

Appendix: Business Tax Burdens in Canada's Major Cities: The 2017 Report Card

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This appendix comprises three sections: a discussion on the economic impact of business taxation, the Business Property Tax Report Card evaluation and the tax data informing the METR estimates.

The Economic Impact of Business Taxation: Burden, Response and Harm

While the METR is a widely-recognized measure of the burden of a business tax, it is designed neither to measure the sensitivity of businesses to, nor the economic harm arising from, such a burden. In other words, the METR does not indicate the extent to which the value of business capital stock and investment (i.e., the ultimate tax base of any business tax) is reduced in response to business taxation, nor the associated economic damage.

To measure responsiveness to taxation, economists appeal to the tax elasticity, which is the percentage reduction in the long-run value of the tax base for a one percent increase in the tax rate.¹ While technically speaking the tax elasticity is a negative number, often only its magnitude is discussed or graphed (i.e. the negative sign is suppressed) for ease of reference in economic studies. Adopting this convention, the tax elasticity curve increases with the tax rate, as would be expected.

As a result, by incenting tax avoidance and evasion and by suppressing productive economic activity, a tax erodes its own base so long as that base is producible and/or mobile, which is almost always the case.² Hence, the tax elasticity can be translated into a tax base retention curve that relates the long-run value of the tax base (or percent of tax base value retained) to the tax rate. As would be expected, the tax base retention curve decreases with the tax rate.

Going one step further, the tax base retention curve can then be translated into a revenue hill (i.e., Laffer curve) that relates long-run revenue to the tax rate. The top of the revenue hill corresponds to the revenue-maximizing tax rate, at which point the tax elasticity is equal to 1 (in magnitude). There is no defendable public policy rationale for levying a tax rate greater than the revenue-maximizing tax rate. That is, the revenue-maximizing tax rate is an upper bound for the socially optimal tax rate, if even such a positive tax rate exists for the tax in question.

While the tax elasticity curve, tax base retention curve and revenue hill each in their own way reflect the response to a tax burden, they all indicate economic harm arises from taxation. This harm is quantifiable as the marginal cost of public funds (MCPF), which is the dollar amount the economy is damaged by a one dollar tax hike.³ This statistic summarizes the cost of the economic inefficiencies (i.e., misallocation of resources) arising

1 This is sometimes also referred to as the tax-base elasticity, as in Found (2014b) and Ferede and Dahlby (2016). Also, by “tax rate” we implicitly mean “effective tax rate”.

2 A well-known exception is land, which is why land value taxation is efficient.

3 See Ferede and Dahlby (2016) for an excellent discussion of the MCPF and an application of it to corporate income, personal income and retail sales taxation in Canada.

from the distortionary effect of taxation. Unsurprisingly, the MCPF is an increasing function of the tax elasticity, which in turn is an increasing function of the METR (Found 2017). Given these relationships, in future editions in this series we will consider relating our METR estimates to measures of responsiveness to and harm of business taxation.

Business Property Tax Report Card Results

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 where required in 2016. Since last year, only Nova Scotia has changed its tax regime in a relevant way: it has reduced the assessed-to-market property value lag from two years to one year.

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 simply the 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 to be exercised by the evaluator, we have approached this exercise as objectively as possible and feel confident that the scores assigned are reasonable and reflective of our experience with estimating effective business property tax rates over the past several years.

Tax Data Tables and Calculation of Effective Business Tax Rates

We have updated our data to bring the METR analysis into 2017 (see Table A3 to Table A23). In this section, we summarize the estimation of effective business tax rates, with a focus on business property taxation – further details are available from the authors upon request. For this edition, we have updated the following background modelling data from Statistics Canada: corporate capital investment shares across major asset classes (i.e., land, buildings, machinery and inventories) and provinces, economic depreciation and capital cost allowance (CCA) rates by major asset class, average corporate debt-to-equity ratio, average corporate retained earnings-to-equity ratio and marginal personal income tax rates on investment income. For detailed information on the underlying METR methodology and model inputs, see the appendix to Found, Dachis and Tomlinson (2013), as well as Found (2014a), both available at www.cdhowe.org.

We continue to calculate effective provincial business property tax rates on a municipality-specific basis rather than on an average province-wide basis and to aggregate local business property tax regimes under the heading of the municipality to which they are associated (e.g., the Management Committee of the School Tax on the Island of Montreal, while independent of the City of Montreal, is incorporated into our review under the

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 and Labrador	-	-	-	-	7.00	B	7.00	B	7.00	B
National Average	4.75	C	3.66	D	5.44	C	7.55	B	5.40	C

Source: Authors' calculations from government websites.

heading of “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.

