

2013 ANNUAL GLOBAL TAX COMPETITIVENESS RANKING: CORPORATE TAX POLICY AT A CROSSROADS[†]

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SUMMARY

Canada is losing its appeal as a destination for business investment. Its ability to compete against other countries for investment slipped considerably this year in our global tax competitiveness ranking, down six spots among OECD countries, and down 11 spots among the 90 countries. While many governments around the world responded to the fallout of the global recession by significantly reducing corporate tax rates, certain policy moves in Canada have us headed in the opposite direction. Canada is in danger of repelling business investment, which can only worsen current economic and fiscal challenges.

Canada's fading advantage is the result of recent anti-competitive provincial tax policies that increased the cost of investment. This includes, most notably, British Columbia's decision to reverse the harmonization of its provincial sales tax with the federal GST, as well as recent corporate income tax rate hikes in B.C. and New Brunswick.

When economic calamity strikes, and workers and their families feel the pain of lost jobs and lost wealth, politicians know they can score populist points by targeting the corporate sector. After all, corporations do not vote and they do not have a human face. News stories about major multinational corporations using tax-avoidance techniques to minimize their tax bills, only feed the populism, leaving voters believing that companies are getting away without paying a "fair share" of taxes. But when the corporate sector is targeted, it is not only supposedly wealthy capitalists who pay, but also employees, through lost wages and jobs, and working-class people who have a stake in companies through pension plans and mutual funds. On a larger scale, it is the economy that suffers. The same profit-maximizing imperative that leads companies to seek ways to reduce their tax liabilities also motivates firms to redirect investment to competing, lower-tax jurisdictions. Populist policies aimed at squeezing businesses may win votes in the short term, but they come at significant costs.

Yet, there are politicians calling for still higher taxes on corporations. The federal Opposition leader, Thomas Mulcair, of the New Democratic Party, wants to raise the federal corporate income tax rate from 15 to 22 per cent, making Canada's combined federal-provincial tax rate (over 33 per cent) one of the highest in the world. Such proposals promise an easy source of new revenue at no cost to individual taxpayers. In reality, the cost to taxpayers is lost competitiveness, resulting in a shrinking corporate tax base that will only leave Canadians with a weaker economy, profit-shifting to other countries leading to little additional revenue available to Canadian governments and, inevitably, a larger tax burden to bear individually.

The right direction for Canada is the other way: improving tax competitiveness and enhancing tax neutrality by broadening the corporate tax base to further fund rate reduction. The harmonization of provincial sales taxes with the federal GST, in those provinces that have yet to do so, would substantially improve Canada's tax competitiveness, as would the elimination of economically inefficient tax breaks for favoured business activities. And Canadian governments should continue to lower corporate taxes across the board, whenever possible. Canada's edge as a globally competitive investment destination has been hard won over many years. It would be a pity to now see it squandered by reckless populist politics.

[†] We wish to thank Ernst & Young for support in the development of this analysis including the availability of its guide with detailed information on global corporate tax systems. We also thank the editor Ken McKenzie for his detailed comments that improved the paper.

COMPÉTITIVITÉ FISCALE INTERNATIONALE EN 2013 : LA POLITIQUE SUR L'IMPÔT DES SOCIÉTÉS À LA CROISÉE DES CHEMINS[†]

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RÉSUMÉ

Le Canada perd son attrait comme destination d'investissement pour les entreprises. Sa capacité à concurrencer d'autres pays dans une optique d'investissement a considérablement diminué. Cette année, le pays a reculé dans notre classement international de la concurrence fiscale, en baisse de six points pour les pays de l'OCDE et de 11 points par rapport à 90 pays. Tandis que bien des gouvernements à l'échelle planétaire ont répondu aux conséquences de la récession mondiale en réduisant sensiblement les taux d'imposition des entreprises, certaines mesures stratégiques du Canada nous entraînent dans la direction opposée. Les entreprises pourraient se détourner du Canada et cesser d'y investir, ce qui ne peut que nuire à la situation économique du pays et ajouter à ses difficultés sur le plan financier.

La disparition progressive de l'avantage du Canada découle des récentes politiques fiscales provinciales défavorables à la concurrence, qui ont fait augmenter le coût de l'investissement. Entre autres exemples patents, la décision de la Colombie-Britannique d'abandonner l'harmonisation de la taxe de vente provinciale et de la TPS fédérale, ainsi que les hausses récentes des taux d'imposition des entreprises en C.-B. et au Nouveau-Brunswick.

Quand une catastrophe économique frappe et que les travailleurs et leurs familles ressentent les effets des pertes d'emplois et de la diminution de la richesse, les politiciens savent qu'ils peuvent marquer des points en ciblant le secteur des entreprises avec des arguments populistes. Après tout, les entreprises ne votent pas et elles n'ont pas de visage. Les reportages médiatisés sur les sociétés multinationales qui utilisent des techniques pour réduire leur facture d'impôt ne font qu'alimenter ce populisme, si bien que les électeurs ont le sentiment que les entreprises s'en tirent sans payer leur « juste part » d'impôt. Mais quand le secteur des entreprises est visé, les capitalistes prétendument riches ne sont pas les seuls à payer la note car les employés qui perdent leur salaire et leur emploi, et les travailleurs qui participent aux entreprises par leurs fonds de pension et les fonds mutuels en font aussi les frais. À plus grande échelle, c'est l'économie tout entière qui en souffre. L'impératif qui pousse les entreprises à maximiser leurs profits en réduisant leurs responsabilités fiscales est le même qui les incite à diriger leurs investissements dans des pays où ils paient moins d'impôt. Les politiques populistes qui serrent la vis aux entreprises peuvent se traduire par des votes à court terme, mais elles ont un coût élevé.

Et pourtant, certains politiciens demandent qu'on impose encore plus lourdement les entreprises. Le leader de l'opposition fédérale, Thomas Mulcair, du Nouveau Parti démocratique, souhaite qu'on élève le taux fédéral d'imposition des sociétés de 15 à 22 pour cent et ainsi, le taux combiné de l'impôt fédéral et provincial atteindrait 33 pour cent, l'un des plus élevés au monde. Des propositions de ce type promettent aux contribuables une nouvelle source de revenus sans qu'il ne leur en coûte un cent. En réalité, ceux-ci doivent payer le prix associé à la perte de concurrence qui réduit la taille de l'assiette fiscale des entreprises; et ne peut qu'affaiblir l'économie canadienne et envoyer les profits vers d'autres pays, sans que les gouvernements canadiens n'obtiennent de recettes supplémentaires substantielles, ce qui se traduit inévitablement par un fardeau plus lourd pour chaque personne.

Le Canada doit s'engager dans la direction opposée : améliorer la compétitivité fiscale et la neutralité fiscale en élargissant l'assiette d'imposition des entreprises pour mieux financer la réduction des taux. L'harmonisation des taxes de vente provinciales et de la TPS fédérale dans les provinces qui ne l'ont pas encore fait, ainsi que l'élimination des allègements fiscaux inefficaces concernant certaines activités privilégiées de l'industrie, bonifieraient substantiellement la compétitivité du Canada sur le plan fiscal. Et les gouvernements canadiens devraient continuer de réduire les impôts des entreprises dans l'ensemble des secteurs économiques, autant que possible. La place du Canada en tant que destination d'investissement à l'échelle mondiale a été durement gagnée au fil des ans. Il serait dommage que ces efforts soient réduits à néant par des politiques populistes téméraires.

[†] Nous souhaitons remercier Ernst & Young pour le soutien dans l'élaboration de cette analyse, y compris le recours à son guide comprenant des renseignements détaillés sur les systèmes d'imposition des entreprises à l'échelle internationale. Nous remercions aussi l'éditeur Ken McKenzie pour ses commentaires détaillés qui ont amélioré cet article.

INTRODUCTION

While the 2013 recovery is still struggling globally, governments everywhere are looking for ways to reduce deficits and debt. From time to time, corporate taxation appears to be a soft spot, vulnerable to getting pinched, because, on the one hand, the long-term economic impact of taxing corporations more heavily is not felt instantly and, on the other hand, corporations are often identified as agents of the rich and hence appear to be a justifiable target for increasing tax progressivity.

For example, the New Democratic Party leader, Thomas Mulcair, has proposed raising the federal corporate income tax rate from 15 to 22 per cent, resulting in a combined federal-provincial rate of over 33 per cent — one of the highest in the world. As we have noted in the past, research shows that higher corporate tax rates hurt a jurisdiction in terms of investment and job creation as well as encouraging companies to shift profit to lower-tax jurisdictions. Our current approach to tax reform — lower rates and some base broadening — has not hurt corporate tax revenues, which have been constant as a share of GDP despite rate reductions in the past decade, even with a major recession.¹

Canada is at a crossroads. It could follow the path of recent years in pursuing internationally competitive tax rates and neutrality through base broadening. Alternatively, it could go down the path of tax hikes on corporations, targeted incentives and increased distortions. For growth, the former is far better than the latter.

Corporate taxation has become a controversial public policy in many countries including Canada. In the aftermath of stories about Amazon, Apple and Starbucks not paying sufficient corporate income taxes in some jurisdictions, the G20 countries have agreed to study new approaches for increased transparency of corporate tax payments and reducing corporate tax base erosion.²

Much of the public reaction towards the reports of little or no corporate tax payments by some multinational companies has been predictable given the popular belief that corporations do not pay their “fair share” of taxes to support public services in a jurisdiction. This reaction is in part a result of a public concern that some people have greater advantages over others in the wake of the 2008 global financial crisis that has hurt many people who have lost jobs and savings.

