

Appendix: Methodology for “The 2014 C.D. Howe Institute Business Tax Burden Ranking”

Our methodology is similar to that of our previous analysis in Found, Dachis and Tomlinson (2013), other than including the LTT, which we treat as equivalent to a hypothetical retail sales tax on land and buildings, and the change to gross municipal BPT rates. For further details on how we calculate METRs, see the appendix to our previous edition, available at www.cdhowe.org, and Found (2013a).

Refining the Incorporation of Municipal Taxes

We have continued with the traditional convention of excluding from METR analysis government service benefits at the federal and provincial levels. Here, we explain why we now extend the practice of this convention to the municipal level of government.

Investors obviously consider more than just taxes when deciding where, when and how much to invest, such as market conditions, climate, regulatory constraints and, of course, benefits from government services. The general consensus underlying METR analyses and other similar forms of tax competitiveness benchmarking is that business taxation imposes costs beyond the value of government services to business, thus distorting investment decisions. However, it is impractical, if not impossible, to capture and boil down every attribute of a jurisdiction into a single composite benchmark – we need to draw the line somewhere to define a workable benchmark for capital taxation, and for the METR that line has traditionally separated taxation from government service benefits.

While analysts acknowledge government services such as infrastructure and policing benefit businesses (and residents), traditional practice in the literature has been to exclude these benefits from METR analysis so that the METR reflects tax competitiveness only. From what we can discern, at least implicitly, the motivation behind this practice is not conceptual but rather practical: estimating the value of government services to businesses is extremely difficult. With that being the case, METR analyses attempting to incorporate the offsetting effect of these benefits are apt to arrive at varying results even if they agree entirely on the tax-related side of the calculation.

We attempted to estimate service benefits at the municipal level in our previous edition because the link between them and taxes is most salient at the municipal level where the property tax is almost always the only significant tax available to municipalities. Indeed, some municipal services may be linked to lower costs of capital than otherwise. However, we realize that because capital taxes are mutually substitutable and can be treated together as a composite barrier to investment. In principle we could have also applied a similar rationale and method for estimating federal and provincial service benefits to improve analytical and intergovernmental consistency. That is, while the link between any single tax and the set of tax-funded services weakens with the number of individual taxes contributing to the required revenue, a senior government's individual taxes collectively do bear a relationship to the corresponding set of services that is in principle no different than that between a municipal property tax and municipal services. It is for this reason we are motivated to consider whether it is appropriate to continue to estimate a service benefit for only municipal taxes.

After much consideration, in this edition we adopt the view that, to maintain intergovernmental and analytical consistency, a METR analysis should either estimate the benefits of tax-supported services for all levels of government or undertake no such estimation. Given our inability to estimate these benefits for all levels of government, we have elected to restrict our work to tax competitiveness only, in line with traditional METR

analysis. This means we are now working with municipal BPT rates that, like their provincial counterparts, are gross of any estimate of service benefits, and we adopt the same approach for LTT.

There are at least three other reasons why we have decided to discontinue estimating net municipal BPT rates in favour of gross rates. First, our method results in municipal METR contributions that are invariant to irrelevant temporal changes in residential assessment and property tax rates, producing municipal METR contributions that are comparable over time as we publish future editions. Second, it avoids the difficulty of determining the appropriate municipal benefit estimation methodology, which in our experience has been a source of distraction from the key results. Third and finally, it means less demanding data requirements, freeing us from having to mine and track non-BPT data.

Calculating Effective BPT Rates

We have updated the BPT data to bring the analysis into 2014. The statutory and effective tax rates are summarized in the various tables appearing below.^a Further details are available from the authors upon request. We do not have updated data in a few instances, such as Manitoba assessment data for 2014, in which cases we adopt data from Found (2013a) instead.

