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THE 2019 TAX COMPETITIVENESS REPORT: CANADA'S INVESTMENT AND GROWTH CHALLENGE*

Philip Bazel and Jack Mintz

SUMMARY

Over two decades, Canada gradually made its tax regime highly competitive by lowering its federal-provincial corporate income tax rate and working to improve tax neutrality and broaden its corporate tax base. That has changed. Today, Canada's tax-policy emphasis seems to be on raising revenues while providing special breaks for politically favoured business activities. Unfortunately, that change in direction means that the government is now driving away its hard-earned corporate tax base, rather than preserving it and trying to broaden it further.

While many of Canada's competitors have been working to steadily improve their international competitiveness for investment and profits, Canada has failed to keep up. Seventeen countries have reduced corporate income tax rates since 2017 with large reductions in the United States, France and India, for example. In 2017, Canada's corporate tax rate was well below the weighted-average corporate tax rate for OECD countries. Canada's rate is now slightly higher than the average including the United States.

As a result, multinational companies now have a strong incentive to locate their intangible income, such as those associated with marketing, intellectual property, sales, licensing arrangements and service functions, outside of Canada. They will also be inclined to locate more of their costs inside of Canada, where deductions are more valuable. That will likely increase debt financing here, as there is a higher value

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in deducting debt-servicing payments here. At the same time, multinationals will seek to locate more profits outside of Canada, where corporate tax rates are lower. Canada was once a magnet for corporate profits to the point where "corporate inversions" of American multinationals relocating their headquarters to Canada had become a notable phenomenon. Now Canada is set to see its corporate tax base shrink, with profits once again moving to the U.S. — which became much more competitive after recent sweeping tax reforms — or to other countries with more competitive corporate tax rates.

Canada also has the most biased tax system against service sectors (including construction, utilities, communications, transportation, trade and other services) amongst all OECD countries. The service sectors on average are taxed at effective rates on marginal investments at 17.3 percent, ten points higher than manufacturing. The only countries which have similar levels of discrimination against service sectors are found in Africa and the Middle East.

This report also provides a provincial comparison of taxes on tangible capital and labour costs or the "cost of doing business". The most tax competitive jurisdiction is Alberta primarily due to its advantageous sales, personal and payroll taxes on labour effort. The highest taxes on the cost of doing business are Newfoundland & Labrador, Quebec, Ontario and Manitoba largely due to having the highest labour taxes. British Columbia has the highest tax on tangible capital and above the U.S. and the OECD as a result of its retail sales tax on capital inputs.

For Canada to become competitive again, a fundamental restructuring of the corporate income tax would be ideal, but given the extent of that undertaking, shorter-term policies should be implemented in the meantime. By undertaking several measures, including (among other things) finally harmonizing provincial and federal sales taxes in B.C., Saskatchewan and Manitoba and scaling-back targeted tax breaks, Canada can create room for modest corporate tax cuts to put Canada at least in the middle of the pack of competing countries in terms of attractiveness for intangible investments and retaining corporate profits. If policy-makers instead opt to do nothing, Canada stands to see profits flee and watch its corporate tax base steadily erode.

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RAPPORT DE 2015 SUR LA COMPÉTITIVITÉ FISCALE : LE DÉFI DE L'INVESTISSEMENT ET DE LA CROISSANCE DU CANADA*

Philip Bazel et Jack Mintz

RÉSUMÉ

En deux décennies, le Canada a progressivement rendu son régime fiscal hautement concurrentiel en abaissant son taux d'imposition fédéral-provincial sur les sociétés et en s'efforçant d'améliorer la neutralité fiscale et d'élargir son assiette fiscale. Les choses ont changé. Aujourd'hui, la politique fiscale du Canada semble mettre l'accent sur l'augmentation des recettes tout en accordant des réductions spéciales aux activités commerciales favorisées sur le plan politique. Malheureusement, avec ce changement d'orientation, le gouvernement est en train d'éliminer son assiette fiscale durement gagnée sur les sociétés, plutôt que de la préserver et d'essayer de l'élargir davantage.

Alors que de nombreux concurrents du Canada s'efforcent d'améliorer leur compétitivité internationale en matière d'investissement et de profits, le Canada ne parvient pas à suivre le rythme. Dix-sept pays ont réduit les taux d'imposition des sociétés depuis 2017, avec de fortes réductions aux États-Unis, en France et en Inde, par exemple. En 2017, le taux d'imposition des sociétés au Canada était bien inférieur au taux moyen pondéré d'imposition des sociétés des pays de l'OCDE. Le taux du Canada est maintenant légèrement supérieur à la moyenne, y compris les États-Unis.

Par conséquent, les multinationales sont fortement poussées à placer à l'extérieur du Canada leurs revenus incorporels tels que ceux associés au marketing, à la propriété intellectuelle, aux ventes, aux accords d'octroi

* Cette recherche a été soutenue financièrement en partie par le gouvernement du Canada via Diversification de l'économie de l'Ouest Canada.

de licence et aux fonctions de service. Elles sont également plus enclines à placer davantage leurs coûts à l'intérieur du Canada où les déductions sont plus avantageuses. Cela augmentera probablement le financement par emprunt, car il y a plus d'avantages à déduire ici les paiements au titre du service de la dette. En même temps, les multinationales chercheront à placer davantage de leurs bénéfices à l'extérieur du Canada, où les taux d'imposition des sociétés sont plus bas. Le Canada exerçait auparavant un attrait sur les entreprises, à tel point que les « évitements fiscaux par délocalisation du siège social » de multinationales américaines qui s'installaient au Canada étaient devenus un phénomène notable. À présent, l'assiette fiscale des sociétés au Canada est sur le point de rétrécir et les bénéfices sont de nouveau transférés vers les États-Unis – qui sont devenus beaucoup plus compétitifs après les récentes réformes fiscales – ou vers d'autres pays où les taux d'imposition des sociétés sont plus compétitifs.

Parmi les pays de l'OCDE, le Canada possède le régime fiscal le plus biaisé au détriment du secteur des services, notamment la construction, les services publics, les communications, les transports, le commerce et autres services. En moyenne, le secteur des services est imposé au taux effectif sur les investissements marginaux à hauteur de 17,3 %, soit dix points de plus que le secteur manufacturier. Les seuls pays qui ont des niveaux similaires de discrimination à l'égard du secteur des services se trouvent en Afrique et au Moyen-Orient.

Ce rapport fournit également une comparaison provinciale des impôts sur le capital corporel et du coût de la main-d'œuvre ou « coût des affaires». La province la plus compétitive sur le plan fiscal est l'Alberta, principalement en raison de ses avantages sur les ventes, les impôts personnels et les charges sociales pour la main-d'œuvre. Les impôts les plus élevés sur le coût des affaires sont ceux de Terre-Neuve-et-Labrador, du Québec, de l'Ontario et du Manitoba, en grande partie en raison d'impôts sur le revenu plus élevés. La Colombie-Britannique a la taxe la plus élevée sur le capital corporel, laquelle se trouve au-dessus des États-Unis et de l'OCDE, en raison de sa taxe de vente au détail sur les intrants en capital.

Pour que le Canada redevienne compétitif, une restructuration fondamentale de l'impôt sur le revenu des sociétés serait idéale, mais étant donné l'ampleur de cet engagement, des politiques à plus court terme devraient être mises en œuvre entre-temps. En prenant plusieurs mesures – notamment l'harmonisation définitive des taxes de vente provinciales et fédérale en Colombie-Britannique, en Saskatchewan et au Manitoba – et en réduisant les allégements fiscaux ciblés, le Canada peut faire place à de modestes réductions d'impôt sur les sociétés, lesquelles le positionneront au moins au milieu du peloton des pays concurrents en matière d'investissement immatériel et de rétention des bénéfices des entreprises. Si les décideurs choisissent plutôt de ne rien faire, le Canada risque de voir les bénéfices s'enfuir et de voir son assiette fiscale des sociétés s'éroder constamment.

Coming after a decade of corporate tax reform in Canada, the 2012 Tax Competitiveness Report (Chen and Mintz 2012) came to the conclusion that Canada's record was a good news story: More investment and growth, with little change in corporate tax revenues as a share of GDP, despite the sharp reduction in the general corporate income tax rate. Since that time, much has changed.

First, the 2014 commodity downturn for resources took the wind out of the sails of some of Canada's significant growth opportunities. While a declining Canadian currency helped stabilize the manufacturing sector, non-residential investment has not returned to 2014 levels.

Second, U.S. tax reform has taken away a significant tax advantage for businesses to locate in Canada to serve the North America market. The game changed, making it attractive for businesses to not only invest in the United States but also to put intellectual property, marketing functions and profits into the U.S. (Mintz 2018). While Canada maintains a temporary advantage for tangible capital investment, it no longer has an incentive for high profit-generating activities due to its disadvantageous corporate income tax rate, which is now almost a point higher than the weighted-average OECD corporate income tax rate (in 2012, Canada's corporate tax rate was seven points lower than the OECD weighted average). Canada now has a relatively high corporate income tax rate at 26.2 per cent (incorporating Alberta's 2021/22 legislated changes), only five points less than the top OECD rate in Portugal at 31.5 per cent (and less than four points below Japan, Australia and Mexico at 30 per cent, and above the U.S. at 25.7 per cent for non-intangible income).

Third, other major countries, including France and India, are moving ahead to improve their corporate tax systems to attract investments while protecting their own tax base.[1] Specifically, they are (i) broadening their tax base to make their tax systems more neutral among businesses (e.g., tightening interest expense deductions or reducing accelerated depreciation) and (ii) reducing corporate income tax rates. Canada has instead introduced temporary accelerated depreciation that distorts economic decisions (Bazel and Mintz 2019) without fundamentally changing the corporate tax structure. In addition, the federal Liberal party promised in the 2019 general election (in which it was re-elected to a minority government) to introduce an interest-limitation rule based on company earnings and also promised new taxes on digital companies. Unlike several other countries that have adopted similar rules, there is no plan to provide an offsetting reduction in the corporate income tax rate.

In other words, Canada no longer has a competitive advantage to keep or attract profits, unlike countries with lower corporate income tax rates, such as

[1] Some of the policies are related to the base-erosion and profit-shifting recommendations made by the OECD to tighten certain rules related to tax avoidance by multinational companies. Canada has signed a multilateral treaty that will result in the adoption of these rules.

Ireland, the U.K. and now the United States. However, once accounting for other aspects of the tax system — e.g., accelerated depreciation, tax credits and other levies imposed on tangible capital — Canada is at least in the middle of the pack in tax attractiveness for tangible investments. Its effective tax rate on marginal investments in manufacturing and service industry structures, machinery, land and inventories (except finance and real estate) is 15.5 per cent, well below the weighted average of countries in the G7 (25.9 per cent), G20 (25.4 per cent) and OECD (23.8 per cent). Thus, Canada is attractive for most tangible marginal investments even if it has little competitive advantage to keep profits in Canada.

While many competing countries are improving neutrality among businesses as well as international competitiveness for investment and profits, Canada is moving in a different direction, one that diverges from its past. Instead of pursuing clear goals like neutrality and growth as Canada had done before, the aim for the federal government now seems to be to raise revenues and provide targeted tax concessions to politically favoured business activities, such as clean energy and manufacturing.

As for the provinces, the Atlantic provinces, Quebec and Alberta are the most tax competitive for tangible investment. Alberta has the lowest corporate income tax rate in Canada and one of the lowest in North America (it is scheduled to reach 23 per cent, including the federal rate, by 2022 after a full legislated reduction is implemented)[2]. In the analysis below, we provide estimates of the effective tax rate on the cost of doing business, which incorporates both taxes on labour and capital. Alberta is the most tax competitive in terms of tax impacts on the marginal cost of production, while Newfoundland & Labrador, Manitoba, Quebec and Ontario are the least tax competitive for production primarily due to high taxes on labour.

We provide suggestions for tax reform but suggest that Canada's federal and provincial governments should consider a corporate tax rate reduction with some base-broadening measures that would make the tax system more neutral and would offset base erosion, particularly in comparison to the United States.

In this paper, we begin with our presentation of tax competitiveness for 94 countries in the world, including our ranking of corporate income tax rates and marginal effective tax rates (METR).[3] We then examine Canada specifically, especially with regard to METRs by province and sector. This is then followed by

2 After we completed this paper, Nova Scotia announced it is reducing its corporate income tax rate from 16 to 14 per cent as of April 1, 2020. We have not incorporated below any new legislated tax reductions beyond January 1, 2020.

3 The METR measures the difference between the pre- and post-tax rates of return on capital for investments that earn a sufficient return to attract financing from international markets. The METR is calculated as the ratio of corporate income taxes, sales taxes on capital purchases, land-transfer taxes and asset-based taxes as a share of profits earned by marginal projects. Provincial and municipal property taxes and the resource and finance sectors are not included due to lack of data. See Bazel and Mintz (2016) for details of the model.

a review of Canada's business investment performance and recommendations for reform. We first begin with a review of what has changed internationally since our last report.

WHAT HAS CHANGED SINCE 2017?

Undoubtedly, the most important change in global corporate tax policy was a major tax reform in the **United States** effective Jan. 1, 2018. This reform included seven key elements:

- The reduction in the federal general corporate income tax rate by 14 points from 35 to 21 per cent (when average state income tax rates are included, the rate has fallen from 39.1 to 25.7 per cent).
- A further reduction in the federal corporate income tax on intangible income — intellectual property, marketing and services — to 13.12 per cent, scheduled to increase to 16.406 per cent after Jan. 1, 2026.
- The exemption of repatriated profit distributions to a U.S. parent company.
- Limitations on interest and loss deductions and the cancellation of the corporate minimum tax.
- A base-erosion and anti-avoidance minimum tax on profits in excess of certain disregarded payments paid to foreign-controlled parents by U.S. affiliates, at a rate of 10 per cent (raised to 12.5 per cent beginning in 2026).
- A tax on global intangible income earned by U.S. multinationals, with a credit for 80 per cent of foreign taxes paid on such income (the tax rates will be increased to 13.125 per cent beginning in 2026).
- A temporary bonus depreciation that was to be phased out by 2020 is extended and enhanced to include expensing for machinery investments for five years, to be phased out thereafter over the following five years.