Corporations, especially multinationals, are viewed as powerful taxpayers having their own personality and who should therefore pay taxes like other individuals.

Yet fairness, like beauty, is a matter of perception. Corporations are not people, but investors own them, employees work for them and consumers buy their products. Taxing corporations ultimately results in the taxation of people. So if corporations are taxed, it is a matter of who actually bears the tax that is crucial for assessing fairness. Some of the tax is borne by consumers, who can be rich or poor. It can also be borne by workers, no matter what their income.

¹ See Chen and Mintz, “2012 Annual Global Tax Competitiveness Ranking – A Canadian Good News Story,” *SPP Research Papers*, 5(28), The School of Public Policy, University of Calgary, (September 2012).

² The G20 has asked the OECD to provide an action plan to counteract base erosion and multinational-company profit shifting. See the Organization for Economic Cooperation and Development, *Action Plan on Base Erosion and Profit Shifting* (Paris: OECD, July 2013). See also OECD (2013), *Addressing Base Erosion and Profit Shifting* (Paris: OECD, 2013) <http://dx.doi.org/10.1787/9789264192744-en>.

Or, it can be borne by corporation owners, some being pension plans that provide benefits to the broad population. For governments concerned about tax fairness, it is personal taxation, not the corporate tax, which can be adjusted to take into account individual circumstances.

So why do we have corporate income taxes? One reason is that corporate taxation ensures that individuals cannot avoid paying personal taxes by leaving income untaxed at the corporate level. Another reason is that the corporate tax is a surrogate user-charge for public services, such as infrastructure, that benefit corporate activity. So if the corporate tax is a necessary part of overall taxes, how best to apply it?

Governments and the public are concerned not just with fairness, but also with investment and income generation. Given global supply chains and the dominance of multinational companies, each nation must weigh the balance of raising revenues from the corporate sector against the costs to economic growth. The best approach is to maintain internationally competitive tax rates and neutral tax bases to minimize any economic harm resulting from corporate taxation. Keeping distortions as minimal as possible ensures that the corporate tax raises revenues without undue cost to the economy.

Despite the budget pressures and corresponding tax-rate hikes in a few jurisdictions, the unweighted average corporate income tax rate among the 90 countries evaluated in our tax-competitiveness ranking has not changed from its 2012 level of 25 per cent. This implies that most policy-makers have been vigilant about not discouraging capital investment, and thereby harming the recovery, by taxing companies more heavily.

Taking into account corporate income taxes, sales taxes on capital purchases and other capital-related taxes, the average of marginal effective tax rates (METR) for 2013 within the OECD group (19.6 per cent) and that across the 90 countries (17.8 per cent) barely changed from their respective 2012 levels. And the average METR among the G7 countries maintained its steady downward trend, largely thanks to the tax reductions in Japan and the U.K. Canada, however, is bucking the trend this year with tax increases in a number of provinces.

While Canada's smallest province, Prince Edward Island, harmonized its provincial sales tax with the federal GST,³ which significantly reduced the provincial tax burden on capital investment, British Columbia reversed its sales tax harmonization and hence significantly increased its provincial tax burden on capital investment. British Columbia and New Brunswick also raised their corporate income tax rates from 10 to 11 per cent this year (the New Brunswick rate will be raised by another point in 2014). As a result, Canada's ranking in tax competitiveness slipped several notches within the OECD as well as among the 90 countries. Canada has maintained its top spot among the G7 countries, which can be attributed more to its generous or even preferential tax treatment for manufacturing and processing activities, than to its general corporate tax rate, which is now more than three percentage points higher than that in the United Kingdom.

In this report, we will revisit some basics of corporation taxation: who bears the burden of taxes paid by corporations, why tax corporations, and what is the optimal tax structure from an economic perspective.

³ On the impact of sales tax harmonization on investment and wages in Prince Edward Island, see D. Chen and J. Mintz, "A Profound Tax Reform: the Impact of Sales Tax Harmonization of Prince Edward Island's Competitiveness," *SPP Research Papers* 5, 33 The School of Public Policy, University of Calgary, (November 2012).

We will also revisit the basics of marginal effective tax rate (METR) analysis used for our ranking of business tax competitiveness: its concept, policy implications, methodology and determinants including both tax and non-tax factors.

Following these conceptual and methodological discussions in the next two sections, we will present, in sequence, Canada's ranking among various groups of countries (Table 1), an update of the tax distortion in Canada (Table 2), a global ranking of tax competitiveness across the OECD (Table 3) and 90 countries (Table 4), and an update of the tax ranking for the 10 Canadian provinces among the OECD countries (Table 5) and across themselves (Tables 6A and 6B). The final section concludes the report with our view of future directions for Canadian tax reforms.

TAXING COMPANY INCOMES: CONCEPTUAL DISCUSSION

Who bears the burden of corporate taxation? It is an obvious truth that corporations do not bear it, but people — owners, employees and consumers — do, although the specific split of corporate-income-tax incidence between the parties is debatable.⁴ Corporate taxes could reduce profits accruing to shareholders, but the owners might avoid the tax by shifting their investment to lower-tax destinations — an important consideration in today's globally integrated economy. Or corporate taxes might result in companies bargaining harder for lower wages paid to workers or, even worse, dismissing workers who cannot easily move to other jurisdictions due to legal and other restrictions on migration. Corporate taxes can also be recovered by businesses that raise domestic prices faced by consumers. This price increase ultimately reduces the real incomes of people, including the workers themselves, whose paycheques cannot stretch as far.

In recent years, several economic studies have suggested that a significant share of the corporate tax is borne by labour (either through lower wages or higher consumer prices) rather than owners of capital in the economy. Results vary, but they suggest that labour bears anywhere from a fifth to over 100 per cent of the corporate income tax (once taking into account productivity impacts).⁵

A noticeable example of a strong consensus that labour bears at least some of the corporate income tax is the recent revision made by the Office of Tax Analysis (OTA) at the U.S. Department of the Treasury in its incidence assumption for the corporate income tax in the United States. Prior to 2008, OTA assumed the corporate income tax was borne entirely by owners of (positive) capital income; currently, OTA assumes 18 per cent of the corporate tax is

⁴ For the latest discussion and/or findings on this issue, refer to "Forum: Incidence of the Corporate Income Tax," *National Tax Journal* 66, 1 (March 2013): 149-262. See also K. McKenzie and C. Taylor, "Business Taxation in Canada" in *Tax Policy In Canada*, ed. H. Kerr, K. McKenzie and J. Mintz (Toronto: Canadian Tax Foundation, 2012).

⁵ See W. Arumlampalam, M. P. Devereux, and G. Maffini, "The Direct Incidence of Corporate Income Tax On Wages," Working Paper 07/08, 2nd version, Oxford University Centre for Business Taxation, 2008; K. A. Hassett and A. Mathur, "Taxes and Wages," Working Paper (Washington D.C.: American Enterprise Institute, 2006); and N. Aus dem Moore, T. Kasten and C. Schmidt, "Do Wages Rise when Corporate Tax Rates Fall? Difference-in-Differences Analyses of the German Business Tax Reform 2000," Mimeograph (Berlin: Rheinisch-Westfälisches Institut für Wirtschaftsforschung, 2009).

borne by labour.⁶ Although 18 per cent is a relatively low share compared to other estimates,⁷ using it to replace the previous assumption of zero labour-incidence (associated with corporate taxation) marked a turning point: the view that labour does bear a portion of the cost of corporate taxation has been accepted by the tax analysts within the U.S. government. For smaller open economies like Canada, it is more likely that the corporate tax will fall on labour since outbound and inbound investment is more sensitive to international rates of return on capital compared to a larger economy.

Labour bears the burden of profit taxes when price-adjusted wages fall as a result of capital mobility. Capital moves towards more investment-friendly environments that include competitive corporate income tax rates; such capital mobility is more evident in industries that produce cross-border tradable goods and services, ranging from clothing, furniture, automobiles and various high-tech gadgets, to transportation, hospitality and higher-value-added services such as communication and financial services, to name just a few industries. As capital moves abroad, jobs are lost, which in turn suppresses compensation for domestic workers. That is, the lost capital investment caused by higher taxes on corporations becomes a loss of jobs, or labour compensation, or both.

On the other hand, corporate taxes will fall more heavily on capital in those countries having a strong home bias in equity markets. In this case, cultural, informational and transaction costs may induce residents to own corporate shares issued by resident companies rather than invest abroad.⁸ Overall, increased mobility of capital in recent years has resulted in less home bias and greater incidence of the corporate tax on labour incomes in OECD countries.

It is more evident, or better perceived, that shareholders bear a significant portion of the corporate tax, which leads to a somewhat twisted mathematical identity: taxing companies equals taxing shareholders and, hence, equals taxing the rich. This reasoning has been used to justify taxing companies more heavily in the pursuit of greater tax fairness. The first portion of this identity is wrong because at least part of the taxes paid by companies is borne by labour (see above). The second portion of this identity is also false because the rich are only a segment of shareholders, which also include many middle-income and even low-income earners who own stocks through their pension plans and/or mutual funds. For this latter group of shareholders, a corporate income tax rate higher than their applicable personal income tax rate can reduce the after-tax rate of return to their savings if there is no scheme in place to provide them with a credit for the taxes paid by the companies.