Data Tables for 2014

In this part, we summarize the statutory and effective business tax rates we used, and we provide further detail on how we calculate effective BPT rates. In many cases, effective BPT rates differ from their statutory counterparts because of assessment discounts and/or lags between assessed and market property values engendered by the assessment regime. As in our previous edition, we account for assessment lags (measured in years) greater than one year by discounting statutory BPT rates by our calculated, estimated, or imputed property appreciation rates accordingly. Here is how the calculation works using the City of St. John's as an example:

Statutory BPT Rate: 2.620 percent

Imputed Average Annual Appreciation Rate: 3.43 percent

Assessment Lag: 3 years

Effective BPT Rate = $0.02620 / (1 + 0.0343)^3 = 2.368$ percent

Where possible, the headings over the appreciation columns in the tables indicate the time period for which the appreciation occurred, which in most cases is lagged by more than a year due to assessment lags. In the absence of more current assessment data, we assume these appreciation rates have continued into the present period. For BPT regimes with multiple classes of property, we estimated tax rates using assessment-weighted averages of all the property classes.

a Where levied, we have transformed BOTs into BPT equivalents.

Table A1: Statutory Business Tax and Investment Tax Credit Rates – 2014

Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
	<i>Percent</i>									
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 - Manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	10.00	10.00	10.00	10.00
Provincial ITC - Manufacturing	0.00	0.00	5.00	10.00	0.00	5.00	0.00	0.00	10.00	0.00
General Provincial RST	7.00	0.00	5.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00
Provincial BPT	0.611	0.372	0.943	1.149	1.174	0.239	2.040	0.314	1.500	0.000
Municipal BPT - Largest Municipality in Province	0.995	1.363	0.799	3.102	1.559	3.771	2.678	3.088	2.360	2.620
Provincial LTT	2.000	0.020	0.300	2.000	2.000	1.500	0.500	0.000	1.000	0.400
Municipal LTT - Largest Municipality in Province	0.000	0.000	0.000	0.000	2.000	0.500	0.000	1.500	0.000	0.000

Sources: Canada Revenue Agency; provincial websites, authors' calculations on an assessment-weighted basis, and provincial and municipal websites.

Table A2: Effective Business Tax and Investment Tax Credit Rates – 2014

Parameter	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL
	<i>Percent</i>									
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	0.500	0.000	0.000	0.789	0.000
Provincial ITC - Machinery	0.000	0.000	0.438	1.669	0.000	1.307	0.000	0.000	2.046	0.000
Provincial RST - Buildings and Machinery	4.865	0.000	2.875	5.480	0.000	0.000	0.000	0.000	0.000	0.000
Provincial BPT	0.611	0.344	0.737	0.605	1.007	0.218	1.888	0.301	1.500	0.000
Municipal BPT - Largest Municipality in Province	0.995	1.363	0.605	2.035	1.285	3.320	2.678	2.962	2.360	2.368
Provincial LTT	2.000	0.020	0.300	2.000	2.000	1.500	0.500	0.000	1.000	0.400
Municipal LTT - Largest Municipality in Province	0.000	0.000	0.000	0.000	2.000	0.500	0.000	1.500	0.000	0.000

Source: Authors' calculations.

Table A3: British Columbia BPT Rates – 2014

Property Class	Share of Assessment Base	Statutory BPT Rate	Effective BPT Rate
	<i>Percent</i>		
Utilities	1.42	1.360	1.360
Major Industry	3.30	0.600	0.600
Light Industry	10.09	0.600	0.600
Commercial	85.19	0.600	0.600
All Business	100.00	0.611	0.611

Source: Authors' calculations from government websites.

Table A4: Vancouver BPT Rates – 2014

Property Class	Share of Assessment Base	Statutory BPT Rate	Effective BPT Rate
	<i>Percent</i>		
Utilities	0.52	3.867	3.867
Major Industry	0.52	3.659	3.659
Light Industry	2.60	0.996	0.996
Commercial	96.37	0.965	0.965
All Business	100.00	0.995	0.995

Source: Authors' calculations from government websites.

Table A5: Alberta BPT Rates – 2014

Property Class	Statutory BPT Rate	Deemed Average Annual Appreciation	Assessment Lag	Effective BPT Rate
	<i>Percent (except Assessment Lag)</i>			
Non-Residential	0.372	5.35	1.5	0.344

Source: Authors' calculations from government websites.