Putting this all together, the U.S. has substantially reduced its tax on capital investments and has made it much more important to put profits in the United States due to its tax rate reduction as well as base-tightening measures. U.S.-based companies can bring back dividends tax-free from other jurisdictions to fund investment at home and avoid interest and loss limitations by paying down debt. Foreign companies operating in the United States have an incentive to keep profits in the United States, especially intangible income, rather than shift income to their home or other jurisdictions. Foreign companies will also have an interest in using the United States as a headquarters for international operations, which had not been the case prior to Jan. 1, 2018.

The impact of U.S. tax reform on other countries has been muted for those with corporate tax rates well below the new U.S. tax rate, such as Ireland and the U.K. Countries that had a significant tax rate advantage compared to the U.S. prior to 2018, such as Australia and Mexico, have not reduced corporate income tax rates in response to the U.S. reforms. In part this may be due to concerns about the permanency of U.S. corporate tax reform, given the lack of bi-partisan support for the Republicans' Tax Cuts and Jobs Act specifically. Nonetheless, it is unlikely that the U.S. will completely undo corporate tax reform as there has in the past been bipartisan support for significant corporate tax reform.[4]

Some high-tax countries have been implementing sharp reductions in their rates since 2017 (Table 1). **Belgium, France and India** are implementing the largest tax rate reductions (outside of the United States) — about nine points — with legislation phasing the reductions in over the near future. India's reform is quite significant as companies will also be giving up a number of preferences if they opt for the lower tax rate. **Switzerland** passed a federal referendum in May 2019 that will result in the reduction in cantonal corporate income tax rates estimated on the order of four points. Several other European countries, such as **Luxembourg, the Netherlands, Norway and Sweden,** as well as France, have reduced or are reducing their corporate income tax rates as part of packages that include base-erosion and profit-shifting measures suggested by the OECD to curb multinational tax planning (such as a limit on interest deductions similar to U.S. tax reform). Other countries reducing corporate income tax rates include **Israel** and **Uzbekistan**, although these have little in the way of base-broadening as an offset.

4 For example, the Obama government proposed a corporate income tax rate of 28 per cent instead of 35 per cent in 2016. See U.S. Treasury Department, https://www.treasury.gov/resource-center/tax-policy/Documents/General-Explanations-FY2016.pdf.

TABLE 1 CORPORATE TAX RATE LEGISLATED CHANGES SINCE 2017

COUNTRY	2017 CIT Rate	2019 CIT Rate	Legislated future CIT rate	Other Significant Measures
CIT REDUCTION ≥ 3 POINTS				
ARGENTINA	35.0%	30.0%		(5)
BELGIUM	33.99%	29.58%	25.5% (2020)	(1)
COLOMBIA	40.0%	33.0%	30.0% (2022)	(1) (4)
FRANCE	34.4%	32.0%	25.8% (2022)	(1) (5) (6)
GREECE	29.0%	28.0%	24.0% (2020	
INDIA	34.6%	25.8%		(2)
LATVIA	15%	0/20%*		(4)
NETHERLANDS	25.0%	25.0%	20.5% (2022)	(1) (2)
PAKISTAN	31.0%		25.0% (2023)	(2)
SWITZERLAND	18.0%	18.0%	14.0%**	(2)
UNITED STATES	39.1%	25.7%		(1) (3)
CIT REDUCTION <3 POINTS				
CANADA	26.8%	26.7%	26.2% (2022)	
ISRAEL	24.0%	23.0%		(3)
LUXEMBOURG	27.8%	26.01%		(1)
NORWAY	24.0%	22.0%		(1)
SWEDEN	22.0%	21.4%	20.6% (2021)	(1) (2)
UNITED KINGDOM	19.0%	19.0%	17.0% (2020)***	
UZBEKISTAN	14.9%	12.0%		
CIT RATE INCREASES				
CHILE	25.5%	27.0%		(6)
ECUADOR	22.0%	25.0%		
KOREA	24.2%	27.5%		(4)
PORTUGAL	29.5%	31.5%		(1)
TRINIDAD AND TOBAGO	25.0%	30.0%		

Notes:

* Corporate tax exempts reinvested profits from taxation. Distributions are taxed at 20 per cent (similar to Estonia's corporate tax).

** Switzerland passed a federal referendum that will result in a substantial reduction in cantonal corporate income tax rates as well as the elimination of many cantonal tax preferences. A national superdeduction for R and D expenditures and a patent box is included in the reform. Most cantons are expected to have combined federal-canton corporate income tax rates between 12 and 14 per cent. See https://www.ey.com/ch/en/services/tax/ey-corporate-tax-reform-iii-switzerland.

*** Although legislated, indications are that the recently re-elected Conservative government in the U.K. will not reduce the rate further from 19 per cent, although it has indicated it could use other measures to reduce taxes. The U.K. government also promises to introduce a digital tax.

(1) Further restrictions on interest and/or loss or equity deductions.

(2) Scaled-back accelerated depreciation or other tax preferences.

(3) Accelerated depreciation or other preferences introduced.

(4) Increased withholding taxes on dividends.

(5) Decreased withholding taxes on dividends.

(6) Digital tax.

High-tax-rate countries **Argentina, Colombia, Greece and Pakistan** are sharply reducing their corporate income tax rates by more than three points. In the case of Argentina, the corporate tax rate was to be lowered to 25 per cent, but a newly elected government is expected to maintain a rate of 30 per cent, still five points less than in 2017. The **United Kingdom** has legislated a further reduction in the corporate income tax rate to 17 per cent, although Prime Minister Boris Johnson has promised not to cut the rate further from the current rate at 19 per cent (in our analysis below, we take legislated changes into account, so we maintain the current legislated plan as we do not know the final outcome).

Latvia has undertaken a major corporate tax reform, adopting the Estonian approach of exempting reinvested earnings from corporate taxation. Only distributed profits will be taxed at 20 per cent (higher than the previous corporate income tax rate of 15 per cent). Overall, the Latvian corporate income tax rate results in a higher effective tax rate on capital as shown in the Appendix.

Canada is reducing its corporate income tax rate by 2022 with Alberta's corporate tax rate reduction from 12 to 8 per cent. Although not included, the reduction in the Nova Scotia corporate income tax rate beginning 2020 from 16 to 14 per cent results in little change in the Canada average.

Not all countries have been reducing corporate income tax rates. **Chile, Ecuador, South Korea, Portugal and Trinidad and Tobago** have looked to raise corporate tax rates this past year. Portugal now has the highest corporate income tax rate among OECD countries, as shown below.

In the analysis below, we use final legislated 2019 rates enacted in later years as shown in Table 1 including, for example, Alberta's legislated rate reduction to 8% which is not fully realized until 2022. This is consistent with the notion that companies undertaking investment in 2019 will base their decisions on future tax rates as it takes time to earn income.

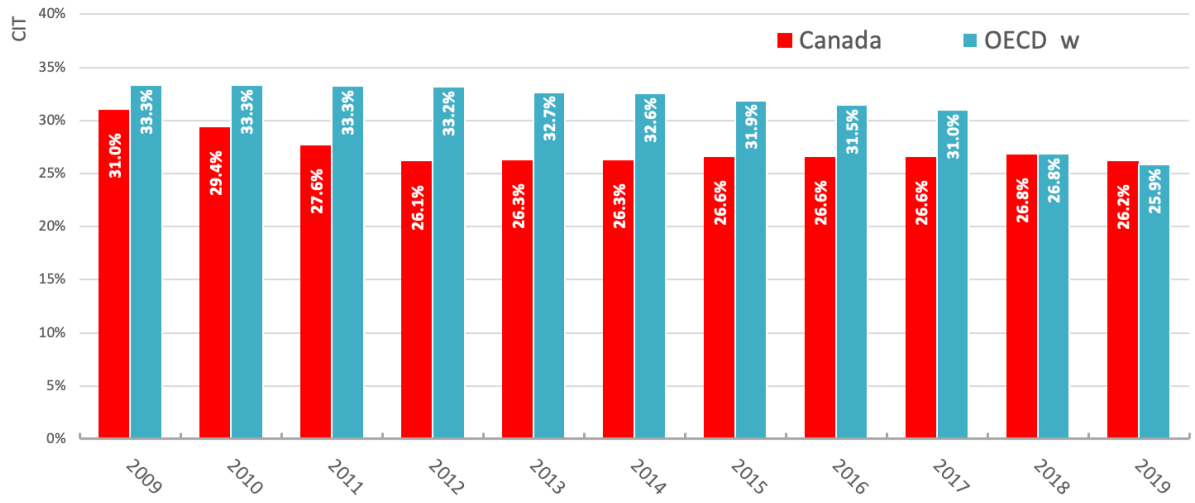
CANADA'S STATUTORY CORPORATE TAX RATE COMPETITIVENESS

Overall, Canada has lost its statutory corporate tax rate competitiveness in the last two years. As shown in Chart 1, Canada's corporate tax rate in 2010 was 29.4 per cent, about four points less than the OECD weighted-average tax rate of the same year. Canada did lower its corporate income tax rate further to 26.2 per cent by 2012, providing a six-point advantage. After 2012, Canada's corporate income tax rate crept up slightly due to tax rate increases in British Columbia, Alberta and New Brunswick. The rate will now fall to 26.2 per cent by 2022 due to Alberta's planned corporate tax rate reduction from 12 to eight per cent. Even still, Canada is no longer tax competitive in attracting profits.

Given these changes, the ranking of countries by their corporate income tax rates have significantly changed, as shown in Chart 2. No country has a corporate income tax rate above 40 per cent, with Guyana "winning" the title of the highest rate at 38.7 per cent. The GDP-weighted-average corporate income tax rate for the 94 countries we measured is 25.7 per cent, well below the average rate in 2010 of 31.6 per cent. For advanced countries, the OECD weighted average corporate income tax rate has dropped sharply from 33.3 per cent in 2010 to 25.9 per cent today. Similarly, the G7 tax rate has fallen sharply from 36.2 to 26.6 per cent. The G20 country-weighted average corporate income tax rate has also fallen from 33.2 per cent to 26.4 per cent due to the increasing size of the Chinese economy in weighting the average.

As mentioned, the highest corporate income tax among OECD countries is Portugal at 31.5 per cent. This is followed by several countries with rates varying between 27 and 31 per cent, including Japan (30.6 per cent), Australia (30 per cent), Germany (30 per cent), Mexico (30 per cent), New Zealand (28 per cent) and Italy (27.9 per cent). Canada follows with the 10th highest corporate income tax rate in 2019 at 26.2 per cent.

CHART 1 OECD GDP-WEIGHTED-AVERAGE AND CANADA'S GENERAL CORPORATE INCOME TAX RATES 2009–19



Note: The general corporate income tax rate combines central and sub-national corporate income tax rates and surtax rates.

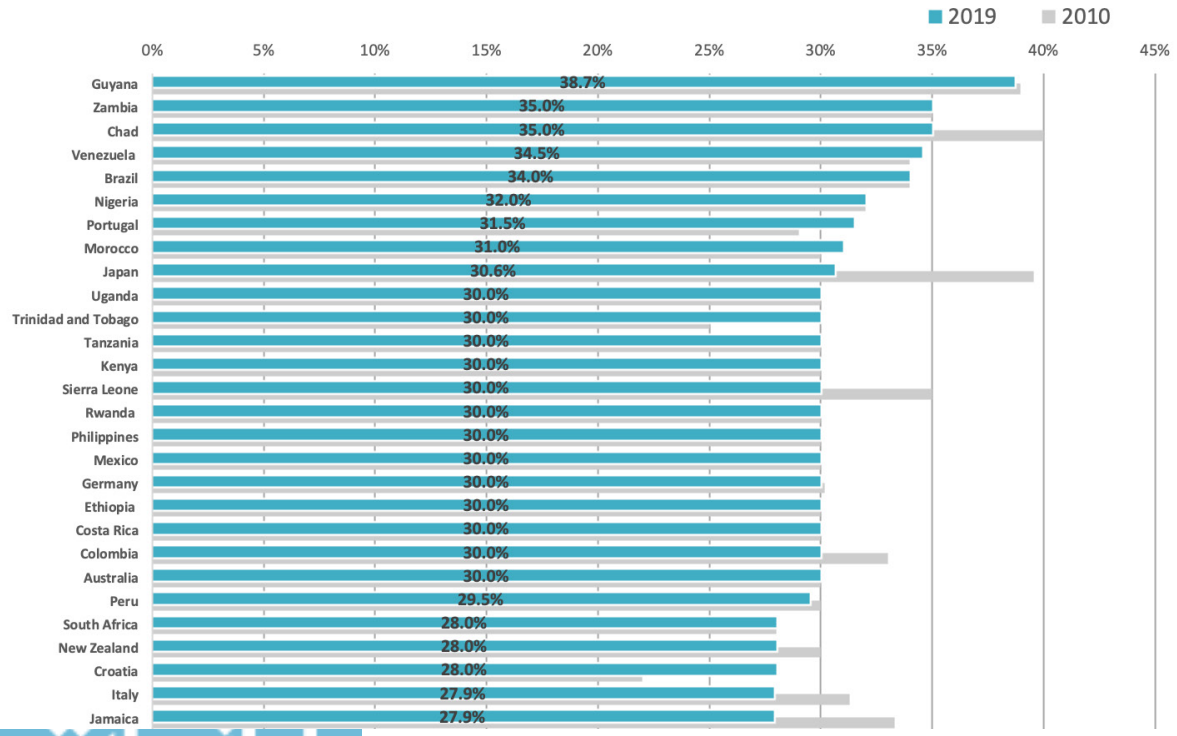
Source: OECD Taxation Statistics and Deloitte, EY, KPMG and PWC.