⁶ Refer to J. A. Cronin et al, "Distributing the Corporate Income Tax: Revised U.S. Treasury Methodology," *National Tax Journal* 66, 1 (March 2013): 239-262.

⁷ For example, in the same volume as Cronin et al (ibid.), Li Liu and Rosanne Altshuler estimate that 60 per cent of the U.S. corporate tax is shifted back onto labour. L. Liu and R. Altshuler, "Measuring the Burden of the Corporate Income Tax under Imperfect Competition," *National Tax Journal* 66, 1 (March 2013): 215-238.

⁸ See R. Vanpée, "Bond and Equity Bias and Foreign Bias," Faculty of Business and Economics, Katholieke Universiteit Leuven, 2012. The average level of home bias in OECD countries for 2010 is about three-fifths (the ratio of equity held by residents net of the country's share of world markets). Home bias in equity markets is typically more significant in other countries, including Canada, than the United States.

The personal and corporate income tax systems are integrated in Canada using a tax-credit approach, which gives individuals receiving dividends credit for taxes paid by corporations on their behalf. Given our integrated income tax system in Canada, and the broad range of income classes among shareholders, even if shareholders bear 100 per cent of the burden of corporate income taxes, varying the level of current corporate income tax rates (ranging from 25 per cent to 32 per cent) has little impact on the overall tax on dividends. For example, with the corporate tax paid being fully credited back to the recipients of dividends, the effective tax rate on dividends in the hands of recipients is virtually the applicable personal income tax rate for each individual. Further, Canada reduces the tax on capital gains to keep dividends and capital gains taxed at similar rates; this is also part of our integration system, since capital gains reflect the corporate tax on reinvested profits. That is, in a well-integrated income tax system, there is little gain or loss of tax benefits, or tax fairness, to individual shareholders in relation to the rate of corporate income tax.

While corporate income tax has little impact on tax fairness within a well-integrated tax system such as ours in Canada, an unnecessarily high tax rate on corporations does harm economic growth. According to two recent OECD studies: “corporate taxes are the most harmful for growth as they discourage activities of firms that are most important for growth: investment in capital and productivity improvements.”⁹ A recent study by Dahlby and Ferede also pointed out that, compared to personal income tax and sales taxes, the corporate income tax is the most costly as measured by the marginal cost of public funds — an indicator of long-term overall efficiency loss to the society as a whole, associated with raising an additional dollar of tax revenue by raising the tax rate.¹⁰

If corporate income tax is associated with such a high cost and low benefit to the economy as a whole, why should we tax corporations at all? The answer lies in the well-preserved conventional wisdom: corporate taxation functions as an indispensable gatekeeper or backstop within the overall revenue-collection system; it helps ensure that all investment incomes flowing out of corporations to both Canadians and foreign shareholders are fully accounted for and taxed to help pay for public services.

In summary, taxation of corporations is “largely a surrogate for the taxation of individuals.”¹¹ Tax fairness is best approached through the design of other taxes that directly impact on the income and expenditure of individuals. Keeping the corporate income tax rate in line with internationally competitive levels, rather than using it as a tool for coping with revenue shortfall or pursuing fairness objectives, is in the best interest of our country for sustained long-term economic growth.

⁹ OECD, *Tax Policy Reform and Economic Growth* (Paris: OECD, 2010), 22, <http://dx.doi.org/10.1787/9789264091085-en>; and Åsa Johansson, et al., *Tax and Economic Growth* (ECO/WKP: 2008): 28, <http://www.oecd.org/tax/tax-policy/41000592.pdf>.

¹⁰ Bev Dahlby and Ergete Ferede, “The effects of tax rate changes on tax bases and the marginal cost of public funds for Canadian provincial governments,” *International Tax and Public Finance* 20 (January 2012).

¹¹ Report of the Technical Committee on Business Taxation, 1997: 1.3, <http://www.fin.gc.ca/>.

MARGINAL EFFECTIVE TAX RATE: CONCEPTUAL DISCUSSION

Marginal effective tax rate (METR) analysis has been a well-documented and extensively applied analytical tool for measuring tax impact on investment and capital-allocation distortions since the 1980s.¹² We have applied this analysis, systematically since 2005, for the purpose of ranking Canadian business tax competitiveness among the G7, the OECD member countries, and an expanding list of other countries. In responding to frequent inquiries from our audience, this section explains the concept, determinants and policy implications of METR calculations, which form the base for our cross-jurisdiction tax-competitiveness rankings.¹³ We also provide a technical note in Appendix A, which duplicates the appendix to our 2012 report on global tax-competitiveness rankings.¹⁴

Tax competitiveness is relevant only because of the ever-growing capital mobility across borders associated with globalization. Taxes that impinge on investment reduce the economy's capacity to produce goods and services in the future, which can be referred to as the "inter-temporal" distortion arising from capital taxation. Business taxes also hurt competitiveness by distorting the allocation of capital within the economy to their most productive uses, including inter-sectoral, inter-asset, financial and business-organization distortions.

An important assumption underlying our analysis is that large companies in Canada raise funds from international markets. As Canada is a small open economy, Canadian investment and saving decisions do not affect the international return paid to international investors. Thus, only Canadian business taxes affect investment, not Canadian personal taxes that only impact on personal saving decisions. Therefore, a country's competitiveness is affected by business taxation that undermines productivity through investment. Any factors that affect capital reallocation or investment flow across borders — ranging from political stability, geographic accessibility and labour quality, to market size, infrastructure and tax regimes — inevitably catch the attention of policy-makers who are keen on attracting capital investment and promoting national economic growth. The tax cost of capital investment is only one of these important factors: but it can be critical if non-tax conditions are similar among countries competing for capital.

¹² For the classic introduction of METR concept and methodology, see R. Boadway, N. Bruce and J. M. Mintz, "Taxation, Inflation, and the effective Marginal Tax Rate in Canada," *Canadian Journal of Economics* 17, 1 (1984): 62-79; and M. A. King and D. Fullerton, "The Taxation of Income from Capital: A Comparative Study of U.S., U.K., Sweden and West Germany" (Chicago: University of Chicago Press, 1984).

¹³ This section is partly drawn from an earlier paper by D. Chen, "The Marginal Effective Tax Rate: The Only Tax Rate that Matters in Capital Allocation," Backgrounder, C.D. Howe Institute, August 22, 2000.

¹⁴ See Chen and Mintz, "2012 Annual Global Tax Competitiveness Ranking – A Canadian Good News Story," *SPP Research Papers*, 5(28), The School of Public Policy, University of Calgary, (September 2012).

What is the Marginal Effective Tax Rate (METR)?

The marginal effective tax rate measures the tax impact on capital investment as a portion of the cost of capital. In considering a new investment, the firm will, like any rational investor, allocate capital to maximize profit. In a market with free entry, profit from every dollar invested will grow as long as the revenue from the last dollar invested (i.e., the marginal revenue) is greater than the cost of the last dollar invested (i.e., the marginal cost). Profit from the total capital investment is therefore maximized when the marginal revenue equals the marginal cost.

Tax policy affects both the marginal revenue and marginal cost of investment. Taxes themselves reduce marginal revenue, while tax allowances reduce marginal cost. At the profit-maximizing point, the tax wedge between the pre-tax and post-tax rates of return to capital, expressed as a portion of the pre-tax rate of return to capital, is the marginal effective tax rate (METR). When all non-tax considerations are equal, an investor will invest in the sector or geographic location where the METR is lowest. It is to this extent that METR provides a gauge for business tax competitiveness among different tax jurisdictions.¹⁵

The assumption that firms are profit maximizers provides a starting point for calculating METR, which accounts for taxation of a marginal investment project when marginal revenue equals marginal cost. Since it is only the marginal cost, rather than marginal revenue, that is observable, METR is evaluated as the effective tax cost as a share of marginal cost net of economic depreciation, which is also the pre-tax rate of return on capital. For example, if the pre-tax net-of-risk rate of return on capital (i.e., the tax-inclusive cost of capital) is 20 per cent at the profit-maximizing point, and the post-tax net-of-risk rate of return on capital (i.e., the tax-exclusive cost of capital) is 10 per cent, the METR is 50 per cent. Thus, the effective tax rate on income of the last dollar invested (that is, at the profit-maximizing point) would be 50 per cent.

For depreciable assets such as machinery or structures, the marginal cost in the absence of taxes is the sum of the financing cost and the economic depreciation rate. Taxes and tax allowances are offsetting factors in the computation of tax-inclusive marginal cost. Two obvious examples of tax allowances are investment tax credits and capital cost allowances (we discuss tax preferences associated with debt financing below). Investment tax credits obviously reduce the cost of investment purchases. Capital cost allowances that are more generous than the true economic depreciation rate reduce investment costs as well. These special writeoffs reduce the amount of corporate tax on profits. Governments also share profit risk through loss-

¹⁵ Recent studies point out that the average tax rate itself has a critical impact on capital investment when firms control factors of production that are indivisible (such as large-scale projects or ownership of intellectual property). Companies can therefore earn a rate of return on capital that is more than the cost of capital (the excess return is termed “economic rent”). Taxing rents across jurisdictions could also impact on competitiveness for indivisible investments. For example, refer to M. P. Devereux and R. Griffith, “Evaluating Tax Policy for Location Decisions,” *International Tax and Public Finance* 10 (2003): 107-126. However, to calculate the average tax rate, it requires knowing the pre-tax rate of return on capital net of risk. Empirically, this is virtually unknown, but we do know that firms, even with fixed costs, will intensively invest in assets at the margin when the risk-adjusted rate of return on capital is equal to the cost of capital. Thus, the METR captures the minimum rate of return or hurdle rate needed by investors to compensate for the cost of capital and taxes.

offsetting provisions; tax losses can be carried back or forward against other corporate income. In our analysis, we assume that governments fully share profit risks, thereby enabling the implicit full deduction of risk costs.¹⁶ This explains why the marginal effective tax rate often appears to be lower than the statutory tax rate.