In many jurisdictions, effective business property tax rates differ from their statutory counterparts because of deviations from market-based 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 2017 business property tax in Calgary as an example:

Statutory Business Property Tax Rate: 0.386 percent

Assessed-to-Market Value Ratio:⁴ 0.942

Average Annual Appreciation Rate:⁵ -6.00 percent

Assessment Lag: 1.5 years

Effective Business Property Tax Rate: $(0.00386)(0.942)/(1 - 0.06)^{1.5} = 0.399$ percent

In our business property tax tables we indicate the time period for which our estimated property appreciation occurred, which in most cases 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. Where possible, we restate estimated historical appreciation rates based on revised data. For business property tax regimes with multiple classes of property, we estimate assessment-weighted average tax rates across the property classes.

⁴ Based on a 2017 equalized provincial average business property tax rate of 0.364 percent – see Table A5.

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

Table A3: British Columbia BPT Rates

Year	Property Class	Share of Assessment Base	Statutory BPT Rate	Industrial Property Tax Credit	Effective BPT Rate
		<i>Percent</i>			
2013	Utilities	0.54	1.400	0.000	1.400
	Major Industry	0.56	0.620	60.000	0.248
	Light Industry	2.11	1.080	0.000	1.080
	Commercial	96.79	0.620	0.000	0.620
	All Business	100.00	0.634	0.333	0.632
2014	Utilities	0.52	1.360	0.000	1.360
	Major Industry	0.52	0.600	60.000	0.240
	Light Industry	2.60	0.600	0.000	0.600
	Commercial	96.37	0.600	0.000	0.600
	All Business	100.00	0.604	0.311	0.602
2015	Utilities	0.49	1.360	0.000	1.360
	Major Industry	0.48	0.580	60.000	0.232
	Light Industry	2.40	0.580	0.000	0.580
	Commercial	96.64	0.580	0.000	0.580
	All Business	100.00	0.584	0.286	0.582
2016	Utilities	0.46	1.350	0.000	1.350
	Major Industry	0.41	0.540	60.000	0.216
	Light Industry	2.21	0.540	0.000	0.540
	Commercial	96.91	0.540	0.000	0.540
	All Business	100.00	0.544	0.249	0.542
2017	Utilities	0.41	1.340	0.000	1.340
	Major Industry	0.35	0.480	60.000	0.192
	Light Industry	2.69	0.480	0.000	0.480
	Commercial	96.54	0.480	0.000	0.480
	All Business	100.00	0.484	0.212	0.483

Source: Authors' calculations from government websites.

Table A4: Vancouver BPT Rates

Year	Property Class	Share of Assessment Base	Statutory BPT Rate				Effective BPT Rate
			City of Vancouver	Metro Vancouver	Other Authorities	Total	
			<i>Percent</i>				
2013	Utilities	0.54	3.636	0.022	0.324	3.982	3.982
	Major Industry	0.56	3.298	0.021	0.278	3.597	3.597
	Light Industry	2.11	0.820	0.021	0.200	1.041	1.041
	Commercial	96.79	0.820	0.015	0.167	1.003	1.003
	All Business	100.00	0.849	0.015	0.169	1.034	1.034
2014	Utilities	0.52	3.521	0.020	0.325	3.867	3.867
	Major Industry	0.52	3.377	0.019	0.263	3.659	3.659
	Light Industry	2.60	0.788	0.019	0.188	0.996	0.996
	Commercial	96.37	0.788	0.014	0.163	0.965	0.965
	All Business	100.00	0.816	0.014	0.165	0.995	0.995
2015	Utilities	0.49	3.361	0.019	0.325	3.704	3.704
	Major Industry	0.48	3.368	0.019	0.262	3.649	3.649
	Light Industry	2.40	0.735	0.019	0.187	0.940	0.940
	Commercial	96.64	0.735	0.013	0.162	0.910	0.910
	All Business	100.00	0.760	0.014	0.164	0.937	0.937
2016	Utilities	0.46	3.089	0.018	0.307	3.414	3.414
	Major Industry	0.41	3.390	0.017	0.242	3.650	3.650
	Light Industry	2.21	0.661	0.017	0.168	0.847	0.847
	Commercial	96.91	0.661	0.013	0.140	0.814	0.814
	All Business	100.00	0.684	0.013	0.142	0.838	0.838
2017	Utilities	0.41	2.838	0.015	0.300	3.153	3.153
	Major Industry	0.35	3.451	0.014	0.237	3.703	3.703
	Light Industry	2.69	0.580	0.014	0.148	0.743	0.743
	Commercial	96.54	0.580	0.010	0.122	0.712	0.712
	All Business	100.00	0.599	0.011	0.124	0.733	0.733

Source: Authors' calculations from government websites.