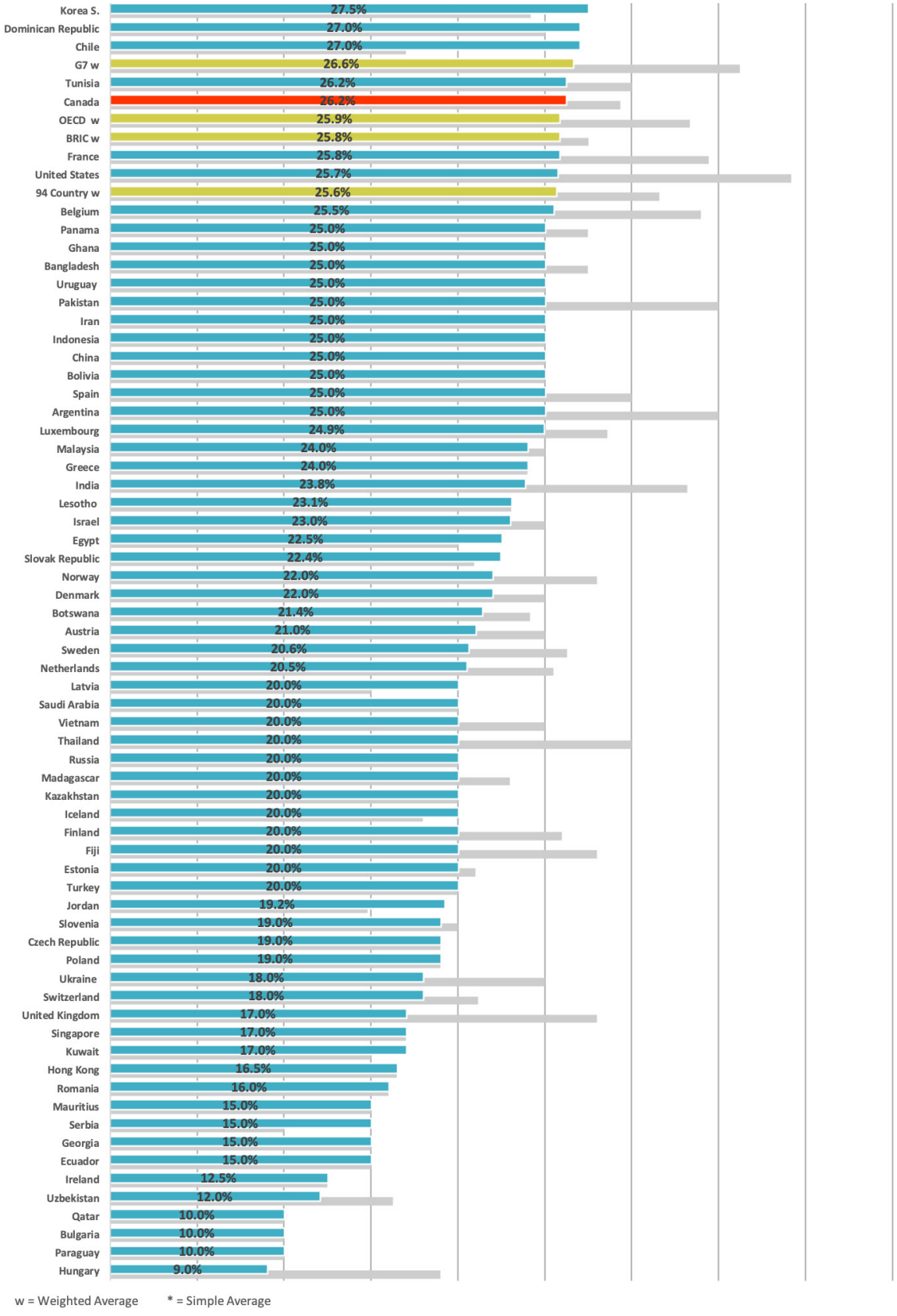
Does the general corporate income tax rate matter? As is well known (King and Fullerton 1984; Boadway, Bruce and Mintz 1984), the general statutory corporate income tax rate is only partly relevant to investment decisions. Other features of the corporate income tax, such as deductions for inventory, depreciation and financing costs, also impact the amount of corporate tax paid by companies on profits derived from their profit decisions. To the extent that the value of these deductions is in excess of economic cost, the amount of corporate tax paid as a

percentage of profits will be below the statutory tax rate. This, however, is not the end of the story. Other taxes affecting capital costs include sales and excise taxes on capital goods purchases, asset-based taxes (capital and property taxes) and financial and real estate transaction taxes. Although the general tax rate is one of the major factors that influence investment, it is not the only factor by far. Below, we will look at various tax components affecting investment decisions that impact rankings.

Nonetheless, the statutory corporate income tax on its own has important impacts on business decisions besides the tangible investment decision. The choice of financing depends on the statutory tax rate, since interest costs are deductible from income, thereby encouraging debt financing. Multinationals will shift debt to countries higher up the corporate tax rate ladder, since the tax value of deducting interest expense is higher in a high-tax jurisdiction compared to a low-tax jurisdiction. The same logic applies to management, insurance and leasing costs, which will be located in those countries with higher corporate tax rates. Companies will choose transfer prices for intermediate goods and services that shift income to low-tax jurisdictions. Intangible income from licensing arrangements, marketing sales forces and service functions will be generated in those countries with lower statutory corporate income tax rates. Investments earning high economic rents (e.g., pharmaceuticals) are taxed at a lower effective rate by shifting profit to countries with low general corporate income tax rates.

CHART 2 GENERAL CORPORATE INCOME TAX RATES BY COUNTRY IN 2019 AND 2010





Note: General corporate income tax rates are the top statutory rates for companies inclusive of surtaxes and profit contributions.

Source: OECD Taxation Statistics and Deloitte, EY, KPMG and PWC.

Transfer pricing, financial, licensing and other decisions not only affect profit location but also have real impacts on investment decisions. For example, taking financing deductions in high-tax jurisdictions to fund investments in low-tax jurisdictions drives down the effective tax rate on investment in the low-tax jurisdiction (Mintz and Smart 2004). A low-tax jurisdiction therefore becomes more attractive for investment when taking into account the ability of a multinational to take deductions in high-tax states through its tax structures.

Substantial work has been done on international profit shifting to estimate the impact of corporate income tax rate increases or decreases on corporate tax revenues. Weichenrieder (2009) finds that a 10-percentage-point increase in the parent home country's tax rate causes German subsidiary profitability to rise by 0.5 percentage points, while Bartelsman and Beetsma (2003) find that two-thirds of the projected increase in revenues is lost after accounting for profit shifting. Huizinga and Laeven (2008) find that a one- per-cent increase in the corporate income tax rate shrinks the tax base by 1.3 per cent for European multinationals. In one meta-analysis incorporating a wide range of studies, it is estimated that a one-point reduction in the corporate income tax rate results in an increase in reported pre-tax profits of 1.55 per cent (Heckemeyer and Overesch 2013). Isolating tax-planning shifts from economic changes, the authors suggest that a one-point reduction in the corporate income tax rate increases profits by 0.8 per cent. In a more recent meta-analysis by Beer, De Mooij and Liu (2019), the authors find a larger response in later years especially: a one-point increase in the corporate tax rate causes pre-tax profits to fall by one per cent.

Three Canadian studies have suggested substantial corporate-tax-base sensitivity to statutory corporate tax rate changes. Jog and Tang (2001) find quite large reductions in debt financing for Canadian multinationals when corporate income tax rates decline. Mintz and Smart (2004) estimate that a one-point reduction in the provincial statutory tax rate increases the corporate tax base by 4.9 per cent for large corporations that do not allocate income across provinces and 2.3 per cent for those that do allocate corporate income (this results reflects both inter-provincial and international tax shifting). Similarly, Dahlby and Ferede (2011) estimate that a one-point increase in the federal-combined corporate tax rate reduces the tax base by 2.3 per cent in the short run. Another Canadian study finds a smaller impact of profit shifting once taking into account companies not paying taxes, although those with positive income will increase taxable income by 1.1 per cent with each point reduction in the corporate rate (Canada, Department of Finance 2015).

The loss of statutory tax rate competitiveness for Canada is a serious issue that needs to be addressed. With one of the highest corporate income tax rates among advanced countries, Canada will lose profits resulting in corporate tax base erosion. We return to reform issues below.

TAX COMPETITION FOR INVESTMENT

Businesses invest in capital so long as the pre-tax profits (net of risk costs) are sufficient to cover investment costs including taxes. If profits are in excess of costs, the business is willing to undertake more investment and the converse is true if profits are less than costs. Taxes create a wedge between the pre-and post-tax returns on capital. The greater the tax wedge, the less profit is available to cover investment costs and taxes — businesses will invest in less capital. In this section, the tax wedge is measured across countries to determine which countries tend to tax capital most heavily and therefore discourage capital investment, all else being equal.

To compare tax burdens on capital, the *marginal effective tax rate on capital (METR)* is measured below for the selected 94 countries. The METR is a summary measure that takes into account the annualized value of company income taxes, stamp duties, sales taxes on capital purchases and other capital-related taxes as share of pre-tax rate of return on capital for marginal projects (marginal projects are those just acceptable to owners for profitability). Non-residential property taxes are not included due to data limitations.[5]

We stress that the METR is expressed as taxes as a percentage of the returns paid to both equity and debt owners, not just equity income. Thus, debt issued to fund investment shelters companies from paying taxes. We use a common assumption for all sectors and countries that capital is financed 40 per cent by debt. Thus, intuitively, a corporate tax rate of 30 per cent on equity income is roughly equivalent to 18 per cent on income gross of interest payments.

Investors either hold debt or equity securities issued by global companies. As this analysis focuses on large companies that have access to international markets for financing, a company will raise financing at international market interest rates — the international investor is willing to hold Canadian assets if the Canadian return on assets is equal to the return in other countries, net of risk and personal taxes (the latter depend on where the investor resides). We assume that the G7 "average" investor is the marginal international investor in bonds and equity markets.

For example, if the pre-tax rate of return on capital is 15 per cent and company-paid taxes as a share of pre-tax profits is 50 per cent, the post-tax annual rate of return on capital is 7.5 per cent (global investors receive this return on investment but they further pay national personal taxes on returns depending on where they live). The business will undertake an investment so long as the post-tax rate of return is sufficient to cover returns needed to raise equity and bond capital from international markets to finance investments.

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5 These taxes could be partly shifted back onto real estate owners through lower property prices or partly serve as a benefit tax for municipal services (Zodrow 2001). In this case, one could argue that property taxes should not be included in the METR estimates. See below for further discussion.

In the analysis below, we look at manufacturing and service industries that invest in four general types of capital to achieve profitability: machinery, structures, inventory and land. All relevant taxes and provisions are considered in determining taxes paid on projects. As mentioned, businesses finance capital expenditures with 40 per cent debt financing and 60 per cent from equity finance (retained earnings and new equity issues). Retained earnings account for 60 per cent of equity financing. Interest rates across countries vary according to differences in inflation rates, even though the personal income tax rates of the international marginal investor holding bonds and equity securities do not vary across countries.

An appendix provides parameters used for calculating METRs by country. The theory used to develop the analysis is provided in earlier publications (Bazel and Mintz 2016).

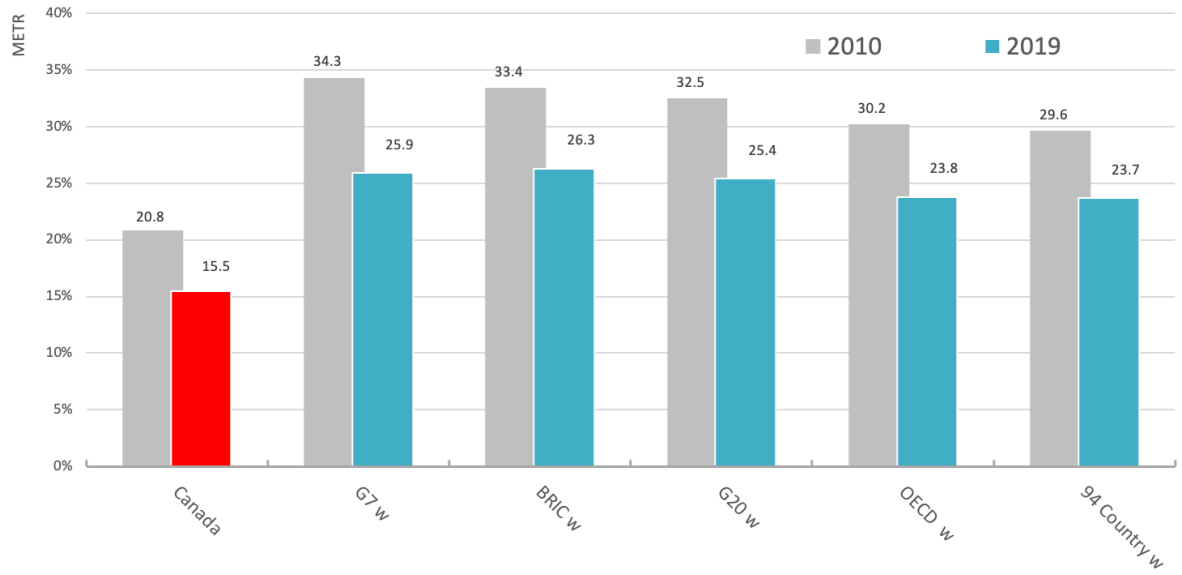
IS CANADA ATTRACTIVE FOR INVESTMENT?

While Canada does not have a general corporate tax advantage, it does have several positive features that result in a competitive tax structure for investment. Except in British Columbia, Saskatchewan and Manitoba, capital investment in Canada is not subject to sales taxes on capital purchases. Canada no longer has wealth or capital tax applied to assets, as it once had.[6] Canada also has no financial transaction taxes or stamp duties, although several provinces levy a land-transfer tax on real estate purchases. Accelerated depreciation has been provided since 2006 for manufacturing and processing machinery. Several provinces, especially Quebec, have provided various tax preferences for investment.

As shown in Chart 3, Canada's 2019 METR of 15.5 per cent is well below the average METRs of the G7 (25.9 per cent), G20 (26.3 per cent), BRIC (25.4 per cent) and OECD economies (23.8 per cent) and the 94-country weighted average (23.8 per cent). As shown in the appendix, Canada is tax competitive with respect to Asia and Oceania (28.8 per cent) and Europe (21 per cent, but not with the Middle East and North Africa (10.2 per cent) and Africa (13.2 per cent). Canada's METR is also well below that of the U.S. (22.6 per cent) for tangible investment, but not for intangible functions or income, as discussed above.