For non-depreciable assets, such as inventory and land, both capital cost allowances and economic depreciation rates are zero (the cost of capital is only related to financing costs). Restrictions on accounting for tax purposes may result in inadequate cost deductions for inventories that must be replaced when older inventory stock is sold (see below).

As such, the gross-of-tax rate of return to capital and hence, METR, is bound to differ across various types of assets. Therefore, the METR for an entire industry can be expressed as a tax wedge between the weighted average of gross-of-tax rate of return to capital across all types of assets and the net-of-tax rate of return to capital. Accordingly, variations in capital structure by asset type (e.g., structure, machinery, inventory and land) across different industries and in industrial structure across different countries are also crucial to METR variations (see below).

What Other Economic Factors Affect the METR?

The main non-tax factors that enter the calculation of METR are leverage (the debt-asset ratio), the inflation rate, interest rate, economic depreciation rate and capital structure.

Companies that issue debt to finance investment avoid corporate tax payments since interest is deductible from taxable profits (most corporate tax systems aim to tax profits accruing to shareholders and not income paid to debt holders). Thus, a higher debt-asset ratio results in a lower METR. Importantly, most tax systems do not allow a similar deduction for the opportunity cost of equity, as most corporate tax systems aim to tax profits accruing to shareholders rather than income received by debt holders. This can result in a tax-induced bias to debt finance. Belgium, Brazil and Italy provide allowances for the cost of equity so as to reduce distortions of financing structures.

Inflation affects the METR in a complicated way through its impact on tax deductions for tax purposes, including interest, capital cost allowances and inventory costs.

- For a given real interest rate, the higher the inflation rate, the higher will be the nominal interest rate to compensate investors for the loss in the purchasing power of their money. The higher nominal interest lowers the METR since investors deduct the portion of borrowing expenses that maintain the real value of assets, even though asset prices rise with inflation.
- Capital cost allowances that benefit investors are based on historical prices, even though the cost of replacing assets increases with inflation. In this case, inflation raises the METR through a higher discount rate that lowers the present value of depreciation allowances; the lower the depreciation allowance, the more evident is such a negative inflation impact on the METR.

¹⁶ In the past we have included imperfect loss-offsetting. For further elaboration on risk, loss-offsetting and effective tax rates, see J. Mintz, "The Corporation Tax: A Survey," *Fiscal Studies* 16, 4 (1995): 23-68. For a recent estimate of the impact of imperfect loss-offsetting on effective tax rates in Canada, see M. Krzepkowski, *Three Essays on Investment and Taxation* (Calgary: University of Calgary, 2013), Chapter 3.

- The same applies to inventory cost deductions. When only the first-in-first-out method (FIFO) is allowed, as in the case of Canada, a rising price of inventory inflates taxable income — because inventory is written off at the historical price, which is lower than the current one for replacing inventory — and hence leads to a higher METR.

The net impact of inflation on METR will therefore depend on the relative shares of different assets and the degree of leverage. In the Canadian case, with a given leverage, an industry using a larger combined share of capital in slower-depreciating assets and inventory may incur a higher METR caused by a higher inflation rate than would be otherwise.

The economic depreciation rate affects the METR through its deviation from capital tax allowances. Assuming equivalent economic depreciation rates globally for equivalent tax rates, capital invested in jurisdictions providing more generous depreciation allowances enjoy a lower METR.

A capital investment usually involves depreciable and non-depreciable assets. These categories can be further divided into four major types: structures, machinery, inventory and land. Capital investments in different industries normally involve different mixes of these four types of assets. As shown above, with the same statutory tax rates, different types of assets may be subject to different effective tax rates owing to the interactions between tax and non-tax factors. As a result, an industry with higher capital shares in higher-taxed assets tends to be exposed to a higher METR as a whole.

How and What Taxes are Aggregated?

In our METR calculation for global rankings, the Canadian capital weights by asset type within each industry are generally applied to all countries in order to calculate the METR for manufacturing and broad service industries, including construction, utilities, communication, transport, trade and other services. As we do not have capital weights for other countries besides Canada and the United States, we use the country-specific GDP split between manufacturing and services to aggregate METRs for the other 88 countries. For Canada and the U.S., country-specific capital structure by industry and asset type is used for both industry- and country-specific METR calculations.¹⁷

In reality, the non-tax factors listed above vary widely across jurisdictions. We allow for different inflation and nominal interest rates since only some tax systems are indexed for inflation. This enables us to focus the METR calculation on the tax cost, across different regimes, which interacts with inflation. For a given tax regime, variations in METRs by asset type and by industry indicate tax distortions within such a tax regime; among different tax regimes, the METR for a given industry (e.g., manufacturing) or at a national aggregate level, by country, demonstrates relative tax competitiveness across borders. Such comparisons provide policy-makers with an indicator for tax reform aimed at improving tax neutrality within their tax jurisdictions, or improving their tax competitiveness compared with others, or both.

¹⁷ As we have focused some of our publications on U.S. competitiveness, we have chosen to use U.S. rather than Canadian capital weights for estimating the METR for the U.S. This enables us to maintain consistent reporting above. If we used Canadian capital weights for the United States, the U.S. ranking would remain the same, although the METR for the U.S. would rise by about one percentage point. This reflects the fact that “domestic productive activities” in the U.S., taxed at a reduced federal tax rate of 31.85 per cent (rather than 35 per cent), account for a relatively larger share of the total non-resource economy than in Canada.

Note that, in principle, all the taxes that affect corporate investment decisions and are payable by corporations should be included in calculating METR. These taxes include both direct taxes, ranging from income taxes to asset-based taxes such as capital tax and property taxes, and indirect taxes on the purchase of capital goods, such as asset-transaction taxes and sales taxes not based on value added. In practice, however, some taxes are not consistently measurable across all the tax regimes under study.

For example, in many of the 90 countries, including Canada and the U.S., property tax is a sub-national tax that varies widely across localities, and by use of property (e.g., commercial or industrial) in both the tax base and rate. It is extremely difficult, if not impossible, to come up with a national average property tax rate that is applicable to each industry in a consistent manner. Further, many municipal property taxes are charges for services provided to residents and businesses, such as water, sewage and roads, and we would typically net out related benefits from taxes for measurement purposes. For these reasons, we exclude property tax in our model to ensure that all tax regimes are treated consistently.

A test of the usefulness of our METR measures is their ability to help explain investment flows. In a recent paper, Matt Krzepkowski has used our METRs to explain foreign direct investment flows across countries.¹⁸ A one-percentage-point increase in the METR will result in foreign direct investment as a share of GDP falling by 1.18 per cent. Further, his analysis suggests that a one-point increase in the corporate income tax rate reduces foreign direct investment as a share of GDP by 1.87 per cent.

Appendix A provides the fundamental equations we use to estimate METRs, and Appendix B provides, in tabular form, information on the corporate income tax and other tax provisions we incorporate for the 90 countries.

METR Numbers for the United States: A Case Discussion

The above explanation shows that varied coverage of tax factors and different assumptions for non-tax factors can produce very different METRs, even for the same tax jurisdiction. A prominent example is the widely varied METR numbers published for the United States in recent years, which have puzzled many who are interested in the debate on business tax reform in the U.S.

¹⁸ Matt Krzepkowski, "Marginal versus Average Effective Tax Rates and Foreign Direct Investment," in *Three Essays on Investment and Taxation* (Calgary: University of Calgary, 2013), Chapter 1.

For example, in our ranking for 2011, the Canadian METR (18.7 per cent) is the lowest among the G7 countries, and the United States (35.3 per cent) is the highest (see Tables 1 and 3 below). But in the ranking presented by the White House and the U.S. Treasury (hereafter “the U.S. model”), Canada is the second-highest (33 per cent), and the U.S. the fourth-lowest (29 per cent).¹⁹ How can that be given our much lower statutory corporate income tax rate (27.6 per cent) compared to that in the U.S. (39.2 per cent)? Three variations in coverage of tax factors stand out:

- While we are unable to include a national average property tax rate in our model (as explained above), the U.S. model casually includes such a parameter across borders. For Canada, the U.S. model applies Toronto’s four-per-cent property tax rate for industrial buildings in 2009 as the Canadian “effective real estate tax rate,” while using a one-per-cent “net wealth tax rate” as the U.S. counterpart.²⁰ This simplified assumption ignores the fact that Toronto has one of the highest property tax rates in Canada and its current comparable industrial property-tax rate is only three per cent,²¹ while the average urban commercial and industrial property tax in the U.S. is close to two per cent. Note also that, unlike in Canada, business property taxes in the U.S. are also applicable to machinery and equipment and, in some states, inventory.²²
- While the Canadian governments have completely eliminated the capital tax on non-financial corporations, with the last two provinces (Nova Scotia and Quebec) doing so in 2012, some states in America still levy a tax based on a corporation’s asset value.²³ In our model, this asset-based tax is zero for Canada but close to 0.05 per cent for the U.S., which added about a half a percentage point to the U.S. METR.
- Our model includes the effective sales tax rates on capital goods based on national statistics, while the U.S. model does not. Given that the sales taxes in most Canadian provinces for 2011 were harmonized with the federal GST — a value-added tax that has little impact on capital investment — but the majority of the state sales taxes in the U.S. constitute a direct cost on capital goods, including the effective sales tax rate in METR calculations reflects more closely the reality that sales taxes not based on value-added impose a tax burden on capital investment. Our estimate shows that the effective sales tax rates on capital goods account for about 16 per cent of the METR in Canada and 21 per cent in the U.S. In other words, by excluding the effective sales tax rates on capital goods, the Canadian METR will drop from the current 18.6 per cent to 15.7 per cent, and that for the U.S. will drop from 35.3 per cent to 27.9 per cent.