Table A5: Alberta BPT Rates

Year	Property Class	Statutory BPT Rate		Assessed-to-Market Value Ratio	Average Appreciation Rate	Assessment Lag	Effective BPT Rate
		Levied in Calgary	Equalized Provincial Average				
		<i>Percent (except Assessed-to-Market Value Ratio and Assessment Lag)</i>					
2013	Non-Residential	0.330	0.370	1.120	20.00	1.5	0.281
2014	Non-Residential	0.342	0.372	1.089	11.00	1.5	0.318
2015	Non-Residential	0.346	0.367	1.061	7.00	1.5	0.332
2016	Non-Residential	0.378	0.364	0.963	-4.00	1.5	0.387
2017	Non-Residential	0.386	0.364	0.942	-6.00	1.5	0.399

Source: Authors' calculations from government websites.

Table A6: Calgary BPT Rates

Year	Property Class	Statutory BPT Rate			Assessed-to-Market Value Ratio	Effective BPT Rate
		General	BOT-Equivalent	Total		
		<i>Percent (except Assessed-to-Market Value Ratio)</i>				
2013	Non-Residential	1.099	0.308	1.407	1.120	1.575
2014	Non-Residential	1.069	0.262	1.331	1.089	1.449
2015	Non-Residential	1.074	0.228	1.301	1.061	1.381
2016	Non-Residential	1.215	0.184	1.399	0.963	1.347
2017	Non-Residential	1.388	0.133	1.521	0.942	1.434

Source: Authors' calculations from government websites.

Table A7: Saskatchewan BPT Rates

Year	Property Class	Statutory BPT Rate	Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
<i>Percent (except Appreciation Period and Assessment Lag)</i>						
2013	Commercial/Industrial	0.828	7.99	2011-2015	2	0.710
2014	Commercial/Industrial	0.828	7.99	2011-2015	3	0.657
2015	Commercial/Industrial	0.828	7.99	2011-2015	4	0.609
2016	Commercial/Industrial	0.828	7.99	2011-2015	5	0.564
2017	Commercial/Industrial	0.627	7.99	2011-2015	2	0.538

Source: Authors' calculations from government websites.

Table A8: Saskatoon BPT Rates

Year	Property Class	Tax Rate Multiplier	Statutory Uniform Tax Rate	Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
<i>Percent (except Appreciation Period and Assessment Lag)</i>							
2013	Commercial/Industrial	1.1765	0.751	7.99	2011-2015	2	0.758
2014	Commercial/Industrial	1.1684	0.799	7.99	2011-2015	3	0.741
2015	Commercial/Industrial	1.1676	0.840	7.99	2011-2015	4	0.721
2016	Commercial/Industrial	1.1661	0.872	7.99	2011-2015	5	0.693
2017	Commercial/Industrial	1.1945	0.695	7.99	2011-2015	2	0.712

Source: Authors' calculations from government websites.

Table A9: Manitoba BPT Rates

Year	Property Class	Share of Assessment Base	Assessment Discount Rate	Statutory BPT Rate	Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
<i>Percent (except Appreciation Period and Assessment Lag)</i>								
2013	Pipeline	0.23	50.00	1.175	13.37	2012-2014	2.75	0.416
	Railway	1.76	75.00	1.175	8.26	2012-2014	2.75	0.236
	Other Business	98.02	35.00	1.175	5.64	2012-2014	2.75	0.657
	All Business	100.00	35.74	1.175	5.71	2012-2014	2.75	0.649
2014	Pipeline	0.21	50.00	1.149	13.37	2012-2014	1.75	0.461
	Railway	1.88	75.00	1.149	8.26	2012-2014	1.75	0.250
	Other Business	97.90	35.00	1.149	5.64	2012-2014	1.75	0.679
	All Business	100.00	35.79	1.149	5.71	2012-2014	1.75	0.670
2015	Pipeline	0.21	50.00	1.175	13.37	2012-2014	2.75	0.416
	Railway	1.86	75.00	1.175	8.26	2012-2014	2.75	0.236
	Other Business	97.93	35.00	1.175	5.64	2012-2014	2.75	0.656
	All Business	100.00	35.78	1.175	5.71	2012-2014	2.75	0.648
2016	Pipeline	0.20	50.00	1.089	13.37	2012-2014	1.75	0.437
	Railway	2.06	75.00	1.089	8.26	2012-2014	1.75	0.237
	Other Business	97.74	35.00	1.089	5.64	2012-2014	1.75	0.643
	All Business	100.00	35.85	1.089	5.71	2012-2014	1.75	0.634
2017	Pipeline	0.20	50.00	1.049	13.37	2012-2014	2.75	0.371
	Railway	2.07	75.00	1.049	8.26	2012-2014	2.75	0.211
	Other Business	97.73	35.00	1.049	5.64	2012-2014	2.75	0.586
	All Business	100.00	35.86	1.049	5.71	2012-2014	2.75	0.578

Source: Authors' calculations from government websites.