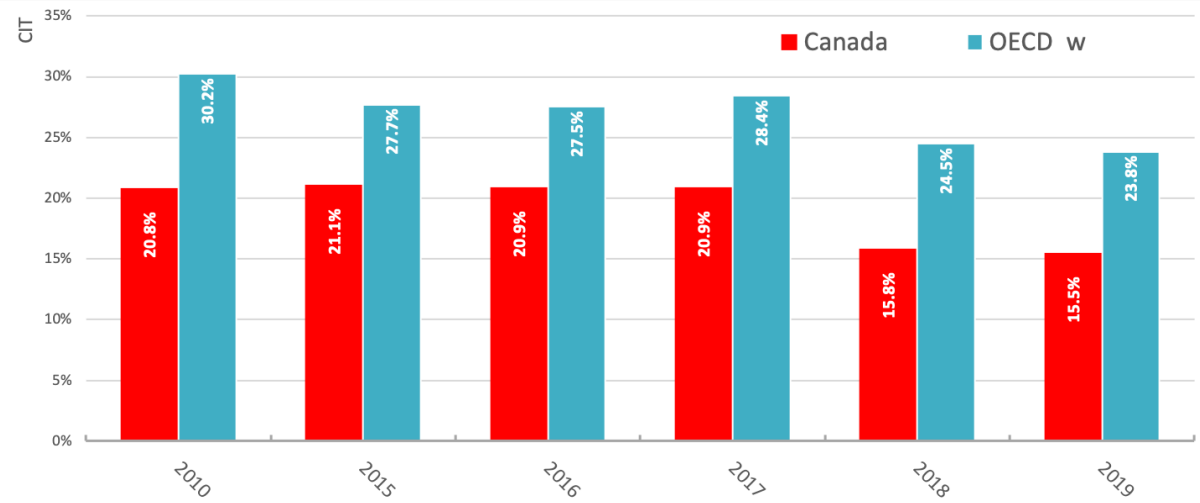
6 However, provincial and/or municipal property taxes are levied on non-residential structures at rates typically higher than for residential property. To the extent that such taxes increase the real estate costs for businesses rather than being absorbed in capital values, their impact on marginal effective tax rates can be significant. In some recent work that included some data made available to us, we estimated that that the METR jumps from 10.1 to 28.3 per cent in New Brunswick. However, we have no other data to estimate effective municipal property tax rates for other provinces.

CHART 3 CANADA'S METR ON CAPITAL IN COMPARISON WITH GDP-WEIGHTED AVERAGE OF G7, BRIC, G20, AND OECD ECONOMIES AND 94 COUNTRIES: 2010 AND 2019



Source: Own calculations.

CHART 4 CANADA'S METR ON CAPITAL IN COMPARISON WITH THE OECD GDP-WEIGHTED AVERAGE 2010, 2015- 2019.

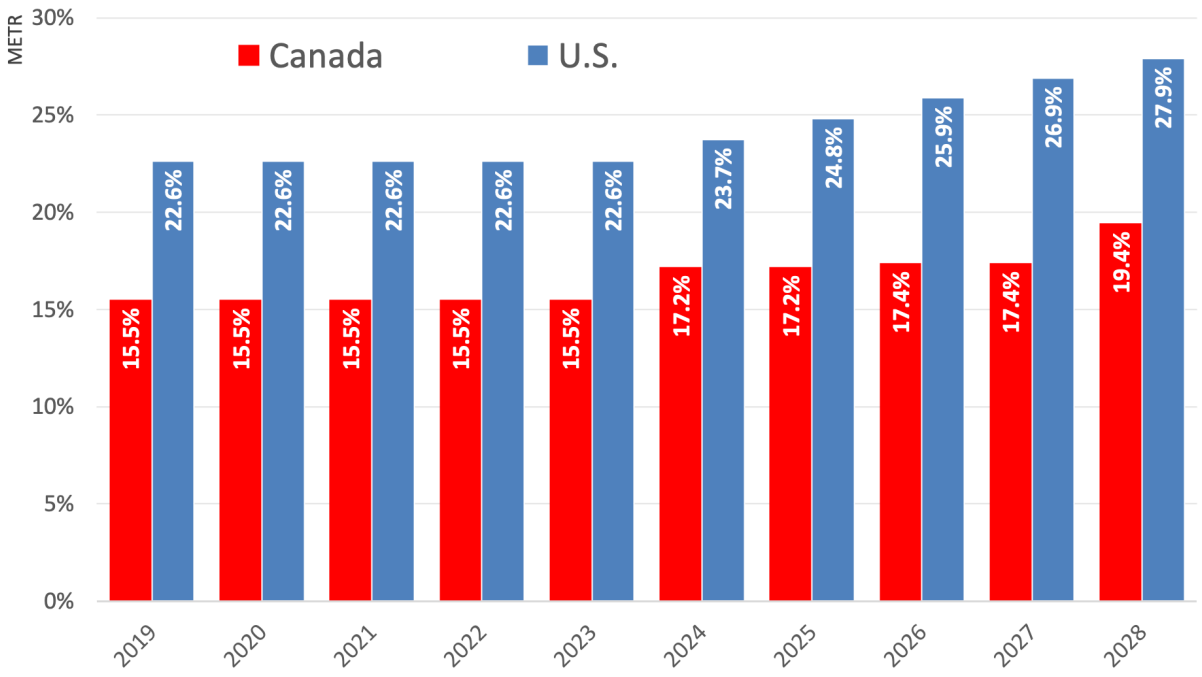


Source: Own calculations.

Given that Canada has no advantage with respect to the general corporate tax rate, then why does Canada have an METR so much lower than the GDP-weighted-average METR of other countries? Much of the difference arises from sales taxes on capital purchases in Brazil and the United States, various transfer taxes in Australia, China and European countries and capital taxes, especially in Russia and Japan.

Another reason for Canada's advantage was its adoption of accelerated depreciation in November 2018 in reaction to U.S. tax reform (provinces had adopted the same provision by 2019). From our review of corporate tax reform, Canada was unique in adopting temporary accelerated depreciation as a response. Given its temporary nature (fully in effect for five years before being phased out afterwards over a further five years), accelerated depreciation does not provide tax competitiveness in the long run. In Chart 5 below, we provide the year-by-year METR for United States and Canada based on current legislation.[7]

CHART 5 CANADA AND U.S. METR ON CAPITAL AS ACCELERATED DEPRECIATION IS PHASED OUT



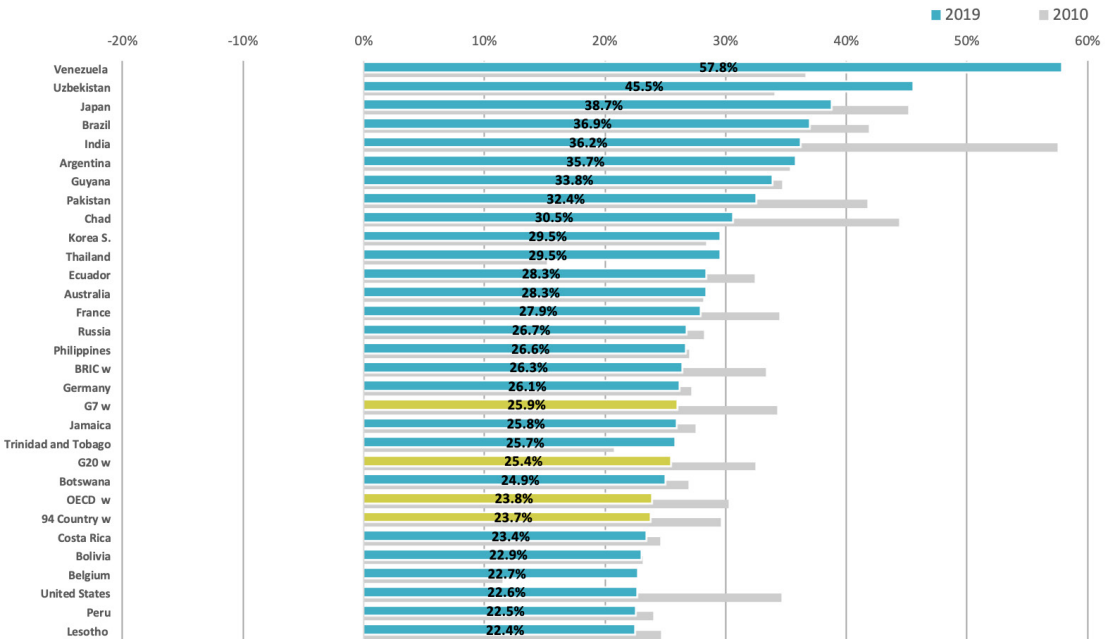
As shown in the chart, Canada's METR will rise five points from 15.5 to 19.4 per cent by 2028, which is almost equal to the United Kingdom, assuming no other policy changes in either country. The U.S. METR will also rise about five points from the current 22.6 to 27.9 per cent, on the same assumption. While Canada will maintain its competitiveness with respect to United States by 2028, which is critical, it will lose competitiveness with respect to Europe. Nonetheless, it remains in the middle of the pack in terms of attracting investment.

7 Assuming the phase-out of previous bonus depreciation, the expensing of machinery investments in the United States reduced the U.S. METR from 27.9 to 22.6 per cent (about 5.3 percentage points). The METR without bonus depreciation prior to reform was 34.6 per cent, so the corporate tax rate reduction accounted for 6.7 percentage points of the METR reduction (over half of the reduction in the METR).

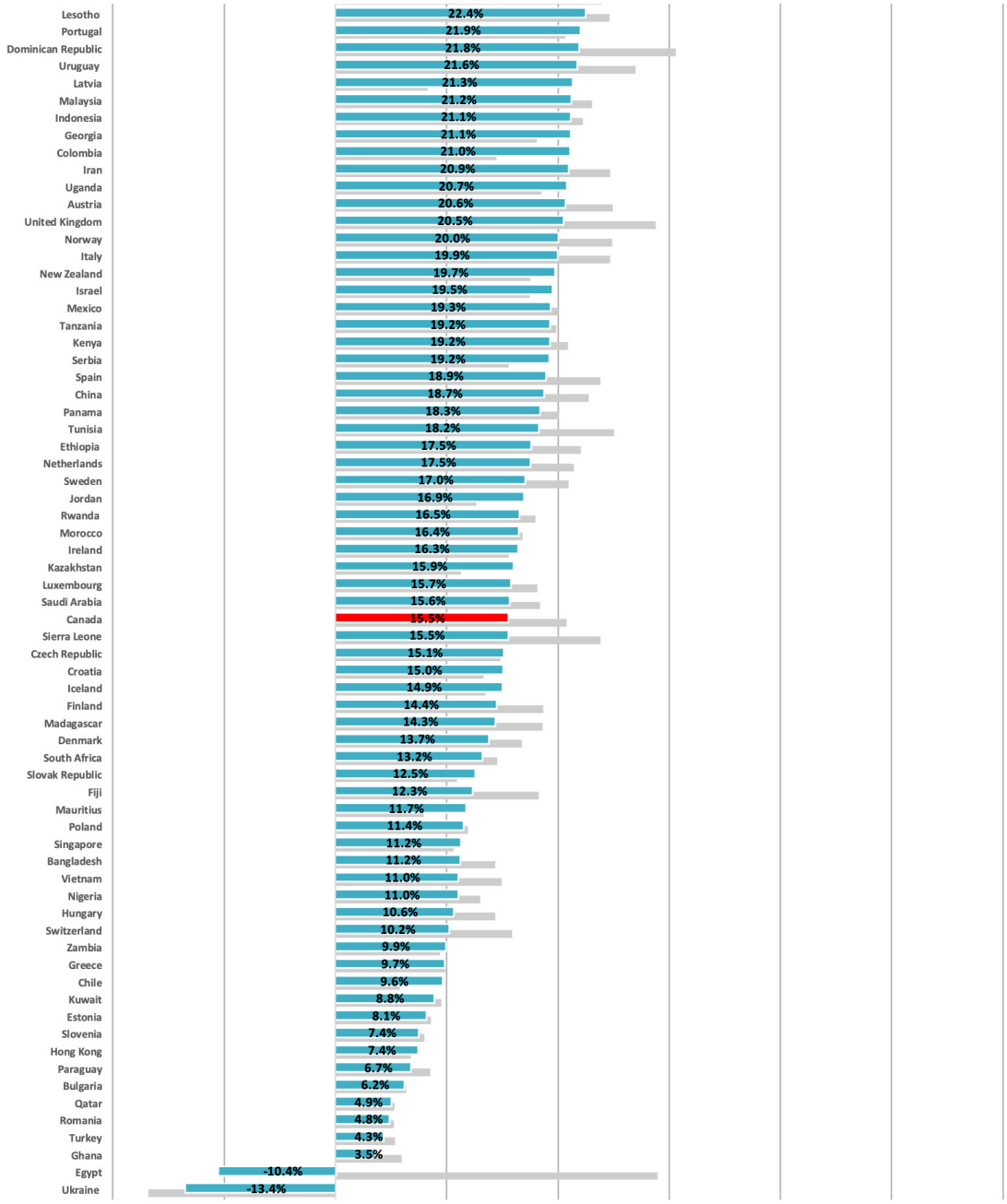
As provided in the appendix, we also note that the differential in METRs between manufacturing and services sharply increases in Canada. In 2017, manufacturing's METR on capital was 16.2 per cent, 6.3 points less than on services (22.5 per cent). In 2019, the differential has increased to 10 points, with manufacturing taxed at a rate of 7.3 per cent and services taxed at rate of 17.3 per cent. While both manufacturing and services benefited from accelerated depreciation, the policy has increased distortions by favouring short-lived capital investments, as shown in Table 3 below (see also Bazel and Mintz 2019, where we show that the dispersion in METR across assets and industries increased by 270 per cent with accelerated depreciation). No advanced country in the world taxes services so much more heavily than manufacturing as Canada does.[8]

The ranking of countries by METR on capital is provided in Chart 6 (and the appendix). As shown, Canada clearly ranks well below most countries at 15.5 per cent. If accelerated depreciation were not provided, Canada would still have an METR of 20.4 per cent, below the GDP-weighted-average of G7, G20, BRIC and OECD countries as well as the 94-country average. Hence it is not clear why Canada adopted accelerated depreciation given that the policy has distorted capital allocation decisions so much and the METR on tangible capital was sufficiently competitive.