¹⁹ Refer to Table 1 in “The President’s Framework for Business Tax Reform,” A Joint Report by the White House and the U.S. Department of the Treasury, February 2012.

²⁰ As quoted in the President Tax Framework, this dataset can be found in http://ec.europa.eu/taxation_customs/resources/documents/common/publications/studies/etr_company_tax.pdf, page A-8, with the note for Canada on page A-11.

²¹ Refer to City of Toronto website, “2013 Final Property Tax Rates,” http://www.toronto.ca/taxes/property_tax/tax_rates.htm.

²² Refer to Minnesota Taxpayers Association and Lincoln Institute of Land Policy, “50-State Property Tax Comparison Study,” April 2011, http://www.lincolnst.edu/subcenters/significant-features-property-tax/upload/sources/ContentPages/documents/MTAdoc_NewCover.pdf.

²³ For example, the corporate excise tax in Massachusetts consists of two parts: a tax on net income (9.5 per cent) and a tax on either tangible property that is not subject to local taxation or net worth (0.26 per cent). Other states that impose such a net-worth-based tax, in addition to the corporate income tax, include New Hampshire (0.75 per cent), New York (0.09 per cent) and Ohio (0.4 per cent).

That is, the U.S. model, by excluding asset-based taxes and the effective sales tax rate on capital goods, which are included in our METR model, and including an artificially high property tax rate for Canada and an artificially low counterpart for the U.S., produced a much lower METR for the U.S. than for Canada; this result naturally surprised many because the aggregated statutory corporate income tax rate in Canada is only two-thirds of that in the U.S.²⁴

CANADA'S TAX COMPETITIVENESS IS A MOVING TARGET

In 2013, Canadian business tax competitiveness, as measured by the METR, among the OECD and the 90 countries slipped by six and 11 spots, respectively, compared to its rankings in 2012 (Table 1). This erosion of tax competitiveness for Canada was mainly attributable to the reversal of sales-tax harmonization in B.C. and, to a lesser degree, the corporate tax rate hikes in B.C. and New Brunswick. Given the U.K.'s announced plan for reducing its corporate income tax rate to 20 per cent by 2015, Canada may also lose its top ranking in tax competitiveness among the G7 countries. Certainly, the recent increases at the provincial level, including Ontario's reversal of the legislated corporate tax rate reductions in 2011, are beginning to undermine the gains we have achieved in attracting capital investments to Canada.

TABLE 1: MARGINAL EFFECTIVE TAX RATE ON CAPITAL INVESTMENT, VARIOUS COUNTRY GROUPS, 2005-2013

	Marginal Effective Tax Rate									Statutory Company Income Tax Rate**				
	2013	2012	2011	2010	2009	2008	2007	2006	2005	2013	2012	2005	Change in % points 2005-2013	# of countries that cut general Corporate Tax rates
Canada	18.6	17.3	18.7	19.8	27.3	28.0	30.5	36.2	38.8	26.3	26.1	34.2	-7.9	n/a
G7	27.6	27.9	28.6	28.9	30.1	30.2	32.9	33.7	34.2	31.1	31.6	35.7	-4.6	5
Emerging G-20*(10)	23.4	23.3	23.3	23.3	23.5	26.8	26.9	26.9	28.1	27.1	26.9	29.3	-2.2	5
OECD (34)	19.6	19.5	19.7	19.6	19.8	20.1	21.0	21.6	22.4	25.5	25.4	28.2	-2.7	22
Non-OECD (56)	16.7	16.8	17.1	17.0	17.7	18.6	19.7	19.8	20.4	24.8	24.9	29.2	-4.4	35
All 90 Countries	17.8	17.8	18.0	18.0	18.5	19.2	20.2	20.5	21.2	25.1	25.1	28.8	-3.7	57
Canada's ranking by METR (highest to lowest) within various groups of countries														
G7	7	7	7	7	6	6	6	1	1					
OECD	15	21	16	13	7	7	7	1	1					
All 90 Countries	36	47	38	33	16	19	16	5	4					

* The 10 emerging economies within the G20 include two OECD and eight non-OECD countries; they are (in alphabetical order): **Argentina, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa and Turkey.**

** Appendix B provides statutory company income tax rates for all of the nine years from 2005 to 2013.

²⁴ For a step-by-step simulation to reconcile our calculation of the METRs for Canada and the U.S. with that presented in the President Tax Framework, refer to Chen and Mintz, "The US Corporate Effective Tax Rate: Myth and the Fact" (forthcoming).

Canada's top ranking with the lowest METR among the G7 countries for business tax competitiveness is a hard-won accomplishment over the past decade. This accomplishment is noteworthy because it is firmly based on sound economic judgment: keeping a competitive corporate tax rate on a broad tax base is critical to encouraging capital investment and promoting economic growth, and also because it is shared and pursued by our governments under different political parties.

As reiterated in many of our past tax reports, given the global trend in business tax reform, we need to do more to maintain and further improve our tax competitiveness as well as our tax efficiency. Three steps are critical in this regard.

First, complete sales-tax harmonization in all provinces would significantly improve our tax competitiveness among G7 and OECD peer countries. The negative METR-impact of non-harmonized provincial sales taxes can be best illustrated for B.C., which in recent years implemented, and then reversed, sales-tax harmonization. That is, B.C.'s seven-per-cent provincial sales tax that is not harmonized with the federal GST contributes to more than a third of the provincial METR and seven per cent of the national METR. Should all the remaining three unharmonized provinces — B.C., Saskatchewan and Manitoba — harmonize their provincial sales tax with the federal GST, the Canadian METR may drop further, to below the 90-country average of 18 per cent.

Second, we need to substantially improve tax neutrality by eliminating the dated preferential tax incentives that target a narrow range of industries such as the manufacturing and processing sectors. In its recent budgets, the federal government has steadily weeded out those preferential incentives granted to resource sectors, making our tax system more neutral across different capital assets and sectors. It also substantially improved tax neutrality by better matching capital cost allowances with economic depreciation rates, class by class.²⁵ However, the special accelerated capital allowance for manufacturing and processing machinery introduced in 2007 and repeatedly renewed on a temporary basis, worsened the inter-industry and inter-asset tax distortions (Table 2). In addition, investment tax credits favouring only manufacturing and processing — such as the Atlantic Investment Tax Credit and several provincial investment tax credits — have undermined productivity by favouring investments with lower profitability, have been blunted to the extent that suppliers raise prices, and are of less value to companies in a non-taxpaying position. With sharp reductions in corporate rates, targeted tax preferences are no longer needed and should be eliminated.²⁶

And finally, governments can further reduce corporate income tax rates, and several provinces that still tax non-manufacturing industries less favourably than manufacturing should unify their two-tier tax rates.

²⁵ For example, the government raised the capital cost allowance in 2007 for several CCA classes, including buildings and plants used for manufacturing purposes, from the previous four per cent to six and 10 per cent. This single measure helped reduce the METR for the manufacturing industry by about four percentage points.

²⁶ See Chen and Mintz, "2012 Annual Global Tax Competitiveness Ranking – A Canadian Good News Story," *SPP Research Papers*, 5(28), The School of Public Policy, University of Calgary, (September 2012).

Our METR simulations show that, by fully harmonizing all provincial sales taxes with the federal GST, and eliminating all the preferential tax treatments targeting only manufacturing and processing activities, governments would be able to free up financial resources to further reduce the combined corporate tax rate to 25 per cent or lower. As a result, both our business tax competitiveness and tax neutrality can be significantly improved, as measured respectively by a lower estimated METR (18.3 per cent compared to 18.6 per cent in Table 1) and a shrunken METR dispersion (Table 2).

TABLE 2: COEFFICIENT OF VARIATION FOR METRS ON CAPITAL INVESTMENT IN CANADA, 2006-2013

	2006	2007	2008	2009	2010	2011	2012	2013	Simulation A	Simulation B
Inter-industry	15.2%	33.4%	45.0%	43.6%	64.3%	63.7%	66.7%	60.0%	26.4%	11.0%
Inter-asset	26.7%	45.4%	64.5%	62.0%	73.9%	75.8%	80.2%	78.2%	35.8%	22.5%
Overall	25.9%	49.0%	64.5%	62.9%	80.2%	81.0%	84.4%	80.3%	40.0%	23.3%

- **Simulation A** eliminates the “temporary” accelerated depreciation allowance for machinery and equipment used for manufacturing and processing businesses.
- **Simulation B** further eliminates all types of investment tax credits, implements full harmonization of all provincial sales taxes with the federal GST, and assumes a 10-per-cent provincial corporate income tax rate for all provinces.