Table A10: Winnipeg Local School Division BPT Rates

Year	School Division	Share of Portioned Assessment Base	Statutory BPT Rate	Year	School Division	Share of Portioned Assessment Base	Statutory BPT Rate
		<i>Percent</i>				<i>Percent</i>	
2013	Winnipeg	44.25	1.335	2015	Winnipeg	43.43	1.560
	St. James-Assiniboia	15.23	1.335		St. James-Assiniboia	15.05	1.268
	Pembina Trails	12.04	1.311		Pembina Trails	12.93	1.239
	Seven Oaks	3.60	1.672		Seven Oaks	3.38	1.564
	Seine River	1.75	1.537		Seine River	1.73	1.520
	Interlake	2.29	1.516		Interlake	2.46	1.438
	Louis Riel	11.67	1.330		Louis Riel	11.76	1.307
	River East Transcona	9.17	1.459		River East Transcona	9.25	1.360
	All School Divisions	100.00	1.363		All School Divisions	100.00	1.423
2014	Winnipeg	44.28	1.511	2016	Winnipeg	42.99	1.445
	St. James-Assiniboia	14.91	1.226		St. James-Assiniboia	14.90	1.242
	Pembina Trails	12.21	1.213		Pembina Trails	13.16	1.209
	Seven Oaks	3.52	1.494		Seven Oaks	3.41	1.537
	Seine River	1.75	1.456		Seine River	1.73	1.407
	Interlake	2.51	1.400		Interlake	2.47	1.316
	Louis Riel	11.75	1.241		Louis Riel	12.16	1.276
	River East Transcona	9.08	1.332		River East Transcona	9.19	1.300
	All School Divisions	100.00	1.380		All School Divisions	100.00	1.349
2017	Winnipeg	42.99	1.501		St. James-Assiniboia	14.90	1.311
	Pembina Trails	13.16	1.243		Seven Oaks	3.41	1.613
	Seven Oaks	3.41	1.613		Seine River	1.73	1.446
	Seine River	1.73	1.446		Interlake	2.47	1.373
	Interlake	2.47	1.373		Louis Riel	12.16	1.325
	Louis Riel	12.16	1.325		River East Transcona	9.19	1.335
	River East Transcona	9.19	1.335		All School Divisions	100.00	1.402
	All School Divisions	100.00	1.402				

Source: Authors' calculations from government websites.

Table A11: Winnipeg BPT Rates

Year	Property Class	Share of Assessment Base	Assessment Discount Rate	Statutory BPT Rate				Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate				
				City of Winnipeg		Local School Division	Total								
				General	BOT-Equivalent										
<i>Percent (except Appreciation Period and Assessment Lag)</i>															
2013	Pipeline	0.23	50.00	1.460	0.000	1.363	2.823	13.37	2012-2014	2.75	0.999				
	Railway	1.76	75.00	1.460	0.000	1.363	2.823	8.26	2012-2014	2.75	0.567				
	Other Business	98.02	35.00	1.460	0.761	1.363	3.584	5.64	2012-2014	2.75	2.003				
	All Business	100.00	35.74	1.460	0.746	1.363	3.569	5.71	2012-2014	2.75	1.976				
2014	Pipeline	0.21	50.00	1.337	0.000	1.380	2.717	13.37	2012-2014	1.75	1.091				
	Railway	1.88	75.00	1.337	0.000	1.380	2.717	8.26	2012-2014	1.75	0.591				
	Other Business	97.90	35.00	1.337	0.697	1.380	3.414	5.64	2012-2014	1.75	2.016				
	All Business	100.00	35.79	1.337	0.682	1.380	3.399	5.71	2012-2014	1.75	1.987				
2015	Pipeline	0.21	50.00	1.368	0.000	1.423	2.791	13.37	2012-2014	2.75	0.988				
	Railway	1.86	75.00	1.368	0.000	1.423	2.791	8.26	2012-2014	2.75	0.561				
	Other Business	97.93	35.00	1.368	0.662	1.423	3.453	5.64	2012-2014	2.75	1.930				
	All Business	100.00	35.78	1.368	0.649	1.423	3.439	5.71	2012-2014	2.75	1.902				
2016	Pipeline	0.20	50.00	1.277	0.000	1.349	2.626	13.37	2012-2014	1.75	1.054				
	Railway	2.06	75.00	1.277	0.000	1.349	2.626	8.26	2012-2014	1.75	0.571				
	Other Business	97.74	35.00	1.277	0.587	1.349	3.212	5.64	2012-2014	1.75	1.897				
	All Business	100.00	35.85	1.277	0.573	1.349	3.199	5.71	2012-2014	1.75	1.868				
2017	Pipeline	0.20	50.00	1.306	0.000	1.402	2.708	13.37	2012-2014	2.75	0.959				
	Railway	2.07	75.00	1.306	0.000	1.402	2.708	8.26	2012-2014	2.75	0.544				
	Other Business	97.73	35.00	1.306	0.578	1.402	3.286	5.64	2012-2014	2.75	1.837				
	All Business	100.00	35.86	1.306	0.565	1.402	3.273	5.71	2012-2014	2.75	1.808				

Source: Authors' calculations from government websites.