CHART 6 METR BY COUNTRY, AVERAGED FOR MANUFACTURING AND SERVICES 2019



8 Developing countries with a large bias in METR towards manufacturing include India (8.6 points), Bolivia (9.2 points), Chad (8.6 points), Egypt (20.1 points), Ethiopia (11.6 points), Ghana (10.3 points), Iran (11.6 points), Kenya (16.2), Nigeria (13.8 points), Uganda (7.6 points), Ukraine (16.9 points) and Zambia (11.9 points).



INTER-PROVINCIAL COMPARISONS

Though our analysis is focused in comparing Canada's business tax with 94 countries, it would be useful to look at the provinces and their international competitiveness. In Table 2 we provide provincial and industry METRs for 2019. We also provide in Table 3 asset and industry breakdowns in METR for the provinces and assets.

TABLE 2 METR BY INDUSTRY AND PROVINCE: 2019

2019	Agriculture	Forestry	Electrical Power, Gas & Water	Construction	Manufacturing	Wholesale Trade	Retail Trade	Transportation and Storage	Communications	Other services	Aggregate
Canada	13.7%	6.8%	14.9%	20.7%	6.9%	20.8%	21.8%	14.1%	15.3%	18.9%	**14.9%**
Newfoundland	9.9%	-16.3%	14.4%	22.5%	-13.6%	23.1%	23.7%	13.1%	13.9%	18.6%	**7.7%**
Prince Edward Island	-1.5%	-38.1%	15.1%	23.4%	-53.3%	24.1%	24.6%	18.7%	13.7%	21.7%	**10.7%**
Nova Scotia	8.5%	-15.2%	15.1%	23.4%	-19.1%	24.0%	24.6%	14.3%	14.7%	19.5%	**13.0%**
New Brunswick	1.3%	-16.6%	13.8%	21.7%	-13.5%	22.3%	22.8%	15.1%	13.4%	18.0%	**10.1%**
Quebec	13.4%	-1.7%	11.6%	19.3%	-1.3%	19.9%	20.4%	11.6%	10.4%	16.7%	**10.8%**
Ontario	13.0%	9.8%	12.1%	19.5%	11.0%	19.9%	20.6%	12.8%	11.9%	16.3%	**14.0%**
Manitoba	19.2%	3.9%	24.9%	27.6%	-1.7%	25.9%	26.9%	21.5%	27.0%	30.0%	**22.3%**
Saskatchewan	17.7%	10.8%	22.6%	25.7%	12.2%	25.9%	25.9%	18.5%	26.8%	27.3%	**20.5%**
Alberta	10.9%	9.2%	10.2%	16.7%	11.9%	17.2%	17.7%	9.7%	9.8%	13.8%	**12.0%**
British Columbia	18.8%	17.7%	24.9%	27.6%	17.3%	25.9%	26.9%	20.4%	29.3%	29.2%	**24.3%**
Canada* (Incl. Trans.)	15.0%	7.0%	15.3%	20.9%	7.3%	21.1%	22.8%	14.6%	15.9%	20.1%	**15.5%**

* Note the inclusion of land-transfer taxes for the aggregate result in Canada. The transfer taxes are not included in the base result for Canada (line 1) or the provinces. Hence the METR in aggregate is 14.9 per cent without land-transfer taxes, while it is 15.5 per cent when transfer taxes are included, as in the case of the other 94 countries. The Alberta legislated rate reduction to eight per cent is included in the METR calculations in both tables 2 and 3.

TABLE 3 METR BY ASSET AND PROVINCE: 2019

2019	Buildings	M&E	Land	Inventory	Aggregate
Canada*	19.1%	8.5%	11.0%	24.2%	**14.9%**
Newfoundland	11.7%	-12.0%	12.9%	27.9%	**7.7%**
Prince Edward Island	18.4%	-14.4%	13.5%	28.6%	**10.7%**
Nova Scotia	18.7%	-2.0%	13.5%	28.7%	**13.0%**
New Brunswick	15.7%	-6.2%	12.4%	27.0%	**10.1%**
Quebec	18.2%	-5.1%	11.2%	24.7%	**10.8%**
Ontario	18.5%	5.7%	11.0%	24.1%	**14.0%**
Manitoba	21.1%	25.7%	11.4%	25.0%	**22.3%**
Saskatchewan	21.3%	21.5%	11.1%	24.2%	**20.5%**
Alberta	16.2%	6.3%	9.4%	21.3%	**12.0%**
British Columbia	25.0%	27.9%	11.4%	25.1%	**24.3%**

Note: Land-transfer taxes are excluded in the base result for Canada here.

The four Atlantic provinces, Quebec and Alberta have the lowest METR on capital investments ranging from 7.7 per cent in Newfoundland and Labrador to 13.0 per cent in Nova Scotia. This is driven by the federal Atlantic Investment Tax Credit that benefits manufacturing, forestry and agricultural sectors. It also includes provincial preferences such as the investment tax credit in Prince Edward Island for manufacturing and the additional capital cost allowance for manufacturing and knowledge-based assets in Quebec. Alberta's legislated reduction in its corporate income tax rate from 12 to eight per cent by 2022 results in Alberta not only having the lowest corporate income tax rate in Canada (23 per cent including the federal rate) but also one of the lowest METRs, at 12 per cent.

On the other hand, British Columbia, Manitoba and Saskatchewan impose the highest METRs on capital primarily due to the retail sales tax that falls on the purchasing cost of machinery and structures in those provinces.

As remarked above, manufacturing and forestry (which include pulp and paper and forest product companies) benefit from the lowest METR due to accelerated depreciation. In some cases, such as machinery investments in Quebec and the Atlantic provinces, accelerated depreciation and investment tax credits are so generous for marginal investments that the METR is negative, implying that investment in these assets shelters tax paid on other assets.

Some of the income tax advantages to these industries are offset by provincial sales taxes on capital purchases in B.C., Saskatchewan and Manitoba, resulting in machinery being far more heavily taxed in these provinces compared to other provinces. Construction, wholesale trade and retail trade are much more heavily taxed than other industries (with an METR over 20 per cent).

Despite excluding land-transfer taxes in the provincial results, British Columbia has an METR of 24.3 per cent on tangible capital that is higher than that in the United States at 22.6 per cent and the OECD at 23.8 per cent. Manitoba taxes tangible capital at 22.3 per cent, which is almost as high as in the United States. Other than British Columbia, Manitoba and Saskatchewan, the METR on tangible capital in Canada is roughly half of the U.S. and OECD averages.

TAX COMPETITIVENESS INCLUDING LABOUR TAXES

Tax competitiveness can also be influenced by taxation of labour as well as capital (see McKenzie, Mintz and Scharf 1997 for a theoretical analysis). While the Atlantic provinces and Quebec have relatively low taxes on capital, they tend to impose higher labour taxes (personal income, payroll and sales/excise taxes that reduce the real income of workers). In small open economies like the Canadian provinces, taxes on capital invested in large multinational companies are shifted forward as cost. It is unlikely that taxes are shifted back to owners of capital since investors can shift their savings to international opportunities if the returns to capital fall below returns earned elsewhere, although home attachment might lead to a portion of capital taxes being shifted back onto owners. Taxes on wages, salaries and other employment compensation are more complicated to consider in terms of their impact on business costs. Employer-paid payroll taxes add directly to the cost of labour. Personal taxes on payroll, income and sales indirectly cause costs to rise if workers bargain for higher wages or withdraw effort, causing wage rates to rise in the market. Another possibility would be the absence of any impact on business costs as workers fully absorb labour taxes as part of their earnings (including employer-paid payroll taxes). If so, one should only focus on the METR on capital investments to analyze tax competitiveness.

How taxes impact production costs therefore depends in part on tax incidence, i.e., who it is that ultimately pays the tax. Corporate taxes on capital investments

could be shifted forward as higher domestic consumer prices, reducing the real income of Canadians. Or they could be shifted back onto labour and capital goods prices. McKenzie and Ferede (2017) find that provincial corporate income taxes are fully shifted onto labour as lower investment puts downward pressure on wages. Taxes on labour, including employer-paid payroll taxes, would also likely fall primarily on labour.

Regardless, we measure both corporate taxes on investment and employer-paid and employee-paid taxes on labour income as part of business costs, including labour taxes paid by employers and employees, leaving the effect on incidence of investment and labour taxes as an indirect effect on the economy.

The estimated average METR by industry, measured as the average METR faced by all workers in a particular industry in Canada is shown in Table 4 below (see the appendix for an explanation of the methodology). They include employer-paid and employee-paid payroll taxes and marginal personal tax rates in addition to consumption taxes and clawbacks on income-tested federal and provincial programs. The lowest income-weighted-average METRs on labour are in British Columbia (31.6 per cent), followed by Saskatchewan (32.6 per cent) and Alberta (33.7 per cent). The highest are found in Newfoundland & Labrador, Ontario and Quebec.

TABLE 4 AVERAGE LABOUR METR BY INDUSTRY IN EACH PROVINCE 2019

	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Agriculture	25.0%	20.7%	22.4%	24.1%	21.5%	20.0%	26.2%	22.4%	19.8%	19.9%
Other Primary	40.4%	36.0%	38.7%	40.4%	43.3%	50.1%	35.7%	37.2%	35.1%	32.5%
Utilities	41.5%	42.7%	45.1%	43.1%	45.6%	52.4%	40.7%	38.5%	39.8%	35.3%
Construction	38.0%	40.1%	41.1%	39.5%	42.1%	39.8%	40.9%	35.9%	33.0%	35.3%
Manufacturing	42.3%	40.9%	38.9%	39.7%	44.2%	39.7%	41.0%	37.8%	37.2%	49.2%
Trade	31.9%	30.4%	28.1%	28.5%	37.0%	24.6%	30.8%	27.6%	26.1%	40.2%
Transportation & Warehousing	47.0%	40.7%	41.5%	39.5%	45.5%	41.6%	40.5%	39.3%	37.0%	49.0%
Finance, Insce., Real Est & Leasing	45.1%	39.5%	40.8%	42.2%	44.4%	34.3%	40.2%	38.2%	35.7%	36.9%
Prof, Sci. & Technical Services	42.2%	40.7%	39.2%	39.5%	44.2%	34.7%	38.5%	37.7%	37.0%	49.0%
Management, Admin, & Other Support	28.8%	30.5%	31.6%	28.0%	40.1%	30.1%	30.4%	26.6%	22.9%	26.0%
Educational Services	40.1%	38.6%	37.0%	40.6%	39.0%	40.2%	38.0%	37.0%	34.8%	32.5%
Health Care & Social Assistance	41.5%	40.5%	43.5%	38.7%	41.5%	43.8%	40.1%	36.2%	32.1%	34.5%
Information, Culture, & Recreation	35.6%	30.0%	33.3%	37.1%	39.4%	35.3%	34.6%	29.3%	27.4%	26.2%
Accommodation & Food Services	12.3%	14.0%	14.2%	11.2%	19.6%	11.3%	13.9%	9.9%	6.6%	10.7%
Other Services	29.6%	30.8%	31.4%	27.6%	40.5%	26.7%	31.0%	26.9%	23.3%	26.5%
Public Administration	46.1%	40.4%	42.1%	40.4%	45.3%	44.7%	44.4%	36.7%	38.5%	34.2%
All	41.5%	36.4%	35.9%	38.0%	41.6%	41.2%	40.1%	32.6%	33.7%	31.6%

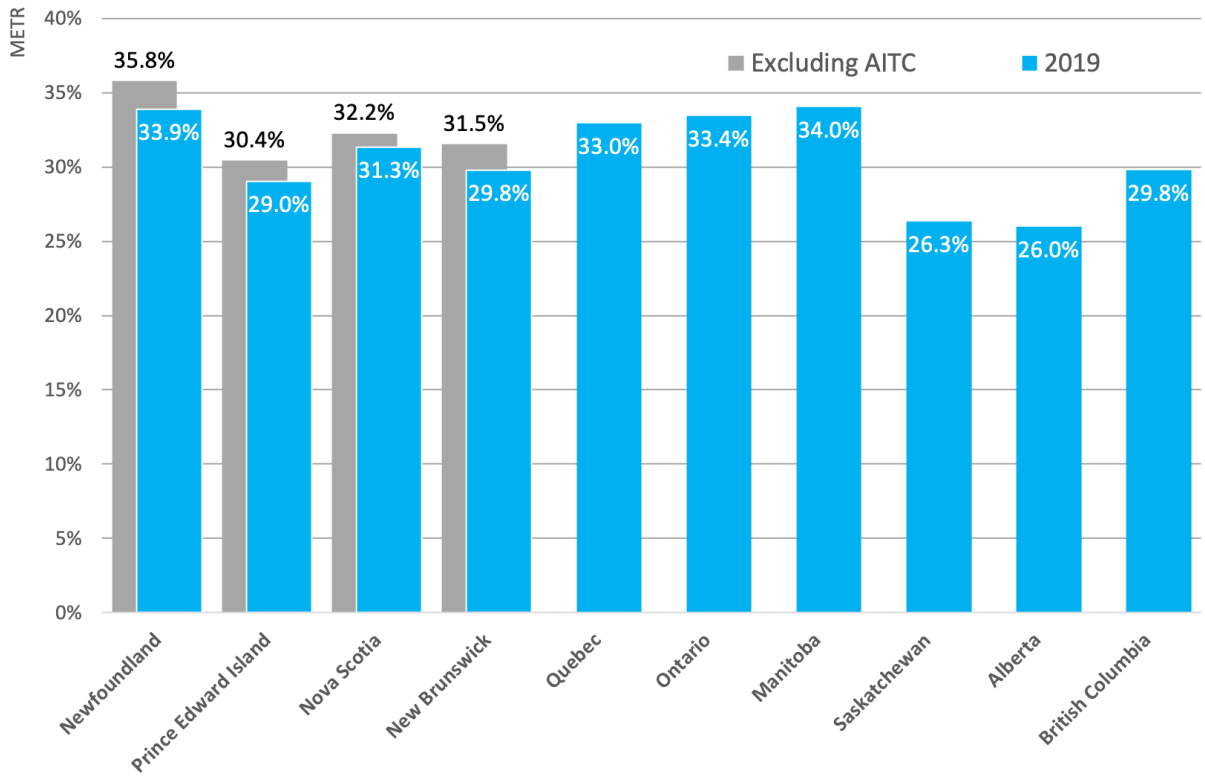
Notes: 1) “All” represents the average value across all industries for a given province. 2) Labour METRs represent the averaged marginal effective tax rate faced by all workers in a particular industry by jurisdiction.