THE GLOBAL RANKING FOR 2013

Over the past year, which was full of fiscal challenges for most governments around the globe, tax reformers in many countries firmly improved their business tax competitiveness by significantly reducing corporate income tax (CIT) rates.

Botswana reduced its general corporate income tax rate in 2012 from 25 per cent to 22 per cent (while keeping its special tax rate for approved manufacturing activities unchanged).

Jamaica reduced its corporate tax rate for non-financial companies from 33.33 per cent, a rate that had been, as of 2012, untouched for more than a decade, to 30 per cent, effective in 2013.

Japan is on track to reduce its combined corporate tax rate. According to the OECD tax database, Japan’s combined federal-regional-local corporate tax rate has been reduced to 37 per cent for 2013 from the previous 39.5 per cent; it will be further reduced to below 35 per cent by 2015.

Sweden reduced its corporate tax rate from 26.3 per cent to 22 per cent, “mainly as an adaptation to international tax levels.”²⁷

Thailand initiated its two-stage tax-reduction plan for corporations in 2012; the CIT rate was reduced from the previous 30 per cent to 23 per cent in 2012 and again from 23 to 20 per cent in 2013.

²⁷ Refer to PriceWaterhouseCoopers, “Sweden proposed to reduce the corporate income tax rate to 22% and apply new Interest Stripping Restrictions from 2013,” News Alert, October 2012, http://www.pwc.com/en_GX/gx/asset-management/real-estate-tax-services-newsalert/assets/pwc-sweden-sweden-proposes-to-reduce-the-corporate-income-tax-rates.pdf.

Ukraine initiated its three-year CIT reduction plan in 2011, with a rate reduction of two percentage points per year. As a result, its CIT rate has been lowered to 19 per cent in 2013 from 25 per cent in 2010.

The U.K. has sped up its previously announced tax-reduction plan. Instead of reducing the company tax rate to 22 per cent by 2014, the government will reduce the rate to 21 per cent by 2014 and to 20 per cent by 2015. With its current 20-per-cent CIT rate for small business unchanged, the U.K. will effectively unify the existing two-tier CIT rates by 2015. On the other hand, the U.K. could do better by providing more generous capital allowances to fix the significant mismatch between economic and tax depreciation rates.²⁸

Other countries that are on track to implement their prescheduled plans for reducing CIT rates in 2013 include **Ecuador** (from 23 to 22 per cent), **Madagascar** (from 21 to 20 per cent), and **Slovenia** (from 18 to 17 per cent),

In contrast, four countries increased their CIT rates, largely from relatively low levels. For example, **Chile** raised its CIT rate from 17 to 20 per cent and **Serbia** from 10 to 15 per cent. The other two countries that raised their CIT rates are **Greece** (from 20 to 26 per cent) and **Slovakia** (from 19 to 23 per cent).

While India and Luxembourg also raised their corporate income tax rates slightly through raising some surcharges, more countries (e.g., Denmark, Norway and the U.K.) will seek or continue to reduce corporate income tax rates in their forthcoming budgets.

With all the above statutory tax changes implemented by various countries, the average global corporate income tax rate does not change in 2013. The average of marginal effective tax rates (METR) for 2013 within the OECD group (19.6 per cent) is up only slightly from its 2012 level (19.5 per cent), and that across the 90 countries (17.8 per cent) does not change (Tables 1, 3 and 4). The encouraging news is that the average METR among the G7 countries maintained its steady downward trend, largely thanks to the tax reductions in Japan and the U.K. and despite the tax increases in Canada (see above). On the other hand, the average METR among the 10 emerging economies within the G20 rose slightly from its 2012 level, which is mainly related to the increased surcharge as a component of the CIT rate in India.

Note that, as in the past, to update our cross-border tax comparison, we not only incorporate the legislated tax changes on an annual basis, but also update the key non-tax parameters by country based on the latest statistics available. Two such non-tax parameters are the country-specific inflation rate, which, in our current model, is the average of annual CPI-based inflation rates over the five-year period up to 2012, and the country-specific GDP share by sector (i.e., manufacturing versus a broad range of service industries), which is based on GDP at constant prices by economic sector for the five-year period up to 2011. As explained above, such non-tax factors can affect the country-specific METR significantly. Therefore, updating the non-tax parameters is intended to keep our latest estimate of METR — a forward-looking tax indicator — as useful as possible for future investment and policy decisions. Also, applying these updated non-tax parameters to all the years contained in our latest model (i.e., 2005–2013) helps keep intact our tracking of annual tax changes by country. Doing so, however, may result in variation in country-specific METRs for previous years, as between our current and earlier publications.

²⁸ If the U.K. did provide a capital consumption allowance equal to the economic depreciation rate for every type of depreciable asset, it would reduce its current METR to about 20 per cent, raising its tax competitiveness ranking from the fourth-most to the second-most competitive regime among G7 countries, and from the 27th- to the 22nd-most competitive among the 34 OECD countries.

TABLE 3: MARGINAL EFFECTIVE TAX RATE ON CAPITAL INVESTMENT, OECD COUNTRIES, 2005-2013

	Marginal Effective Tax Rate									Reference: Statutory Company Income Tax Rate*		
	2013	2012	2011	2010	2009	2008	2007	2006	2005	2013	2005	Change in % points
U.S.	35.3	35.3	35.3	35.3	35.6	35.6	35.6	35.9	35.9	39.1	39.3	-0.1
France	35.2	35.2	35.2	34.0	35.1	35.1	35.1	35.1	35.4	34.4	35.0	-0.5
Korea	30.1	30.1	30.1	30.1	30.1	32.8	32.8	32.8	32.8	24.2	27.5	-3.3
Japan	29.3	31.5	37.0	39.5	-2.6							
Austria	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	25.0	25.0	0.0
Spain	26.0	26.0	26.0	26.0	26.0	26.0	28.2	30.3	30.3	30.0	35.0	-5.0
Australia	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	30.0	30.0	0.0
U.K.	25.9	26.9	27.1	29.1	29.0	28.8	30.0	30.0	30.0	23.0	30.0	-7.0
Italy	24.5	24.5	28.0	28.0	28.0	28.1	33.5	33.5	33.5	27.5	33.0	-5.5
Germany	24.4	24.4	24.4	24.4	24.4	24.4	34.0	34.0	34.0	30.2	38.9	-8.7
Norway	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	28.0	28.0	0.0
Portugal	22.9	22.9	20.8	20.8	18.8	18.8	18.8	19.6	19.6	31.5	27.5	4.0
New Zealand	21.6	21.6	21.6	18.2	18.2	18.2	20.5	20.5	20.5	28.0	33.0	-5.0
Denmark	19.1	19.1	19.1	19.1	19.1	19.1	19.1	21.7	21.7	25.0	28.0	-3.0
Canada	18.6	17.4	18.7	19.8	27.3	28.0	30.9	36.2	38.8	26.3	34.2	-7.9
Belgium	18.5	18.5	18.5	18.5	18.5	18.5	18.0	18.0	23.5	34.0	34.0	0.0
Greece	18.1	11.3	11.3	13.2	13.7	13.7	13.7	15.8	17.5	26.0	32.0	-6.0
Finland	17.5	17.5	18.7	18.7	18.7	18.7	18.7	18.7	18.7	24.5	26.0	-1.5
Switzerland	17.5	17.5	17.5	17.5	17.5	17.5	18.0	18.0	18.0	21.1	21.3	-0.2
Netherlands	17.5	17.5	17.5	17.5	17.5	17.5	17.5	20.7	22.3	25.0	31.5	-6.5
Mexico	17.4	17.4	17.4	17.4	16.0	16.0	16.0	16.7	17.4	30.0	30.0	0.0
Luxembourg	17.3	17.0	17.0	16.8	16.8	18.5	19.4	19.4	19.9	29.2	30.4	-1.2
Estonia	17.1	17.1	17.1	17.1	17.1	17.1	18.1	19.1	20.2	21.0	24.0	-3.0
Hungary	16.1	16.1	16.1	16.1	16.6	16.6	16.6	15.3	14.7	19.0	16.0	3.0
Sweden	16.1	19.5	19.5	19.5	19.5	20.9	20.9	20.9	20.9	22.0	28.0	-6.0
Slovak Republic	15.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	23.0	19.0	4.0
Israel	15.0	15.0	14.3	15.0	15.8	16.5	18.0	19.5	19.5	25.0	34.0	-9.0
Poland	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	19.0	19.0	0.0
Iceland	14.2	14.2	14.2	12.6	10.4	10.4	12.6	12.6	18.0	20.0	18.0	2.0
Czech Republic	12.7	12.7	12.7	12.7	13.5	14.2	16.5	16.5	18.0	19.0	26.0	-7.0
Ireland	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	12.5	12.5	0.0
Slovenia	9.8	10.5	11.8	11.8	12.4	13.1	13.8	14.5	15.2	17.0	25.0	-8.0
Chile	7.7	7.7	7.7	6.7	6.7	6.9	7.1	7.3	7.3	20.0	17.0	3.0
Turkey	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	10.9	20.0	30.0	-10.0
OECD Average:												
Unweighted	19.6	19.5	19.7	19.6	19.8	20.1	21.0	21.6	22.4	25.5	28.2	-2.7
Weighted*	28.5	28.8	29.0	29.1	29.5	29.6	30.8	31.2	31.5	32.9	35.5	-2.6

Note: G-7 countries are in bold.