Table A12: Ontario BPT Rates Levied on New Construction

Year	Property Class	Statutory BPT Rate	Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
<i>Percent (except Appreciation Period and Assessment Lag)</i>						
2013	Non-Residential	1.260	7.24	2012-2016	4	0.953
2014	Non-Residential	1.220	7.25	2012-2016	4	0.922
2015	Non-Residential	1.190	7.25	2012-2016	4	0.899
2016	Non-Residential	1.180	7.26	2012-2016	4	0.892
2017	Non-Residential	1.140	7.26	2012-2016	4	0.861

Source: Authors' calculations from government websites.

Table A13: Toronto BPT Rates

Year	Property Class	Share of Assessment Base	Statutory BPT Rate	Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
<i>Percent (except Appreciation Period and Assessment Lag)</i>							
2013	General Commercial	46.61	1.672	7.51	2012-2016	4	1.251
	Residual Commercial – Band 1	17.71	1.478	7.51	2012-2016	4	1.107
	Residual Commercial – Band 2	27.19	1.672	7.51	2012-2016	4	1.251
	Industrial	8.21	1.666	4.40	2012-2016	4	1.403
	Pipeline	0.29	1.027	1.99	2012-2016	4	0.949
	All Business	100.00	1.635	7.24	2012-2016	4	1.237
2014	General Commercial	47.08	1.606	7.51	2012-2016	4	1.202
	Residual Commercial – Band 1	17.83	1.374	7.51	2012-2016	4	1.028
	Residual Commercial – Band 2	26.93	1.606	7.51	2012-2016	4	1.202
	Industrial	7.86	1.601	4.40	2012-2016	4	1.347
	Pipeline	0.30	1.000	1.99	2012-2016	4	0.925
	All Business	100.00	1.562	7.25	2012-2016	4	1.182
2015	General Commercial	47.41	1.539	7.51	2012-2016	4	1.152
	Residual Commercial – Band 1	17.98	1.283	7.51	2012-2016	4	0.961
	Residual Commercial – Band 2	26.61	1.539	7.51	2012-2016	4	1.152
	Industrial	7.70	1.539	4.40	2012-2016	4	1.295
	Pipeline	0.30	0.982	1.99	2012-2016	4	0.908
	All Business	100.00	1.491	7.25	2012-2016	4	1.128
2016	General Commercial	47.66	1.457	7.51	2012-2016	4	1.091
	Residual Commercial – Band 1	18.12	1.256	7.51	2012-2016	4	0.940
	Residual Commercial – Band 2	26.40	1.457	7.51	2012-2016	4	1.091
	Industrial	7.53	1.449	4.40	2012-2016	4	1.220
	Pipeline	0.30	0.956	1.99	2012-2016	4	0.884
	All Business	100.00	1.419	7.26	2012-2016	4	1.072
2017	General Commercial	47.66	1.380	7.51	2012-2016	4	1.033
	Residual Commercial – Band 1	18.12	1.205	7.51	2012-2016	4	0.902
	Residual Commercial – Band 2	26.40	1.380	7.51	2012-2016	4	1.033
	Industrial	7.53	1.370	4.40	2012-2016	4	1.153
	Pipeline	0.30	0.928	1.99	2012-2016	4	0.858
	All Business	100.00	1.346	7.26	2012-2016	4	1.018

Source: Authors' calculations from government websites.

Table A14: Montreal BPT Rates

Year	Property Class	Statutory BPT Rate			Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
		City of Montreal		Management Committee				
		Borough Average	Total	Tax on the Island of Montreal				
<i>Percent (except Appreciation Period and Assessment Lag)</i>								
2013	Non-Residential	3.363	0.427	0.028	0.096	0.205	4.118	2.71
2014	Non-Residential	3.309	0.477	0.027	0.096	0.195	4.103	2.71
2015	Non-Residential	3.251	0.355	0.025	0.095	0.188	3.914	2.71
2016	Non-Residential	3.172	0.341	0.024	0.092	0.178	3.807	2.71
2017	Non-Residential	3.147	0.318	0.023	0.090	0.178	3.757	2.71

Source: Authors' calculations from government websites.

Table A15: New Brunswick BPT Rates

Year	Property Class	Statutory BPT Rate			Effective BPT Rate
		General	Service New Brunswick	Total	
		<i>Percent</i>			
2013	Non-Residential	2.104	0.019	2.123	1.900
2014	Non-Residential	2.021	0.019	2.040	1.888
2015	Non-Residential	2.186	0.019	2.205	2.205
2016	Non-Residential	2.186	0.019	2.205	2.205
2017	Non-Residential	2.186	0.019	2.205	2.205

Source: Authors' calculations from government websites.