Source: Author calculations based on Statistics Canada Policy Simulation and Model.

Some of the tax on the cost of doing business might be absorbed by labour and capital and some of it might be shifted forward to consumers as higher prices. Below, METRs are measured regardless of shifting assumptions. In Chart 7 we provide an assessment of the aggregate impact of taxes on the cost of doing

business, incorporating taxes on income as well as capital. Alberta is the most tax-competitive province once we account for both labour and capital taxes on the cost of doing business, with a 26-per-cent tax rate on the marginal cost of production. Manitoba, however, is the least tax competitive at 34.0 per cent. By keeping the levels and distribution of income the same across provinces, the sole differences in labour METRs are due to tax and income-tested programs.

CHART 7 MARGINAL EFFECTIVE TAX RATES ON THE COST OF DOING BUSINESS BY PROVINCE 2019 (BASED ON CANADA-WIDE SALARIES)



Notes: The cost of doing business represents the weighted-average METR on labour and capital. Final weighting is based on the ratio of labour compensation to value-added (net of depreciation).

Sources: Statistics Canada — Multifactor productivity, value-added, capital input and labour input, Table 36-10-0211-01; Statistics Canada — Flows and stocks of fixed non-residential capital, by industry and type of asset, Table 36-10-0096-01.

CANADA'S INVESTMENT CHALLENGE

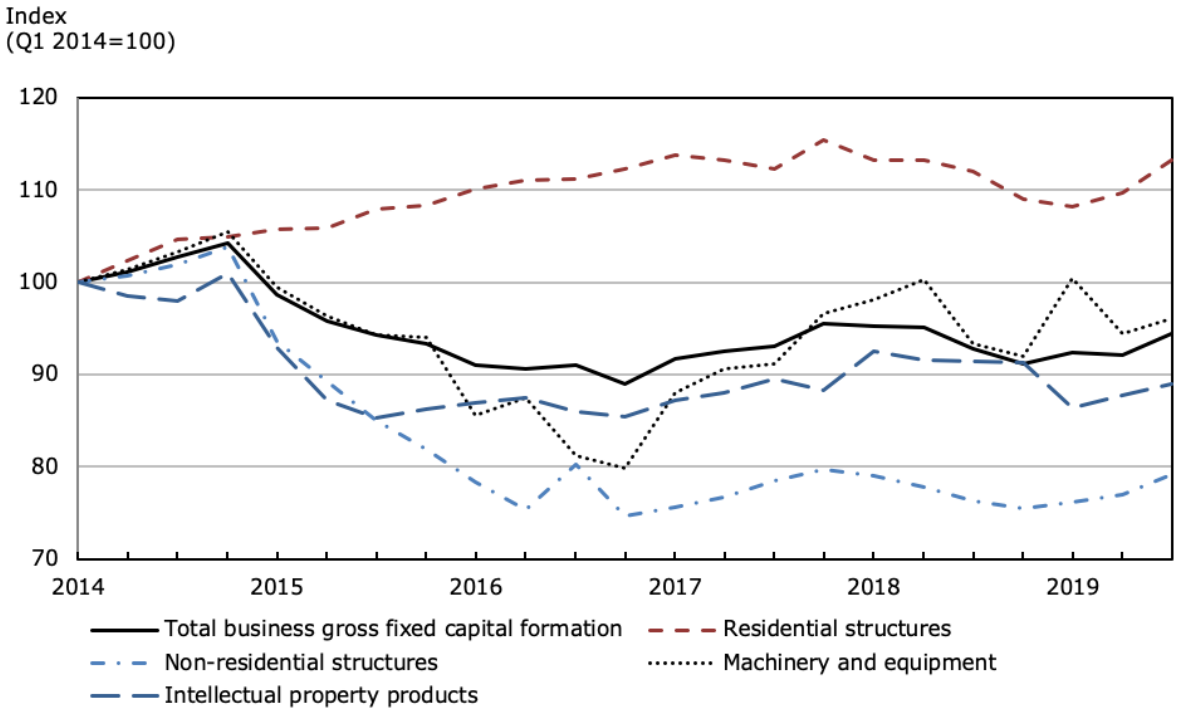
In the past two decades, Canada has gone a long way to create tax competitiveness for capital investments by lowering its federal-provincial corporate income tax rate from 43 per cent in 2000 (Bazel, Mintz and Thompson 2018) to slightly above 26 per cent today, removing capital taxes on non-financial industries and replacing the federal and provincial single-stage sales taxes with the GST/HST (although B.C., Manitoba and Saskatchewan have not harmonized their sales taxes with the federal sales tax under the HST). Meanwhile, gross capital formation investment as a share of GDP rose from 18.6

per cent of GDP (1989–2000) to 22.6 per cent (2001–14),[9] peaking in 2012 at 24.6 per cent. However, investment has been disappointing since 2015.

Tax obviously is not the only factor influencing investment. Growth in product demand (such as the commodity boom), regulations, infrastructure and political uncertainty also affect investment decisions. The mix of industries is important as well. If there is a shift from capital-intensive industries such as oil and gas, mining and manufacturing to less-capital-intensive industries such as services, investment will decline for this reason alone.

Chart 8 shows that real business investment (both private and public business capital formation indexed at 2014 Q1 values) has fallen by 10 per cent since 2014. The steepest drop has been with respect to non-residential structures (20 per cent) followed by intellectual-property products investment (research and development, mineral exploration and evaluation, software), which declined by about a tenth. Machinery investment in 2019 still remains below the 2014 level, although it has improved since the beginning of 2017. Residential investment, on the other hand, is the only growing investment sector: Canadian are investing in homes but not business assets.

CHART 8 BUSINESS INVESTMENT BY TYPE SINCE 2014



Note: Q1=first quarter.
Source : Statistics Canada, Table 36-10-0108-01.

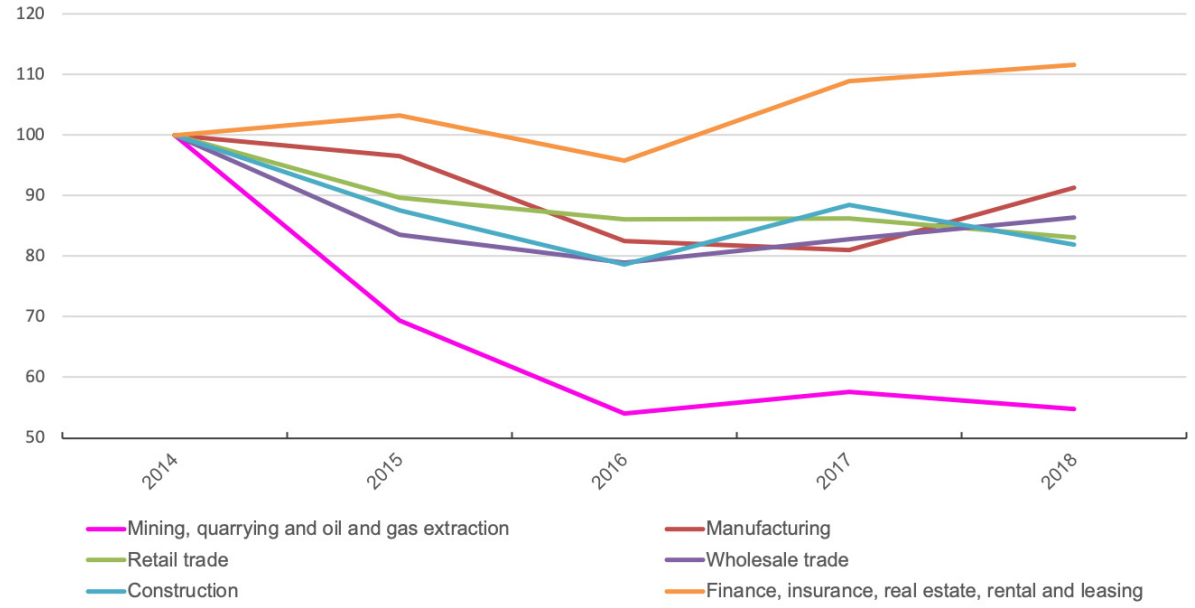
9 Data taken from World Bank, https://data.worldbank.org/indicator/NE.GDI.FTOT.ZS?locations=CA.

In 2015, the METR on business capital rose due to provincial corporate tax rate increases and some scaling-back in incentives, until November 2018 when the accelerated depreciation was adopted. Tax is not an explanation of the decline in investment, although some pickup in non-residential investment took place in 2019 with the adoption of accelerated depreciation (investment has only risen to roughly the same as 2017 levels). Obviously other factors play a role in influencing investment demand, particularly the fall in commodity prices and regulatory policies that have inhibited oil and gas development. This is not to say taxation does not have an impact on investment, but it is important to keep in mind that other factors also play a role.

The investment pattern across industries (resource, manufacturing and services) is provided in Chart 9. Mining and oil and gas investment has dramatically declined from 2014. So has manufacturing investment which has not fully recovered since 2014. Outside of finance, insurance, real estate and leasing, investment has not yet recovered after four years.

CHART 9 BUSINESS INVESTMENT BY INDUSTRY SINCE 2014

Index
(Q1 2014=100)



Note: In constant dollars.

Source: Statistics Canada, Table 36-10-0096-01.

POLICY: DIRECTION FOR REFORMS

Our policy recommendation is twofold:

- Canada's METR is sufficiently low that even with the expiration of accelerated depreciation, Canada is tax competitive for tangible

investment. Further reduction in the METR might be appropriate to encourage investment but not because Canada is out of line with other countries.

- Canada has lost competitiveness with respect to the corporate income tax rate. That will put pressure to attract certain business intangible functions (marketing, intellectual property and services) as well as lead to a bleeding of profits to other countries with more favourable corporate income tax rates.

A fundamental restructuring of the corporate income tax could be considered, but it is difficult to do given the extent of adjustments needed. The following are two examples:

One option would be to convert the corporate income tax into a "rent" tax, with the expensing of tangible and intangible capital expenditures and the elimination of interest deductibility (for example, see Boadway and Tremblay 2014). There are significant issues with this approach, the most important being its inconsistency with other countries (for details, see the Technical Committee on Business Taxation 1997 and Mintz 2018*).

Another example would be an Estonian-type reform — exempting reinvested earnings from corporate tax with a tax on distributions (dividends and repurchase of shares) to investors. Both require a fundamental change to the tax structure and tax rates, including making up for any revenue losses. We leave to future research an exploration of any viable options that require much more analysis, as suggested in Mintz 2018*. Therefore, our recommendations are focused on marginal shifts to the corporate tax system primarily to achieve two objectives: neutrality and internationally competitive corporate tax rates, as argued by the Technical Committee on Business Taxation (1998).

Specifically, we argue that a reduction in the corporate income tax rate accompanied by base-broadening should be considered as a step towards improving neutrality and competitiveness. The METR would not necessarily change, but the corporate rate reduction would help make it more attractive to keep profits and the corporate tax base in Canada. We do not have the data to evaluate a reform proposal in terms of revenue effects to estimate a revenue-neutral corporate income tax rate for the federal and provincial governments, but the reform's direction would include the following:

1. The harmonization of provincial sales taxes in British Columbia, Saskatchewan and Manitoba with the federal GST.[10] This would substantially lower the tax on capital in these provinces closer to the level of other provinces. A report for British Columbia recommended a tax-

[10] Alberta could also adopt the HST to reduce economically harmful taxes on labour and capital (Bazel and Mintz 2013).

credit approach to relieve capital and energy business purchases from sales tax.[11]

2. With the adoption of some OECD measures that would broaden the tax base, Canada would be increasing effective tax rates on capital. One measure would include, for example, imposing withholding taxes on base-eroding payments to low-tax jurisdictions. Another would be a general limit on interest deductions up to a portion of corporate earnings similar to U.S. and European rules (and included in the federal Liberal party's election platform). These measures would need careful review in terms of their design and appropriateness for an open economy like Canada's.[12]

3. The scaling back of targeted tax measures favouring particular business investments, including accelerated depreciation for equipment, expensing for manufacturing machinery and clean technologies, the Atlantic Investment Tax Credit and other investment tax credits at the federal and provincial levels, as well as special equity-based incentives and the small-business deduction. Tax write-offs should instead be made to correspond to economic investment costs, such as matching capital cost allowances with economic depreciation rates.

These reforms, including base-broadening, would provide an opportunity for federal and provincial governments to reduce the general corporate tax rate further. A lower federal-provincial corporate rate to roughly 22 percent, similar to Sweden, would put Canada in the middle of the pack in terms of corporate income tax rates. It would also be good for governments, since more profits would be retained in Canada.

CONCLUSIONS

Canada no longer has a competitive advantage with respect to its corporate income tax rate, which is now 26.2 per cent and above the GDP-weighted average among OECD countries and approaching the highest tax rate of 30 per cent in Japan, Mexico and Australia. It does, however, maintain tax competitiveness for tangible investment. Its effective tax rate on marginal investment in manufacturing and service industries (except finance) is 15.5 per cent, well below the weighted average of OECD countries (23.8 per cent). Even with the phasing out of accelerated depreciation, Canada's METR of 19.4 per

11 Commission on Tax Competitiveness, *Improving British Columbia's Tax Competitiveness*, Ministry of Finance, Victoria, British Columbia, 2016.

12 For limiting interest deductions to a percentage of corporate earnings before depreciation, amortization, interest and taxes would discriminate against risky and start-up companies as well as favour short-lived capital investments that create more earnings room for interest deductions. See Mintz (March 2018). We are currently researching in more depth the Liberal policy proposal made in the 2019 election.

cent will still remain below the OECD average. Thus, Canada is attractive for tangible marginal investments but not profits and intangible income.

At the provincial level, the Atlantic provinces, Quebec and Alberta have the most-competitive corporate taxes for tangible investment, while British Columbia, Saskatchewan and Manitoba have the least-competitive taxes due to their provincial sales taxes on capital purchases. When taking into account the taxation of labour, Alberta is the most tax-competitive province in Canada.