Table A6: Calgary BPT and BOT Rates – 2014

Property Class	BPT Rate		BPT-Equivalent BOT Rate		Effective BPT-BOT Blended Rate
	Statutory	Effective	Statutory	Effective	
	<i>Percent</i>				
Non-Residential	1.069	1.069	0.294	0.294	1.363

Source: Authors' calculations from government websites.

Table A7: Saskatchewan BPT Rates – 2014

Property Class	Share of Assessment Base	Statutory BPT Rate	2006-2011 Average Annual Appreciation	Assessment Lag	Effective BPT Rate
	<i>Percent (except Assessment Lag)</i>				
Commercial/Industrial	58.50	0.828	13.28	3	0.570
Resource	41.50	1.104	4.29	3	0.973
All Business	100.00	0.943	9.04	3	0.737

Source: Authors' calculations from government websites.

Table A8: Saskatoon BPT Rates – 2014

Property Class	Assessment Discount Rate	Tax Rate Multiplier	Statutory BPT Rate	2006-2011 Average Annual Appreciation	Assessment Lag	Effective BPT Rate
<i>Percent (except Tax Rate Multiplier and Assessment Lag)</i>						
Commercial/ Industrial	0.00	1.1684	0.799	15.58	3	0.605

Source: Authors' calculations from government websites.

Table A9: Manitoba BPT Rates – 2014

Property Class	Share of Assessment Base	Assessment Discount Rate	Statutory BPT Rate	2010-2012 Average Annual Appreciation	Assessment Lag	Effective BPT Rate
<i>Percent (except Assessment Lag)</i>						
Pipeline	18.87	50.00	1.149	0.01	2	0.574
Railway	19.46	75.00	1.149	0.32	2	0.285
Other Business	61.67	35.00	1.149	2.21	2	0.715
All Business	100.00	45.61	1.149	1.43	2	0.605

Source: Authors' calculations from government websites.

Table A10: Winnipeg Municipal BPT and BOT Rates – 2014

Property Class	Share of Assessment Base	Assessment Discount Rate	Statutory BPT Rate	Discounted Statutory BPT Rate	Statutory BPT-Equivalent BOT Rate	Discounted Statutory BPT-BOT Blended Rate	2010-2014 Average Annual Appreciation	Assessment Lag	Effective BPT-BOT Blended Rate
	<i>Percent (except Assessment Lag)</i>								
Pipeline	0.19	50.00	1.337	0.669	0.000	0.669	3.38	2	0.626
Railway	1.64	75.00	1.337	0.334	0.000	0.334	10.17	2	0.275
Other Business	98.17	35.00	1.337	0.869	0.392	1.261	2.33	2	1.205
All Business	100.00	35.68	1.337	0.860	0.385	1.245	2.46	2	1.188

Source: Authors' calculations from government websites.

Table A11: Winnipeg Statutory Local Education BPT Rates – 2014

City School Division/Board	Share of City Business Assessment Base	Statutory BPT Rate
	<i>Percent</i>	
Winnipeg	44.28	1.511
St. James-Assiniboia	14.91	1.226
Pembina Trails	12.21	1.213
Seven Oaks	3.52	1.494
Seine River	1.75	1.456
Interlake	2.51	1.400
Louis Riel	11.75	1.241
River East Trascona	9.08	1.332
All School Divisions/Boards	100.00	1.380

Source: Authors' calculations from government websites.

Table A12: Winnipeg Effective Local Education BPT Rates – 2014

Property Class	Share of Assessment Base	Assessment Discount Rate	Statutory BPT Rate	2010-2014 Average Annual Appreciation	Assessment Lag	Effective BPT Rate
	<i>Percent (except Assessment Lag)</i>					
Pipeline	0.19	50.00	1.380	3.38	2	0.645
Railway	1.64	75.00	1.380	10.17	2	0.284
Other Business	98.17	35.00	1.380	2.33	2	0.856
All Business	100.00	35.68	1.380	2.46	2	0.847

Source: Authors' calculations from government websites.