Table A16: Saint John BPT Rates

Year	Property Class	Statutory BPT Rate	Effective BPT Rate
		<i>Percent</i>	
2013	Non-Residential	2.678	2.678
2014	Non-Residential	2.678	2.678
2015	Non-Residential	2.678	2.678
2016	Non-Residential	2.678	2.678
2017	Non-Residential	2.678	2.678

Source: Authors' calculations from government websites.

Table A17: Nova Scotia BPT Rates

Year	Property Class	Statutory BPT Rate				Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
		Education	Provincial Valuation Services	Correctional Services	Housing Authorities Corporation				
<i>Percent (except Appreciation Period and Assessment Lag)</i>									
2013	Commercial	0.304	0.010	0.009	0.007	0.330	3.15	2010-2011	2
2014	Commercial	0.291	0.010	0.008	0.006	0.315	6.44	2011-2012	2
2015	Commercial	0.301	0.010	0.008	0.006	0.325	5.44	2012-2013	2
2016	Commercial	0.310	0.010	0.008	0.008	0.336	4.43	2013-2014	2
2017	Commercial	0.312	0.009	0.008	0.009	0.338	N/A	N/A	0.338

Source: Authors' calculations from government websites.

Table A18: Halifax Regional Municipality BPT Rates

Year	Property Class	Statutory BPT Rate				Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
		Urban General	Fire Hydrants	Supplementary Education	Total				
<i>Percent (except Appreciation Period and Assessment Lag)</i>									
2013	Commercial	3.054	0.075	0.104	3.233	3.15	2010-2011	2	3.038
2014	Commercial	2.939	0.053	0.093	3.085	6.44	2011-2012	2	2.723
2015	Commercial	2.895	0.053	0.083	3.031	5.44	2012-2013	2	2.726
2016	Commercial	2.832	0.053	0.082	2.967	4.43	2013-2014	2	2.721
2017	Commercial	2.869	0.036	0.075	2.980	N/A	N/A	N/A	2.980

Source: Authors' calculations from government websites.

Table A19: Prince Edward Island BPT Rates

Year	Property Class	Statutory BPT Rate	Effective BPT Rate
<i>Percent</i>			
2013	Commercial	1.500	1.500
2014	Commercial	1.500	1.500
2015	Commercial	1.500	1.500
2016	Commercial	1.500	1.500
2017	Commercial	1.500	1.500

Source: Authors' calculations from government websites.

Table A20: Charlottetown BPT Rates

Year	Property Class	Statutory BPT Rate	Effective BPT Rate
<i>Percent</i>			
2013	Commercial	2.360	2.360
2014	Commercial	2.360	2.360
2015	Commercial	2.360	2.360
2016	Commercial	2.360	2.360
2017	Commercial	2.360	2.360

Source: Authors' calculations from government websites.

Table A21: St. John's BPT Rates

Year	Property Class	Statutory BPT Rate	Average Appreciation Rate	Appreciation Period	Assessment Lag	Effective BPT Rate
<i>Percent (except Appreciation Period and Assessment Lag)</i>						
2013	Commercial	2.620	3.77	2011-2014	2	2.433
2014	Commercial	2.620	3.77	2011-2014	3	2.345
2015	Commercial	2.620	3.77	2011-2014	4	2.260
2016	Commercial	2.520	3.77	2011-2014	2	2.340
2017	Commercial	2.470	3.77	2011-2014	3	2.211

Source: Authors' calculations from government websites.

Table A22: Statutory Business Tax and ITC Rates

Year	Tax Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Source
		<i>Percent</i>										
2013	Federal CIT	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	Canada Revenue Agency; Provincial Websites
	Provincial CIT	11.00	10.00	12.00	12.00	11.50	11.90	12.00	16.00	16.00	14.00	
	Federal ITC – Man. Buildings	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Federal ITC – Man. Machinery	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Provincial ITC – Man. Buildings	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	9.00	
	Provincial ITC – Man. Machinery	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	9.00	
	Provincial RST	7.00	0.00	5.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Provincial BPT	0.634	0.330	0.828	1.175	1.260	0.000	2.123	0.330	1.500	0.000	
	Municipal BPT	1.034	1.407	0.751	3.569	1.635	4.118	2.678	3.233	2.360	2.620	
	Provincial LTT	2.000	0.000	0.300	2.000	1.500	1.500	0.500	0.000	1.000	0.400	
2014	Federal CIT	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	Canada Revenue Agency; Provincial Websites
	Provincial CIT	11.00	10.00	12.00	12.00	11.50	11.90	12.00	16.00	16.00	14.00	
	Federal ITC – Man. Buildings	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Federal ITC – Man. Machinery	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Provincial ITC – Man. Buildings	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	9.00	
	Provincial ITC – Man. Machinery	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	9.00	
	Provincial RST	7.00	0.00	5.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Provincial BPT	0.584	0.342	0.828	1.149	1.220	0.000	2.040	0.315	1.500	0.000	
	Municipal BPT	0.937	1.331	0.799	3.399	1.562	4.103	2.678	3.085	2.360	2.620	
	Provincial LTT	2.000	0.000	0.300	2.000	1.500	1.500	0.500	0.000	1.000	0.400	
	Municipal LTT	0.000	0.000	0.000	0.000	1.000	1.000	0.000	1.500	0.000	0.000	

Source: Authors' calculations from government websites.