While many competing countries are improving neutrality among businesses increasing their international competitiveness for investment and profits, Canada is moving in a different direction. Instead of pursuing clear goals such as neutrality and growth, the aim seems to be to raise revenues while providing targeted tax concessions to politically favoured business activities like clean energy and manufacturing. This has negative consequences for labour productivity in the long run as capital is allocated to less economically valuable activities.

We provide suggestions for tax reform but suggest that the federal government should consider a corporate tax rate reduction with some base-broadening measures that would make the tax system more neutral and offset the potential loss in the tax base, particularly to the United States. We do not have a detailed proposal, but it would make sense for the government to undertake a general review of corporate taxation in Canada to improve both growth and neutrality.

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APPENDIX

METHODOLOGY USED TO ESTIMATE METR ON LABOUR

Estimates of METR on labour by provinces are based on Statistics Canada's Social Policy Simulation Database and Model (SPSD/M); the assumptions and calculations underlying the simulation results were prepared by the author and all responsibility for use and interpretation of these data lies with the author. SPSDM incorporates data from a number of Statistics Canada sources, including the Canadian Survey of Household Spending (SHS), Survey of Labour and Income Dynamics (SLID), and the Census of Canada. For more info please see https://www.statcan.gc.ca/eng/microsimulation/spsdm/spsdm.

Marginal effective tax rates at the personal level, whether individual, family, or household, essentially account for the combined effect of the tax and transfer system and thus represent the real net-of-tax returns to earned income. METRs on labour presented here include employer-paid and employee-paid payroll taxes and marginal personal tax rates, in addition to consumption taxes and the clawbacks on income-tested federal and provincial programs. While modelling includes a full accounting of both the federal and provincial tax and transfer regimes, it does not include property taxes.

The average METR on labour presented is a modelled result derived from a generalized base case individual and is based on the assumptions discussed below. In terms of methodology the full range of METR values are calculated across the full range of income (wage), the quintiles for industry specific income are then then matched to the corresponding METR for the generalized individual in the given jurisdiction (province). The resulting METRs at these quintiles are then averaged to arrive at a mean value across the industry by jurisdiction. This requires two sets of input data, 1) the continuous METR values for a particular household type in a particular jurisdiction and 2) the pre-tax income values at quintiles for a particular industry by jurisdiction. The resulting estimates represent the marginal effective tax rate by industry measured as the average marginal effective tax rate faced by all workers (subject to the base case conditions) in a particular industry in Canada.

The base case "household" for modelling includes a single working-age earner with no children whose total market income is derived from employment wages. This base case was chosen to exclude the complex tax and transfer interactions that apply to families with children and can obscure taxes on labour, given the number of overlapping taxes and income-tested transfers. The base case was further selected on the basis of simplicity in order to avoid triggering any programs that would be highly case-specific, as this would give rise to an METR that was then representative of that particular individual's circumstance rather than a broad cross-section of the most common tax and transfer features. The METR on labour accounts for all aspects of the tax and transfer system to

arrive at a net of tax and transfer result, accounting for the complex interaction between earnings, personal taxes on income, and the granting and reduction of tax credits and transfer benefits. Effective measures stand in contrast to something like a statutory tax rate schedule on personal income, which illustrates only one aspect of the personal tax system in isolation.

TABLE 1 METR BY COUNTRY

	2019				2017				2010				Ranking Competitiveness Overall METR	
	Overall	Manufacturing	Service	Difference	Overall	Manufacturing	Service	Difference	Overall	Manufacturing	Service	Difference	2019	2010
Australia	28.3	29.8	28.2	1.6	28.3	29.8	28.2	1.6	28.2	30.8	27.9	2.9	82	77
Austria	20.6	22.0	20.2	1.8	23.8	25.3	23.4	1.9	25.0	25.3	24.9	0.4	58	70
Belgium	22.7	23.3	22.6	0.7	26.9	27.6	26.7	0.9	11.5	11.4	11.5	0.1	72	20
Canada	15.5	7.3	17.3	10	20.9	16.2	22.5	6.3	20.8	15.0	24.1	9.1	34	53
Chile	9.6	12.2	9.1	3.1	8.9	11.1	8.5	2.6	5.8	7.2	5.5	1.7	13	5
Czech Republic	15.1	16.8	14.4	2.4	15.1	16.8	14.4	2.4	14.8	16.2	14.3	1.9	32	30
Denmark	13.7	16.1	13.3	2.8	13.7	16.1	13.3	2.8	16.8	18.3	16.5	1.8	27	36
Estonia	8.1	8.1	8.1	0	8.1	8.1	8.1	0.0	8.6	8.6	8.6	0.0	11	13
Finland	14.4	17.1	13.8	3.3	14.4	17.1	13.8	3.3	18.7	21.1	18.1	3.0	29	47
France	27.9	30.5	27.5	3	33.1	36.1	32.7	3.4	34.5	36.1	34.2	1.9	81	85
Germany	26.1	29.6	24.9	4.7	25.9	29.3	24.8	4.5	27.1	30.0	26.2	3.8	78	75
Greece	9.7	10.4	9.7	0.7	12.3	13.1	12.3	0.8	9.9	10.0	9.8	0.2	14	16
Hungary	10.6	12.0	10.2	1.8	10.6	12.0	10.2	1.8	14.4	16.2	13.8	2.4	17	27
Iceland	14.9	14.2	15.1	0.9	14.9	14.2	15.1	0.9	13.5	11.8	13.9	2.1	30	25
Ireland	16.3	16.6	16.2	0.4	11.8	11.8	11.9	0.1	15.6	15.8	15.5	0.3	38	33
Israel	19.5	21.0	19.2	1.8	20.0	21.5	19.7	1.8	17.5	18.4	17.3	1.1	53	38
Italy	19.9	23.2	19.3	3.9	20.9	22.5	20.6	1.9	24.7	23.1	25.0	1.9	55	67
Japan	38.7	39.4	38.5	0.9	38.9	39.6	38.7	0.9	45.1	45.5	45.0	0.5	92	93
Korea S.	29.5	32.2	28.1	4.1	27.1	29.6	25.9	3.7	28.4	29.5	27.8	1.7	85	79
Luxembourg	15.7	19.3	15.5	3.8	16.9	20.8	16.7	4.1	18.1	22.5	17.9	4.6	36	42
Mexico	19.3	21.8	18.7	3.1	19.3	21.8	18.7	3.1	20.0	21.6	19.7	1.9	52	49
Netherlands	17.5	18.7	17.3	1.4	20.4	21.7	20.2	1.5	21.4	22.4	21.3	1.1	43	56
New Zealand	19.7	19.8	19.7	0.1	19.7	19.8	19.7	0.1	17.5	14.8	17.9	3.1	54	39
Norway	20.0	21.1	19.9	1.2	21.7	22.8	21.5	1.3	24.9	24.4	24.9	0.5	56	69
Poland	11.4	12.0	11.3	0.7	11.4	12.0	11.3	0.7	11.9	12.1	11.8	0.3	22	21
Portugal	21.9	21.2	22.1	0.9	20.4	19.7	20.5	0.8	20.7	19.4	20.9	1.5	68	51
Slovak Republic	12.5	15.0	11.6	3.4	12.5	15.0	11.6	3.4	10.9	13.3	10.0	3.3	25	18
Slovenia	7.4	8.5	7.1	1.4	7.4	8.5	7.1	1.4	8.0	9.2	7.7	1.5	10	10
Spain	18.9	19.7	18.7	1	18.9	19.7	18.7	1.0	23.8	24.1	23.8	0.3	48	63
Sweden	17.0	17.9	16.8	1.1	18.0	18.9	17.8	1.1	21.0	21.1	20.9	0.2	42	55
Switzerland	10.2	10.4	10.1	0.3	10.0	10.3	10.0	0.3	15.9	15.6	16.0	0.4	16	35
Turkey	4.3	6.1	3.8	2.3	4.3	6.1	3.8	2.3	5.4	5.1	5.5	0.4	4	4
United Kingdom	20.5	23.5	20.1	3.4	22.8	23.4	22.8	0.6	28.8	26.6	29.0	2.4	57	80
United States	22.6	23.6	22.4	1.2	34.6	32.1	23.7	8.4	34.6	32.1	36.0	3.9	71	86
Brazil	36.9	17.8	40.2	22.4	36.9	17.8	40.2	22.4	41.9	19.0	45.8	26.8	91	91
China	18.7	24.1	18.7	5.4	18.7	24.1	18.7	5.4	22.7	27.1	22.7	4.4	47	59
India	36.2	29.6	38.2	8.6	43.7	37.4	45.6	8.2	57.5	46.4	60.9	14.5	90	94
Russia	26.7	30.4	25.9	4.5	26.7	30.4	25.9	4.5	28.2	30.7	27.6	3.1	80	78
Argentina	35.7	38.6	35.0	3.6	38	44	37	7	35	35	35	1	89	88
Bangladesh	11.2	11.2	11.2	0	11.2	11.2	11.2	0.0	14.3	12.0	15.1	3.1	20	26
Bolivia	22.9	30.4	21.2	9.2	22.6	30.1	20.8	9.3	23.1	29.9	21.6	8.3	73	61
Botswana	24.9	24.7	24.9	0.2	24.9	24.7	24.9	0.2	26.9	25.8	27.0	1.2	75	72
Bulgaria	6.2	7.3	5.9	1.4	6.2	7.3	5.9	1.4	6.4	7.4	6.1	1.3	7	7
Chad	30.5	38.0	29.4	8.6	30.5	38.0	29.4	8.6	44.4	49.2	43.6	5.6	86	92
Colombia	21.0	24.9	20.3	4.6	22.2	27.4	21.3	6.1	14.5	20.4	13.4	7.0	61	28
Costa Rica	23.4	30.0	22.1	7.9	23.4	30.0	22.1	7.9	24.6	30.2	23.6	6.6	74	65
Croatia	15.0	19.1	14.2	4.9	16.8	21.2	16.0	5.2	13.3	16.8	12.6	4.2	31	24
Dominican Republic	21.8	25.5	21.1	4.4	21.8	25.5	21.1	4.4	30.6	30.3	30.7	0.4	67	82
Ecuador	28.3	30.6	27.9	2.7	26.9	28.7	26.5	2.2	32.4	33.8	32.1	1.7	83	83
Egypt	-10.4	5.2	-14.9	20.1	-10.4	5.2	-14.9	20.1	29.0	33.1	27.8	5.3	2	81
Ethiopia	17.5	28.0	16.4	11.6	17.5	28.0	16.4	11.6	22.1	28.1	21.4	6.7	44	57
Fiji	12.3	16.5	11.6	4.9	12.3	16.5	11.6	4.9	18.3	22.4	17.5	4.9	24	43
Georgia	21.1	22.4	20.8	1.6	21.1	22.4	20.8	1.6	18.1	18.1	18.1	0.0	62	41
Ghana	3.5	11.6	1.3	10.3	3.5	11.6	1.3	10.3	6.0	9.3	5.1	4.2	3	6
Guyana	33.8	25.8	34.8	9	34.0	27.4	34.8	7.4	34.7	27.3	35.6	8.3	88	87
Hong Kong	7.4	8.6	7.3	1.3	7.4	8.6	7.3	1.3	6.8	8.5	6.7	1.8	9	8
Indonesia	21.1	25.4	19.4	6	21.1	25.4	19.4	6.0	22.2	25.1	21.1	4.0	63	58
Iran	20.9	30.5	18.9	11.6	20.9	30.5	18.9	11.6	24.7	30.0	23.6	6.4	60	68
Jamaica	25.8	24.9	26.0	1.1	30.4	29.8	30.5	0.7	27.5	20.5	28.2	7.7	77	76
Jordan	16.9	17.5	16.7	0.8	16.9	17.5	16.7	0.8	12.7	15.2	11.9	3.3	41	22
Kazakhstan	15.9	20.6	15.1	5.5	15.9	20.6	15.1	5.5	11.3	13.7	10.9	2.8	37	19
Kenya	19.2	5.6	21.8	16.2	19.2	5.6	21.8	16.2	20.9	5.4	23.8	18.4	50	54
Kuwait	8.8	10.0	8.7	1.3	8.8	10.0	8.7	1.3	9.5	9.8	9.5	0.3	12	15
Latvia	21.3	21.5	21.2	0.3	19.6	21.1	19.3	1.8	8.3	10.0	8.0	2.0	65	11
Lesotho	22.4	12.0	23.9	11.9	22.4	12.0	23.9	11.9	24.6	11.9	26.5	14.6	69	66
Madagascar	14.3	20.2	13.6	6.6	14.3	20.2	13.6	6.6	18.6	23.5	18.0	5.5	28	46
Malaysia	21.2	24.6	19.7	4.9	21.2	24.6	19.7	4.9	23.1	25.5	22.1	3.4	64	60