* Weighted by the average GDP for 2005-2011 in 2005 constant U.S. dollars.

TABLE 4: MARGINAL EFFECTIVE TAX RATE ON CAPITAL INVESTMENT IN 90 COUNTRIES, 2013 VS. 2005

	Marginal Effective Tax Rate								METR Ranking In Descending Order		Statutory Company Income Tax Rate		
	2013				2005				2013	2005	2013	2005	+-% point
	Overall	Manuf.	Services	Sectoral gap	Overall	Manuf.	Services	Sectoral gap					
Argentina	43.3	47.9	41.6	6.3	43.3	47.9	41.6	6.3	1	3	35.0	35.0	0.0
Uzbekistan	37.3	40.3	36.2	4.1	38.2	41.6	37.0	4.5	2	6	16.3	19.0	-2.7
Colombia	36.0	38.6	35.5	3.2	26.3	28.9	25.8	3.1	3	23	34.0	35.0	-1.0
U.S.	35.3	33.5	36.8	-3.3	35.9	35.1	36.9	-1.8	4	9	39.1	39.3	-0.2
Chad	35.2	38.9	34.5	4.5	38.8	42.7	38.0	4.7	5	5	40.0	45.0	-5.0
France	35.2	36.9	34.9	2.0	35.4	37.2	35.2	2.0	6	10	34.4	35.0	-0.6
India	35.0	29.5	36.4	-6.9	37.8	32.1	39.1	-7.0	7	7	34.0	36.6	-2.6
Russia	30.4	32.7	29.9	2.8	36.6	39.2	36.0	3.1	8	8	20.0	22.0	-2.0
Venezuela	30.2	30.8	30.0	0.7	30.2	30.8	30.0	0.7	9	17	34.0	34.0	0.0
Korea	30.1	32.4	29.0	3.4	32.8	35.3	31.6	3.7	10	14	24.2	27.5	-3.3
Japan	29.3	29.4	29.3	0.1	31.5	31.7	31.5	0.2	11	15	37.0	39.5	-2.5
Brazil	28.9	28.0	29.1	-1.1	28.9	28.0	29.1	-1.1	12	20	34.0	34.0	0.0
Costa Rica	28.3	34.9	26.4	8.6	28.3	34.9	26.4	8.6	13	22	30.0	30.0	0.0
Austria	26.2	26.2	26.2	-0.1	26.2	26.2	26.2	-0.1	14	24	25.0	25.0	0.0
Spain	26.0	25.1	26.2	-1.1	30.3	29.3	30.5	-1.2	15	17	30.0	35.0	-5.0
Australia	25.9	27.6	25.7	1.9	25.9	27.6	25.7	1.9	16	25	30.0	30.0	0.0
U.K.	25.9	24.6	26.0	-1.4	30.0	27.7	30.3	-2.6	17	19	23.0	30.0	-7.0
Lesotho	24.7	13.2	28.2	-15.0	34.4	19.5	38.8	-19.4	18	12	25.0	35.0	-10.0
Philippines	24.6	25.9	24.1	1.8	29.2	30.7	28.6	2.0	19	20	30.0	35.0	-5.0
Italy	24.5	26.8	24.0	2.7	33.5	31.5	33.9	-2.4	20	14	27.5	33.0	-5.5
Germany	24.4	26.6	23.8	2.8	34.0	36.4	33.3	3.1	21	13	30.2	38.9	-8.7
Norway	24.4	23.1	24.6	-1.4	24.4	23.1	24.6	-1.4	22	27	28.0	28.0	0.0
Pakistan	24.2	28.3	22.8	5.4	24.2	28.3	22.8	5.4	23	29	35.0	35.0	0.0
Peru	23.3	30.5	21.6	8.8	23.3	30.5	21.6	8.8	24	32	30.0	30.0	0.0
Portugal	22.9	20.7	23.2	-2.6	19.6	17.6	19.9	-2.3	25	47	31.5	27.5	4.0
Sierra Leone	22.0	16.3	22.4	-6.1	22.0	16.3	22.4	-6.1	26	36	35.0	35.0	0.0
Tunisia	21.9	24.3	21.3	3.0	25.6	28.3	25.0	3.3	27	26	30.0	35.0	-5.0
Bolivia	21.8	29.3	20.0	9.2	21.8	29.3	20.0	9.2	28	37	25.0	25.0	0.0
New Zealand	21.6	22.5	21.5	1.0	20.5	18.5	20.9	-2.3	29	41	28.0	33.0	-5.0
Saudi Arabia	21.3	18.4	22.0	-3.6	21.3	18.4	22.0	-3.6	30	39	20.0	20.0	0.0
Indonesia	19.9	23.0	18.4	4.6	24.4	27.8	22.6	5.2	31	28	25.0	30.0	-5.0
Ecuador	19.5	25.0	18.5	6.5	20.2	26.1	19.2	6.9	32	43	22.0	25.0	-3.0
Georgia	19.3	21.3	18.9	2.4	22.8	25.2	22.3	2.9	33	33	15.0	20.0	-5.0
Kazakhstan	19.3	24.1	18.4	5.7	28.8	34.6	27.8	6.8	34	21	29.9	40.5	-10.6
Denmark	19.1	21.1	18.7	2.3	21.7	23.8	21.2	2.5	35	38	25.0	28.0	-3.0
Canada	18.6	7.2	22.9	-15.7	38.8	35.4	41.8	-6.4	36	4	26.3	34.2	-7.9
Belgium	18.5	17.7	18.7	-0.9	23.5	22.6	23.7	-1.1	37	31	34.0	34.0	0.0
China	18.3	21.4	15.7	5.6	45.4	47.6	43.5	4.1	38	2	25.0	25.0	0.0
Rwanda	18.2	26.8	17.1	9.7	18.2	26.8	17.1	9.7	39	51	30.0	30.0	0.0
Greece	18.1	16.9	18.2	-1.3	17.5	16.3	17.6	-1.3	40	57	26.0	32.0	-6.0
Finland	17.5	19.4	16.9	2.6	18.7	20.7	18.0	2.7	41	49	24.5	26.0	-1.5
Switzerland	17.5	16.7	17.7	-1.0	18.0	17.2	18.2	-1.0	42	54	21.1	21.3	-0.2
Netherlands	17.5	16.4	17.7	-1.3	22.3	21.0	22.5	-1.5	43	34	25.0	31.5	-6.5
Tanzania	17.4	12.4	18.3	-5.9	17.4	12.4	18.3	-5.9	44	58	30.0	30.0	0.0
Malaysia	17.4	19.2	16.5	2.7	19.8	21.8	18.8	2.9	45	46	25.0	28.0	-3.0
Mexico	17.4	18.9	17.0	1.9	17.4	18.9	17.0	1.9	46	59	30.0	30.0	0.0
Zambia	17.3	23.5	16.3	7.2	17.3	23.5	16.3	7.2	47	60	35.0	35.0	0.0
Luxembourg	17.3	18.4	17.2	1.2	19.9	21.1	19.8	1.3	48	45	29.2	30.4	-1.2
Estonia	17.1	17.1	17.1	0.0	20.2	20.2	20.2	0.0	49	44	21.0	24.0	-3.0

TABLE 4: MARGINAL EFFECTIVE TAX RATE ON CAPITAL INVESTMENT IN 90 COUNTRIES, 2013 VS. 2005 (cont'd)

