalent | Total | | |
| | *Percent (except Assessed-to-Market Value Ratio)* | | | | |
| Non-Residential | 1.532 | 0.070 | 1.603 | 0.916 | 1.469 |

Source: Authors' calculations from government websites.

## Table A15: Saskatchewan BPT Rates – 2018

| Property Class | Statutory BPT Rate | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|
| | *Percent (except Appreciation Period and Assessment Lag)* | | | | |
| Commercial/ Industrial | 0.627 | 7.99 | 2011-2015 | 3 | 0.498 |

Source: Authors' calculations from government websites.

## Table A16: Saskatoon BPT Rates – 2018

| Property Class | Tax Rate Multiplier | Statutory Uniform Tax Rate | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|---|
| | | *Percent (except Appreciation Period and Assessment Lag)* | | | | |
| Commercial/ Industrial | 1.2007 | 0.720 | 7.99 | 2011-2015 | 3 | 0.686 |

Source: Authors' calculations from government websites.

## Table A17: Manitoba BPT Rates – 2018

| Property Class | Share of Assessment Base | Assessment Discount Rate | Statutory BPT Rate | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|---|---|
| | *Percent (except Appreciation Period and Assessment Lag)* | | | | | | |
| Pipeline | 0.18 | 50.00 | 1.007 | 2.47 | 2014-2016 | 1.75 | 0.483 |
| Railway | 2.15 | 75.00 | 1.007 | 9.87 | 2014-2016 | 1.75 | 0.214 |
| Other Business | 97.67 | 35.00 | 1.007 | 5.70 | 2014-2016 | 1.75 | 0.594 |
| All Business | 100.00 | 35.89 | 1.007 | 5.78 | 2014-2016 | 1.75 | 0.586 |

Source: Authors' calculations from government websites.

**Table A18: Winnipeg Local School Division BPT Rates – 2018**

| Local School Division | Share of Portioned Assessment Base | Statutory BPT Rate |
|---|---|---|
| | *Percent* | |
| Winnipeg | 43.10 | 1.476 |
| St. James-Assiniboia | 14.31 | 1.297 |
| Pembina Trails | 12.99 | 1.236 |
| Seven Oaks | 3.46 | 1.640 |
| Seine River | 1.74 | 1.469 |
| Interlake | 2.55 | 1.359 |
| Louis Riel | 12.34 | 1.335 |
| River East Transcona | 9.50 | 1.344 |
| All School Divisions | 100.00 | 1.392 |

Source: Authors' calculations from government websites.

## Table A19: Winnipeg BPT Rates – 2018

| Property Class | Share of Assessment Base | Assessment Discount Rate | Statutory BPT Rate | | | | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | City of Winnipeg | | Local School Division Average | Total | | | | |
| | | | General | BOT-Equivalent | | | | | | |
| | *Percent (except Appreciation Period and Assessment Lag)* | | | | | | | | | |
| Pipeline | 0.18 | 50.00 | 1.299 | 0.000 | 1.392 | 2.691 | 2.47 | 2014-2016 | 1.75 | 1.289 |
| Railway | 2.15 | 75.00 | 1.299 | 0.000 | 1.392 | 2.691 | 9.87 | 2014-2016 | 1.75 | 0.570 |
| Other Business | 97.67 | 35.00 | 1.299 | 0.546 | 1.392 | 3.236 | 5.70 | 2014-2016 | 1.75 | 1.909 |
| All Business | 100.00 | 35.89 | 1.299 | 0.533 | 1.392 | 3.223 | 5.78 | 2014-2016 | 1.75 | 1.879 |

Source: Authors' calculations from government websites.

## Table A20: Ontario BPT Rates Levied on New Construction in Toronto – 2018

| Property Class | Statutory BPT Rate | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|
| | *Percent (except Appreciation Period and Assessment Lag)* | | | | |
| Non-Residential | 1.090 | 7.29 | 2012-2016 | 4 | 0.823 |

Source: Authors' calculations from government websites.