Mauritius	11.7	13.9	11.3	2.6	11.7	13.9	11.3	2.6	7.9	9.0	7.7	1.3	23	9
Morocco	16.4	21.8	15.0	6.8	16.4	21.8	15.0	6.8	16.8	21.1	15.7	5.4	39	37
Nigeria	11.0	22.8	9.0	13.8	11.0	22.8	9.0	13.8	13.0	22.2	11.5	10.7	18	23
Pakistan	32.4	35.0	31.8	3.2	34.1	35.2	33.9	1.3	41.7	42.6	41.5	1.1	87	90
Panama	18.3	18.3	18.3	0	18.3	18.3	18.3	0.0	20.1	20.2	20.1	0.1	46	50
Paraguay	6.7	9.7	6.1	3.6	6.7	9.7	6.1	3.6	8.5	9.7	8.3	1.4	8	12
Peru	22.5	22.9	22.4	0.5	22.5	22.9	22.4	0.5	24.0	30.4	22.5	7.9	70	64
Philippines	26.6	27.1	26.5	0.6	26.6	27.1	26.5	0.6	27.0	27.0	27.0	0.0	79	73
Qatar	4.9	7.3	4.5	2.8	4.9	7.3	4.5	2.8	5.3	7.2	4.9	2.3	6	3
Romania	4.8	6.5	4.2	2.3	4.8	6.5	4.2	2.3	5.2	6.4	4.8	1.6	5	2
Rwanda	16.5	24.6	15.6	9	16.5	24.6	15.6	9.0	18.0	24.5	17.3	7.2	40	40
Saudi Arabia	15.6	16.8	15.3	1.5	15.6	16.8	15.3	1.5	18.4	16.9	18.8	1.9	35	44
Serbia	19.2	20.8	18.7	2.1	19.2	20.8	18.7	2.1	15.6	16.3	15.4	0.9	49	34
Sierra Leone	15.5	14.1	15.5	1.4	15.5	14.1	15.5	1.4	23.8	16.6	24.2	7.6	33	62
Singapore	11.2	9.7	11.6	1.9	10.4	8.7	10.8	2.1	10.6	8.6	11.1	2.5	21	17
South Africa	13.2	17.2	12.4	4.8	13.2	17.2	12.4	4.8	14.5	17.4	14.0	3.4	26	29
Tanzania	19.2	20.2	19.1	1.1	20.7	21.8	20.6	1.2	19.9	18.6	20.0	1.4	51	48
Thailand	29.5	31.7	28.3	3.4	29.5	31.7	28.3	3.4	15.2	18.8	13.4	5.4	84	32
Trinidad and Tobago	25.7	23.7	26.4	2.7	20.7	19.0	21.3	2.3	20.7	18.1	21.5	3.4	76	52
Tunisia	18.2	22.1	17.3	4.8	18.2	22.1	17.3	4.8	25.0	28.4	24.2	4.2	45	71
Uganda	20.7	27.3	19.7	7.6	20.0	26.6	19.0	7.6	18.5	18.3	18.5	0.2	59	45
Ukraine	-13.4	0.9	-16.0	16.9	-13.4	0.9	-16.0	16.9	-16.8	-0.1	-19.8	19.7	1	1
Uruguay	21.6	18.3	22.3	4	23.3	23.5	23.3	0.2	27.0	29.5	26.5	3.0	66	74
Uzbekistan	45.5	46.3	45.2	1.1	42.3	43.9	41.8	2.1	34.1	33.5	34.2	0.7	93	84
Venezuela	57.8	57.7	57.8	0.1	54.1	37.5	57.8	20.3	36.6	37.0	36.6	0.4	94	89
Vietnam	11.0	15.8	9.3	6.5	11.0	15.8	9.3	6.5	14.9	20.1	13.1	7.0	19	31
Zambia	9.9	20.5	8.6	11.9	9.9	20.5	8.6	11.9	9.4	17.7	8.4	9.3	15	14
G7 w	25.9	27.2	25.7	1.5	32.1	31.7	27.1	4.6	34.3	33.2	34.9	1.7		
BRIC w	26.3	24.7	27.2	2.5	27.7	26.1	28.6	2.5	33.4	29.5	34.6	5.1		
G20 w	25.4	26.1	25.2	0.9	29.8	29.5	26.5	3.0	32.5	31.1	33.2	2.1		
OECD w	23.8	25.1	23.5	1.6	28.4	28.5	24.7	3.8	30.2	29.7	30.7	1		
Africa w	13.2				13.2				15.2					
Americas w	23.9				32.8				25.4					
Asia Oceana w	28.8				29.4				33.9					
Europe w	21.0				22.3				25.4					
MENA w	10.2				10.2				25.4					
94 Country*	18.7	20.5	18.1	2.4	19.1	20.8	18.5	2.3	20.1	20.9	20.0	0.9		
94 Country w	23.7	24.8	23.6	1.2	27.3	27.5	24.6	2.9	29.6	28.8	30.0	1.2		

* Simple average
w GDP Weighted average

TABLE 2 PARAMETERS BY COUNTRY

	Combined CIT Rate		Inflation	Tax Depreciation Range	Inventory Accounting	Applicable taxes			
						Asset	Capital Input Sale	Capital Transfer	Financial Transfer
	2019	2010	2019	2019					
Australia	30.0	30.0	1.8%	2.6% - 23.9%	Optional			5.6%	
Austria	21.0	25.0	1.5%	3.1% - 10.6%	Optional			4.6%	
Belgium	25.5	34.0	1.4%	7.0% - 32.9%	LIFO				
Canada	26.2	29.4	2.0%	4.0% - 55.0%	FIFO		0.8%	1.5%	
Chile	27.0	17.0	3.4%	7.5% - 39.7%	LIFO				⚑
Czech Republic	19.0	19.0	1.2%	3.1% - 20.8%	Optional			4.0%	
Denmark	22.0	25.0	0.6%	5.1% - 22.7%	FIFO			0.6%	
Estonia	20.0	21.0	1.3%	9.9% - 21.6%	LIFO				
Finland	20.0	26.0	0.6%	8.2% - 28.7%	FIFO			4.0%	⚑
France	25.8	34.4	0.7%	3.1% - 26.5%	Optional			5.1%	⚑
Germany	30.0	30.2	1.0%	3.1% - 14.4%	LIFO			5.1%	
Greece	24.0	24.0	-0.4%	5.3% - 39.2%	LIFO				⚑
Hungary	9.0	19.0	1.1%	3.3% - 48.1%	Optional				
Iceland	20.0	18.0	2.0%	3.3% - 30.5%	FIFO			1.6%	
Ireland	12.5	12.5	0.1%	2.0% - 12.4%	FIFO			6.0%	⚑
Israel	23.0	25.0	0.1%	4.2% - 29.8%	Optional			10.0%	
Italy	27.9	31.3	0.5%	2.4% - 15.0%	LIFO				⚑
Japan	30.6	39.5	1.0%	2.0% - 21.3%	Optional	1.4%			
Korea S.	27.5	24.2	1.3%	2.6% - 20.1%	LIFO			3.5%	⚑
Luxembourg	24.9	28.6	0.9%	4.1% - 21.0%	Optional			7.0%	
Mexico	30.0	30.0	4.1%	5.1% - 15.4%	LIFO			3.5%	
Netherlands	20.5	25.5	1.0%	2.9% - 20.9%	Optional			6.0%	
New Zealand	28.0	30.0	1.0%	6.8% - 23.9%	Optional				
Norway	22.0	28.0	2.5%	3.6% - 24.5%	FIFO			2.5%	
Poland	19.0	19.0	0.5%	2.6% - 25.8%	LIFO				⚑
Portugal	31.5	29.0	0.6%	2.2% - 19.8%	Optional			0.8%	⚑
Slovak Republic	22.4	21.0	0.6%	5.0% - 17.3%	Optional				
Slovenia	19.0	20.0	0.6%	3.5% - 21.6%	Optional				
Spain	25.0	30.0	0.6%	2.1% - 29.2%	Optional			1.1%	
Sweden	20.6	26.3	0.9%	3.2% - 19.5%	FIFO			4.3%	
Switzerland	18.0	21.2	0.0%	5.7% - 31.9%	LIFO				⚑
Turkey	20.0	20.0	10.4%	12.5% - 48.8%	Optional				⚑
United Kingdom	17.0	28.0	1.4%	2.0% - 17.7%	FIFO			5.0%	⚑
United States	25.7	39.2	2.0%	4.0% - 55.0%	Optional		3.4%	0.4%	
Brazil	34.0	34.0	6.3%	4.1% - 11.7%	Optional		12.5%	4.0%	⚑
China	25.0	25.0	1.8%	7.0% - 14.6%	Optional		1.0%	4.0%	
India	23.8	33.2	5.1%	5.1% - 35.0%	Optional			6.0%	⚑
Russia	20.0	20.0	7.5%	3.1% - 20.8%	Optional	1.3%			
Argentina	25.0	35.0	32.1%	4.1% - 11.7%	LIFO	0.3%			⚑
Bangladesh	25.0	27.5	6.0%	11.9% - 37.2%	Optional				
Bolivia	25.0	25.0	3.7%	2.6% - 16.9%	FIFO			3.0%	⚑
Botswana	21.4	24.1	3.6%	2.5% - 24.5%	Optional			17.0%	
Bulgaria	10.0	10.0	0.5%	4.0% - 30.2%	Optional			1.6%	
Chad	35.0	40.0	6.2%	5.1% - 16.2%	Optional			10.0%	⚑
Colombia	30.0	33.0	4.6%	5.0% - 19.4%	LIFO				⚑
Costa Rica	30.0	30.0	1.8%	2.1% - 14.0%	LIFO			1.5%	
Croatia	28.0	22.0	0.2%	5.0% - 29.8%	Optional			4.0%	
Dominican Republic	27.0	25.0	2.5%	6.8% - 17.7%	LIFO			3.0%	
Ecuador	15.0	15.0	1.9%	5.0% - 15.0%	LIFO	0.1%			
Egypt	22.5	20.0	17.3%	5.1% - 26.8%	Optional				⚑
Ethiopia	30.0	30.0	9.7%	5.0% - 21.0%	Optional				⚑
Fiji	20.0	28.0	2.7%	5.0% - 17.8%	FIFO				⚑
Georgia	15.0	15.0	3.6%	7.0% - 21.8%	Optional	1.0%			
Ghana	25.0	25.0	14.5%	10.0% - 29.6%	Optional			0.6%	⚑
Guyana	38.7	38.9	0.8%	2.8% - 35.1%	Optional	0.5%			
Hong Kong	16.5	16.5	2.7%	3.6% - 92.9%	Optional			5.0%	
Indonesia	25.0	25.0	4.7%	5.1% - 14.0%	Optional			5.3%	
Iran	25.0	25.0	16.6%	5.0% - 10.4%	Optional			10.0%	⚑
Jamaica	27.9	33.3	4.5%	3.8% - 12.8%	Optional	0.9%		9.0%	⚑
Jordan	19.2	14.8	1.8%	4.0% - 23.9%	Optional			9.0%	
Kazakhstan	20.0	20.0	8.3%	10.0% - 26.0%	Optional	1.5%			

Kenya	30.0	30.0	6.5%	2.5%	-	28.5%	Optional		4.8%
Kuwait	17.0	15.0	2.5%	4.2%	-	20.4%	Optional		
Latvia	20.0	15.0	1.3%	10.0%	-	40.8%	Optional	1.5%	2.0%
Lesotho	23.1	23.1	4.9%	5.0%	-	20.0%	FIFO		
Madagascar	20.0	23.0	7.1%	5.0%	-	16.5%	Optional		5.0%
Malaysia	24.0	25.0	2.4%	2.8%	-	16.7%	FIFO		2.0%
Mauritius	15.0	15.0	2.5%	5.0%	-	38.1%	Optional		5.0%
Morocco	31.0	30.0	1.3%	7.6%	-	33.1%	Optional		3.5%
Nigeria	32.0	32.0	12.3%	10.0%	-	24.8%	FIFO		
Pakistan	25.0	35.0	4.5%	10.0%	-	25.2%	Optional	1.5%	2.5%
Panama	25.0	27.5	1.0%	6.8%	-	23.9%	LIFO		2.0%
Paraguay	10.0	10.0	4.0%	3.3%	-	15.9%	Optional		
Peru	29.5	30.0	2.9%	4.6%	-	20.0%	Optional		3.0%
Philippines	30.0	30.0	3.1%	6.8%	-	23.9%	Optional		
Qatar	10.0	10.0	1.7%	5.0%	-	19.4%	Optional		
Romania	16.0	16.0	1.0%	3.4%	-	24.7%	LIFO		
Rwanda	30.0	30.0	3.5%	4.1%	-	19.7%	Optional		
Saudi Arabia	20.0	20.0	2.0%	5.0%	-	24.3%	Optional		
Serbia	15.0	10.0	1.9%	2.5%	-	14.8%	Optional	0.4%	2.5%
Sierra Leone	30.0	35.0	10.3%	11.0%	-	37.1%	Optional		
Singapore	17.0	17.0	0.2%	3.1%	-	24.6%	FIFO		4.0%
South Africa	28.0	28.0	5.4%	5.0%	-	25.0%	Optional		
Tanzania	30.0	30.0	5.1%	5.0%	-	25.3%	Optional		
Thailand	20.0	30.0	0.6%	5.0%	-	21.0%	Optional		
Trinidad and Tobago	30.0	25.0	3.3%	10.0%	-	24.9%	Optional		7.0%
Tunisia	26.2	30.0	5.2%	5.0%	-	20.3%	Optional		5.0%
Uganda	30.0	30.0	4.6%	5.0%	-	29.7%	Optional		2.0%
Ukraine	18.0	25.0	21.6%	8.0%	-	37.2%	Optional		1.0%
Uruguay	25.0	25.0	8.2%	2.8%	-	10.0%	LIFO	0.3%	4.0%
Uzbekistan	12.0	16.3	9.9%	5.0%	-	18.7%	Optional	5.0%	
Venezuela	34.5	34.0	609.0%	6.8%	-	23.9%	LIFO		
Vietnam	20.0	25.0	2.9%	3.4%	-	25.1%	Optional		0.5%
Zambia	35.0	35.0	10.1%	5.1%	-	47.3%	Optional		5.0%

G7 w	26.6	36.2
BRIC w	25.8	27.5
G20 w	26.4	33.2
OECD w	25.9	33.3
Africa w	29.3	29.6
Americas w	26.9	36.9
Asia Oceana w	26.8	30.9
Europe w	23.5	27.8
MENA w	21.2	21.0
94 Country*	23.6	25.3
94 Country w	25.6	31.6

* Simple average
w GDP Weighted average

About the Authors

Philip Bazel is a Research Associate at The School of Public Policy at the University of Calgary. In addition to publishing through The School of Public Policy, Philip has also played a role in a number of projects consulting for both governments and private organisations in the area of taxation and public finance.

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Dr. Mintz has consulted widely with the World Bank, the International Monetary Fund, the Organization for Economic Co-operation and Development, federal and provincial governments in Canada, and various businesses and non-profit organizations. Dr. Mintz became a member of the Order of Canada in 2015 in addition to receiving the Queen Elizabeth Diamond Jubilee Medal in 2012. Widely published in the field of public economics, he was touted in a 2004 U.K. magazine publication as one of the world's most influential tax experts. The *Financial Post* named him one of the five most influential Canadians in regulation in 2012. From 2015-19, Who's Who Legal has named him one of the top corporate taxation experts in the world and the Public Policy Forum honored him for his contribution to public policy in 2015 at its annual dinner.

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