Table A22: continued

Year	Tax Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Source
		<i>Percent</i>										
2015	Federal CIT	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	Canada Revenue Agency; Provincial Websites
	Provincial CIT	11.00	12.00	12.00	12.00	11.50	11.90	12.00	16.00	16.00	14.00	
	Federal ITC – Man. Buildings	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Federal ITC – Man. Machinery	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Provincial ITC – Man. Buildings	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	9.00	
	Provincial ITC – Man. Machinery	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	9.00	
	Provincial RST	7.00	0.00	5.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Provincial BPT	0.584	0.346	0.828	1.175	1.190	0.000	2.205	0.325	1.500	0.000	
	Municipal BPT	0.937	1.301	0.840	3.439	1.491	3.914	2.678	3.031	2.360	2.620	
	Provincial LTT	2.000	0.000	0.300	2.000	1.500	1.500	0.500	0.000	1.000	0.400	
2016	Federal CIT	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	Canada Revenue Agency; Provincial Websites
	Provincial CIT	11.00	12.00	12.00	12.00	11.50	11.90	14.00	16.00	16.00	15.00	
	Federal ITC – Man. Buildings	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Federal ITC – Man. Machinery	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Provincial ITC – Man. Buildings	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	0.00	
	Provincial ITC – Man. Machinery	0.00	0.00	5.00	10.00	0.00	4.00	0.00	0.00	10.00	0.00	
	Provincial RST	7.00	0.00	5.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Provincial BPT	0.544	0.378	0.828	1.089	1.180	0.000	2.205	0.336	1.500	0.000	
	Municipal BPT	0.838	1.399	0.872	3.199	1.419	3.807	2.678	2.967	2.360	2.520	
	Provincial LTT	3.000	0.000	0.300	2.000	1.500	1.500	1.000	0.000	1.000	0.400	
	Municipal LTT	0.000	0.000	0.000	0.000	1.000	1.000	0.000	1.500	0.000	0.000	Canada Revenue Agency; Provincial Websites

Source: Authors' calculations from government websites.

Table A22: continued

Year	Tax Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	Source
		<i>Percent</i>										
2017	Federal CIT	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	Canada Revenue Agency; Provincial Websites
	Provincial CIT	11.00	12.00	11.50	12.00	11.50	11.80	14.00	16.00	16.00	15.00	
	Federal ITC – Man. Buildings	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Federal ITC – Man. Machinery	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00	
	Provincial ITC – Man. Buildings	0.00	0.00	6.00	9.00	0.00	0.00	0.00	0.00	10.00	0.00	
	Provincial ITC – Man. 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	0.484	0.386	0.627	1.049	1.140	0.000	2.205	0.338	1.500	0.000	Provincial and Municipal Websites; Authors' Calculations
	Municipal BPT	0.733	1.521	0.695	3.273	1.346	3.757	2.678	2.980	2.360	2.470	
	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	Provincial and Municipal Websites

Source: Authors' calculations from government websites.