## Table A21: Toronto BPT Rates – 2018

| Property Class | Share of Assessment Base | Statutory BPT Rate | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|---|
| | *Percent (except Appreciation Period and Assessment Lag)* | | | | | |
| General Commercial | 47.68 | 1.314 | 7.51 | 2012-2016 | 4 | 0.983 |
| Residual Commercial – Band 1 | 17.70 | 1.138 | 7.51 | 2012-2016 | 4 | 0.852 |
| Residual Commercial – Band 2 | 27.77 | 1.314 | 7.51 | 2012-2016 | 4 | 0.983 |
| Industrial | 6.56 | 1.286 | 4.40 | 2012-2016 | 4 | 1.083 |
| Pipeline | 0.30 | 0.895 | 1.99 | 2012-2016 | 4 | 0.828 |
| All Business | 100.00 | 1.280 | 7.29 | 2012-2016 | 4 | 0.966 |

Source: Authors' calculations from government websites.

## Table A22: Montreal BPT Rates – 2018

| Property Class | Statutory BPT Rate | | | | | | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|---|---|---|---|---|
| | City of Montreal | | | Borough Average | Management Committee of the School Tax on the Island of Montreal | Total | | | | |
| | General | Water | Roads | | | | | | | |
| | *Percent (except Appreciation Period and Assessment Lag)* | | | | | | | | | |
| Non-Residential | 3.169 | 0.343 | 0.022 | 0.091 | 0.178 | 3.804 | 2.71 | 2012-2015 | 2.5 | 3.558 |

Source: Authors' calculations from government websites.

## Table A23: New Brunswick BPT Rates – 2018

| Property Class | Statutory BPT Rate | | | Effective BPT Rate |
|---|---|---|---|---|
| | General | Service New Brunswick | Total | |
| | *(percent)* | | | |
| Non-Residential | 2.186 | 0.019 | 2.205 | 2.205 |

Source: Authors' calculations from government websites.

## Table A24: Moncton BPT Rates – 2018

| Property Class | Statutory BPT Rate | Effective BPT Rate |
|---|---|---|
| | *(percent)* | |
| Non-Residential | 2.475 | 2.475 |

Source: Authors' calculations from government websites.

## Table A25: Nova Scotia BPT Rates – 2018

| Property Class | Statutory BPT Rate | | | | | Effective BPT Rate |
|---|---|---|---|---|---|---|
| | Education | Provincial Valuation Services Corporation | Correctional Services | Housing Authorities | Total | |
| | *(percent)* | | | | | |
| Commercial | 0.314 | 0.009 | 0.008 | 0.008 | 0.339 | 0.339 |

Source: Authors' calculations from government websites.

## Table A26: Halifax Regional Municipality BPT Rates – 2018

| Property Class | Statutory BPT Rate | | | | Effective BPT Rate |
|---|---|---|---|---|---|
| | Urban General | Fire Hydrants | Supplementary Education | Total | |
| | *(percent)* | | | | |
| Commercial | 2.926 | 0.036 | 0.073 | 3.035 | 3.035 |

Source: Authors' calculations from government websites.

## Table A27: Prince Edward Island BPT Rates – 2018

| Property Class | Statutory BPT Rate | Effective BPT Rate |
|---|---|---|
| | *(percent)* | |
| Commercial | 1.500 | 1.500 |

Source: Authors' calculations from government websites.

## Table A28: Charlottetown BPT Rates – 2018

| Property Class | Statutory BPT Rate | Effective BPT Rate |
|---|---|---|
| | *(percent)* | |
| Commercial | 2.360 | 2.360 |

Source: Authors' calculations from government websites.

## Table A29: St. John's BPT Rates – 2018

| Property Class | Statutory BPT Rate | Average Appreciation Rate | Appreciation Period | Assessment Lag *(Years)* | Effective BPT Rate |
|---|---|---|---|---|---|
| | *Percent (except Appreciation Period and Assessment Lag)* | | | | |
| Commercial | 2.470 | 5.80 | 2011-2014 | 4 | 1.971 |

Source: Authors' calculations from government websites.