Table A13: Ontario Municipality-Weighted BPT Rates – 2014

Property Class	Share of Assessment Base	Statutory BPT Rate	2008-2012 Average Annual Appreciation	Imputed Assessment Lag	Effective BPT Rate
	<i>Percent (except Assessment Lag)</i>				
Commercial	82.81	1.168	4.12	3.919	0.997
Industrial	15.02	1.219	3.53	3.931	1.063
Pipeline	2.17	1.087	1.90	3.962	1.009
All Business	100.00	1.174	3.98	3.922	1.007

Source: Authors' calculations from government websites.

Table A14: Toronto BPT Rates – 2014

Property Class	Share of Assessment Base	Statutory BPT Rate	2008-2012 Average Annual Appreciation	Imputed Assessment Lag	Effective BPT Rate
	<i>Percent (except Assessment Lag)</i>				
General Commercial	47.45	1.606	5.17	3.899	1.319
Residual Commercial – Band 1	19.17	1.374	5.17	3.899	1.129
Residual Commercial – Band 2	24.30	1.606	5.17	3.899	1.319
Industrial	8.75	1.601	4.19	3.918	1.363
Pipeline	0.32	1.000	1.81	3.964	0.932
All Business	100.00	1.559	5.07	3.901	1.285

Source: Authors' calculations from government websites.

Table A15: Quebec BPT Rates – 2014

Property Class	Statutory BPT Rate	2013-2014 Annual Assessment Growth and Appreciation	2013-2014 Growth in Number of Properties	2013-2014 Imputed Annual Appreciation	Imputed Assessment Lag	Effective BPT Rate
Non-Residential	0.239	4.31	1.12	3.19	2.969	0.218

Source: Authors' calculations from government websites.

Table A16: Montreal BPT Rates – 2014

Property Class	Statutory BPT Rate			2011-2014 Average Annual Appreciation	Imputed Assessment Lag	Effective BPT Rate
	City of Montreal	Borough of Ville Marie	Total			
<i>Percent (except Assessment Lag)</i>						
Non-Residential	3.712	0.059	3.771	4.40	2.956	3.320

Source: Authors' calculations from government websites.

Table A17: New Brunswick BPT Rates – 2014

Property Class	Statutory BPT Rate			Effective BPT Rate
	General	Service New Brunswick	Total	
<i>Percent</i>				
Non-Residential	2.021	0.019	2.040	1.888

Source: Authors' calculations from government websites.

Table A18: Saint John BPT Rates – 2014

Property Class	Statutory BPT Rate	Effective BPT Rate
	<i>Percent</i>	
Non-Residential	2.678	2.678

Source: Authors' calculations from government websites.

Table A19: Nova Scotia BPT Rates – 2014

Property Class	Statutory BPT Rate					Deemed Annual Appreciation	Assessment Lag	Effective BPT Rate
	Education	PVSC	Correctional Services	Housing Authorities	Total			
	<i>Percent (except Assessment Lag)</i>							
Commercial	0.291	0.010	0.008	0.005	0.314	2.10	2	0.301

Source: Authors' calculations from government websites.

Table A20: Halifax Regional Municipality BPT Rates – 2014

Property Class	Statutory BPT Rate					Deemed Annual Appreciation	Assessment Lag	Effective BPT Rate
	Urban General	Fire	Transit	Supplementary Education	Total			
	<i>Percent (except Assessment Lag)</i>							
Commercial	2.939	0.056	0.000	0.093	3.088	2.10	2	2.962

Source: Authors' calculations from government websites.

Table A21: Prince Edward Island BPT Rates – 2014

Property Class	Statutory BPT Rate	Effective BPT Rate
	<i>Percent</i>	
Non-Residential	1.500	1.500

Source: Authors' calculations from government websites.

Table A22: Charlottetown BPT Rates – 2014

Property Class	Statutory BPT Rate	Effective BPT Rate
	<i>Percent</i>	
Commercial	2.360	2.360

Source: Authors' calculations from government websites.

Table A23: St. John's BPT Rates – 2014

Property Class	Statutory BPT Rate	Imputed 2008-2011 Average Annual Appreciation	Assessment Lag	Effective BPT Rate
	<i>Percent (except Assessment Lag)</i>			
Commercial	2.620	3.43	3	2.368

Source: Authors' calculations from government websites.