Table A23: Effective Business Tax and ITC Rates

Year	Tax Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
		<i>Percent</i>									
2013	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	11.00	10.00	12.00	12.00	11.50	11.90	12.00	16.00	16.00	14.00
	Federal ITC – Buildings	0.000	0.000	0.000	0.000	0.000	0.000	1.633	1.334	2.281	0.925
	Federal ITC – Machinery	0.000	0.000	0.000	0.000	0.000	0.000	3.244	2.768	3.360	2.137
	Provincial ITC – Buildings	0.000	0.000	0.326	0.645	0.000	0.400	0.000	0.000	0.789	0.649
	Provincial ITC – Machinery	0.000	0.000	0.438	1.669	0.000	1.046	0.000	0.000	2.046	1.639
	Provincial RST	4.865	0.000	2.875	5.480	0.000	0.000	0.000	0.000	0.000	0.000
	Provincial BPT	0.632	0.281	0.710	0.649	0.953	0.000	1.900	0.310	1.500	0.000
	Municipal BPT	1.034	1.575	0.758	1.976	1.237	3.750	2.678	3.038	2.360	2.433
	Provincial LTT	2.000	0.000	0.300	2.000	1.500	1.500	0.500	0.000	1.000	0.400
	Municipal LTT	0.000	0.000	0.000	0.000	1.000	1.000	0.000	1.500	0.000	0.000
2014	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	11.00	10.00	12.00	12.00	11.50	11.90	12.00	16.00	16.00	14.00
	Federal ITC – Buildings	0.000	0.000	0.000	0.000	0.000	0.000	1.633	1.334	2.281	0.925
	Federal ITC – Machinery	0.000	0.000	0.000	0.000	0.000	0.000	3.244	2.768	3.360	2.137
	Provincial ITC – Buildings	0.000	0.000	0.326	0.645	0.000	0.400	0.000	0.000	0.789	0.649
	Provincial ITC – Machinery	0.000	0.000	0.438	1.669	0.000	1.046	0.000	0.000	2.046	1.639
	Provincial RST	4.865	0.000	2.875	5.480	0.000	0.000	0.000	0.000	0.000	0.000
	Provincial BPT	0.602	0.318	0.657	0.670	0.922	0.000	1.888	0.278	1.500	0.000
	Municipal BPT	0.995	1.449	0.741	1.987	1.182	3.942	2.678	2.723	2.360	2.345
	Provincial LTT	2.000	0.000	0.300	2.000	1.500	1.500	0.500	0.000	1.000	0.400
	Municipal LTT	0.000	0.000	0.000	0.000	1.000	1.000	0.000	1.500	0.000	0.000

Source: Authors' calculations from government websites.

Table A23: continued

Year	Tax Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
		<i>Percent</i>									
2015	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	11.00	12.00	12.00	12.00	11.50	11.90	12.00	16.00	16.00	14.00
	Federal ITC – Buildings	0.000	0.000	0.000	0.000	0.000	0.000	1.633	1.334	2.281	0.925
	Federal ITC – Machinery	0.000	0.000	0.000	0.000	0.000	0.000	3.244	2.768	3.360	2.137
	Provincial ITC – Buildings	0.000	0.000	0.326	0.645	0.000	0.400	0.000	0.000	0.789	0.649
	Provincial ITC – Machinery	0.000	0.000	0.438	1.669	0.000	1.046	0.000	0.000	2.046	1.639
	Provincial RST	4.865	0.000	2.875	5.480	0.000	0.000	0.000	0.000	0.000	0.000
	Provincial BPT	0.582	0.332	0.609	0.648	0.899	0.000	2.205	0.292	1.500	0.000
	Municipal BPT	0.937	1.381	0.721	1.902	1.128	3.661	2.678	2.726	2.360	2.260
	Provincial LTT	2.000	0.000	0.300	2.000	1.500	1.500	0.500	0.000	1.000	0.400
2016	Municipal LTT	0.000	0.000	0.000	0.000	1.000	1.000	0.000	1.500	0.000	0.000
	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	11.00	12.00	12.00	12.00	11.50	11.90	14.00	16.00	16.00	15.00
	Federal ITC – Buildings	0.000	0.000	0.000	0.000	0.000	0.000	1.633	1.334	2.281	0.925
	Federal ITC – Machinery	0.000	0.000	0.000	0.000	0.000	0.000	3.244	2.768	3.360	2.137
	Provincial ITC – Buildings	0.000	0.000	0.326	0.645	0.000	0.400	0.000	0.000	0.789	0.000
	Provincial ITC – Machinery	0.000	0.000	0.438	1.669	0.000	1.046	0.000	0.000	2.046	0.000
	Provincial RST	4.865	0.000	2.875	5.480	0.000	0.000	0.000	0.000	0.000	0.000
	Provincial BPT	0.542	0.387	0.564	0.634	0.892	0.000	2.205	0.308	1.500	0.000
	Municipal BPT	0.838	1.347	0.693	1.868	1.072	3.466	2.678	2.721	2.360	2.340
2017	Provincial LTT	3.000	0.000	0.300	2.000	1.500	1.500	1.000	0.000	1.000	0.400
	Municipal LTT	0.000	0.000	0.000	0.000	1.000	1.000	0.000	1.500	0.000	0.000

Source: Authors' calculations from government websites.

Table A23: continued

Year	Tax Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
		<i>Percent</i>									
2017	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	11.00	12.00	11.50	12.00	11.50	11.80	14.00	16.00	16.00	15.00
	Federal ITC – Buildings	0.000	0.000	0.000	0.000	0.000	0.000	1.633	1.334	2.281	0.925
	Federal ITC – Machinery	0.000	0.000	0.000	0.000	0.000	0.000	3.244	2.768	3.360	2.137
	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	4.865	0.000	3.450	5.480	0.000	0.000	0.000	0.000	0.000	0.000
	Provincial BPT	0.483	0.399	0.538	0.578	0.861	0.000	2.205	0.338	1.500	0.000
	Municipal BPT	0.733	1.434	0.712	1.808	1.018	3.610	2.678	2.980	2.360	2.211
	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 from government websites.