	Marginal Effective Tax Rate								METR Ranking In Descending Order		Statutory Company Income Tax Rate		
	2013				2005				2013	2005	2013	2005	+-% point
	Overall	Manuf.	Services	Sectoral gap	Overall	Manuf.	Services	Sectoral gap					
Iran	16.9	26.5	14.7	11.8	16.9	26.5	14.7	11.8	50	62	25.0	25.0	0.0
Hungary	16.1	17.4	15.7	1.8	14.7	15.9	14.3	1.5	51	69	19.0	16.0	3.0
Sweden	16.1	14.9	16.4	-1.5	20.9	19.5	21.3	-1.8	52	40	22.0	28.0	-6.0
Slovak Republic	15.7	19.9	14.0	5.9	12.7	16.3	11.2	5.1	53	75	23.0	19.0	4.0
Jamaica	15.6	13.1	15.8	-2.7	18.2	15.4	18.4	-3.0	54	52	30.0	33.3	-3.3
Israel	15.0	13.2	15.4	-2.2	19.5	17.4	19.9	-2.5	55	48	25.0	34.0	-9.0
Poland	14.6	13.9	14.8	-0.9	14.6	13.9	14.8	-0.9	56	70	19.0	19.0	0.0
Fiji	14.4	18.7	13.6	5.1	23.8	29.6	22.6	6.9	57	30	20.0	31.0	-11.0
Iceland	14.2	11.6	14.5	-2.9	18.0	16.5	18.2	-1.8	58	55	20.0	18.0	2.0
Bangladesh	14.1	12.4	14.6	-2.2	15.9	14.1	16.4	-2.3	59	65	27.5	30.0	-2.5
South Africa	13.8	15.4	13.4	1.9	15.2	16.9	14.8	2.1	60	67	28.0	30.0	-2.0
Ghana	13.7	14.0	13.7	0.3	13.7	14.0	13.7	0.3	61	74	25.0	25.0	0.0
Morocco	13.1	17.4	12.2	5.2	16.3	21.1	15.2	5.9	62	64	30.0	35.0	-5.0
Czech Republic	12.7	12.9	12.6	0.3	18.0	18.3	17.9	0.4	63	53	19.0	26.0	-7.0
Madagascar	12.5	16.7	11.5	5.2	20.3	26.0	19.0	7.1	64	42	20.0	30.0	-10.0
Botswana	12.2	8.3	12.5	-4.2	14.2	8.3	14.6	-6.4	65	73	22.0	25.0	-3.0
Trinidad	11.8	3.5	16.7	-13.2	15.1	5.6	20.9	-15.3	66	68	25.0	30.0	-5.0
Nigeria	11.3	20.1	10.4	9.7	11.3	20.1	10.4	9.7	67	78	32.0	32.0	0.0
Uganda	11.2	5.3	11.9	-6.6	11.2	5.3	11.9	-6.6	68	79	30.0	30.0	0.0
Taiwan	11.1	13.4	10.1	3.3	17.0	20.1	15.5	4.6	69	61	17.0	25.0	-8.0
Thailand	10.1	12.6	8.4	4.2	16.5	20.1	14.1	6.0	70	63	20.0	30.0	-10.0
Ireland	10.1	9.2	10.4	-1.1	10.1	9.2	10.4	-1.1	71	81	12.5	12.5	0.0
Slovenia	9.8	9.9	9.8	0.2	15.2	15.4	15.2	0.3	72	66	17.0	25.0	-8.0
Vietnam	9.7	18.4	5.3	13.1	11.5	21.1	6.6	14.5	73	77	25.0	28.0	-3.0
Singapore	9.6	7.5	10.3	-2.9	11.5	9.1	12.4	-3.3	74	76	17.0	20.0	-3.0
Jordan	9.4	11.4	9.0	2.4	18.6	13.6	19.8	-6.2	75	50	15.1	23.2	-8.2
Croatia	9.0	11.6	8.4	3.2	9.0	11.6	8.4	3.2	76	83	22.0	22.0	0.0
Egypt	8.7	12.1	7.6	4.4	14.6	19.2	13.2	6.0	77	71	25.0	34.0	-9.0
Kuwait	8.6	9.8	8.4	1.3	46.1	52.3	45.3	7.0	78	1	15.0	55.0	-40.0
Kenya	8.6	-25.6	15.1	-40.7	8.6	-25.6	15.1	-40.7	79	84	30.0	30.0	0.0
Romania	8.5	10.9	7.7	3.2	17.9	10.9	20.5	-9.6	80	56	16.0	35.0	-19.0
Mauritius	8.0	8.7	7.8	0.9	14.6	15.7	14.3	1.4	81	72	15.0	25.0	-10.0
Chile	7.7	8.4	7.6	0.8	7.3	7.9	7.1	0.8	82	86	20.0	17.0	3.0
Latvia	6.1	7.4	5.9	1.5	6.1	7.4	5.9	1.5	83	87	15.0	15.0	0.0
Ukraine	6.0	10.7	4.4	6.3	9.1	15.2	7.0	8.2	84	82	19.0	25.0	-6.0
Turkey	5.7	4.9	6.0	-1.0	10.9	9.9	11.2	-1.3	85	80	20.0	30.0	-10.0
Qatar	5.4	7.6	5.0	2.6	22.2	28.5	21.1	7.4	86	35	10.0	35.0	-25.0
Bulgaria	5.1	5.3	5.0	0.3	8.0	8.4	7.9	0.5	87	85	10.0	15.0	-5.0
Hong Kong	3.4	3.1	3.4	-0.3	3.7	3.4	3.7	-0.3	88	88	16.5	17.5	-1.0
Serbia	-1.8	-8.8	-0.2	-8.6	-3.8	-11.2	-2.1	-9.0	89	90	15.0	10.0	5.0
Ethiopia	-3.5	20.1	-5.6	25.7	-3.5	20.1	-5.6	25.7	90	89	30.0	30.0	0.0
Average:													
Simple average	17.8	18.6	17.6	1.0	21.2	21.9	21.0	0.9			25.1	28.8	-3.7
Weighted average*	26.8	26.6	27.0	-0.4	31.6	31.7	31.7	0.0			31.3	33.9	-2.6

Note: The G-20 countries are in bold.

* Weighted by the average GDP for 2005–2011 in 2005 constant U.S. dollars.

PROVINCIAL DIVERSITY IN BUSINESS TAX COMPETITIVENESS

The tax-competitiveness ranking for eight of the 10 Canadian provinces among the OECD countries has not changed from 2012. The large changes in the rankings of B.C. and P.E.I. are mainly related to government action that moved in the opposite direction of sales-tax harmonization.

As in 2012, the 10 provinces are spread widely in their tax-competitiveness ranking among the 44 tax jurisdictions including 34 OECD countries, and they can be divided into three groups (Table 5).

TABLE 5: METR FOR CANADIAN PROVINCES, RANKED AMONG THE OECD COUNTRIES

	Marginal Effective Tax Rate									2013 ranking
	2013	2012	2011	2010	2009	2008	2007	2006	2005	
U.S.	35.3	35.3	35.3	35.3	35.6	35.6	35.6	35.9	35.9	1
France	35.2	35.2	35.2	34.0	35.1	35.1	35.1	35.1	35.4	2
Korea	30.1	30.1	30.1	30.1	30.1	32.8	32.8	32.8	32.8	3
Japan	29.3	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	4
B.C.	27.5	17.8	19.0	19.9	29.1	29.5	32.2	35.2	39.2	5
Manitoba	26.2	26.2	27.2	29.8	31.1	33.0	36.3	40.6	39.6	6
Austria	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	7
Spain	26.0	26.0	26.0	26.0	26.0	26.0	28.2	30.3	30.3	8
Australia	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	9
U.K.	25.9	26.9	27.1	29.1	29.0	28.8	30.0	30.0	30.0	10
Italy	24.5	24.5	28.0	28.0	28.0	28.1	33.5	33.5	33.5	11
Germany	24.4	24.4	24.4	24.4	24.4	24.4	34.0	34.0	34.0	12
Norway	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	13
Saskatchewan	24.3	24.3	25.3	26.0	26.3	26.8	31.4	38.3	43.7	14
Portugal	22.9	22.9	20.8	20.8	18.8	18.8	18.8	19.6	19.6	15
New Zealand	21.6	21.6	21.6	18.2	18.2	18.2	20.5	20.5	20.5	16
Denmark	19.1	19.1	19.1	19.1	19.1	19.1	19.1	21.7	21.7	17
Canada	18.6	17.4	18.7	19.8	27.3	28.0	30.9	36.2	38.8	18
Belgium	18.5	18.5	18.5	18.5	18.5	18.5	18.0	18.0	23.5	19
Ontario	18.2	18.2	19.3	20.3	32.9	33.2	35.1	40.7	43.3	20
Greece	18.1	11.3	11.3	13.2	13.7	13.7	13.7	15.8	17.5	21
Finland	17.5	17.5	18.7	18.7	18.7	18.7	18.7	18.7	18.7	22
Switzerland	17.5	17.5	17.5	17.5	17.5	17.5	18.0	18.0	18.0	23
Netherlands	17.5	17.5	17.5	17.5	17.5	17.5	17.5	20.7	22.3	24
Mexico	17.4	17.4	17.4	17.4	16.0	16.0	16.0	16.7	17.4	25
Luxembourg	17.3	17.0	17.0	16.8	16.8	18.5	19.4	19.4	19.9	26
Estonia	17.1	17.1	17.1	17.1	17.1	17.1	18.1	19.1	20.2	27
Alberta	17.0	17.0	18.2	19.0	20.0	20.6	23.0	26.6	31.7	28
Hungary	16.1	16.1	16.1	16.1	16.6	16.6	16.6	15.3	14.7	29
Sweden	16.1	19.5	19.5	19.5	19.5	20.9	20.9	20.9	20.9	30
Slovak Republic	15.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	31
Quebec	15.2	15.2	17.5	18.5	19.9	21.1	26.2	33.7	36.1	32
Israel	15.0	15.0	14.3	15.0	15.8	16.5	18.0	19.5	19.5	33
Poland	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	34
Iceland	14.2	14.2	14.2	12.6	10.4	10.4	12.6	12.6	18.0	35

TABLE 5: METR FOR CANADIAN PROVINCES, RANKED AMONG THE OECD COUNTRIES (cont'd)

	Marginal Effective Tax Rate									2013 ranking
	2013	2012	2011	2010	2009	2008	2007	2006	2005	
Czech Republic	12.7	12.7	12.7	12.7	13.5	14.2	16.5	16.5	18.0	36
P.E.I.	11.4	28.1	29.2	29.8	30.7	31.2	33.4	37.0	37.5	37
Newfoundland	10.7	10.7	12.1	13.1	14.7	15.5	18.4	22.1	21.1	38
Ireland	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	39
Slovenia	9.8	10.5	11.8	11.8	12.4	13.1	13.8	14.5	15.2	40
Chile	7.7	7.7	7.7	6.7	6.7	6.9	7.1	7.3	7.3	41
Nova Scotia	6.9	6.9	9.6	11.6	19.6	21.0	24.2	29.3	28.1	42
Turkey	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	10.9	43
New Brunswick	3.8	2.8	4.3	6.3	8.6	16.9	21.0	27.1	22.3	44

The least competitive group includes three western provinces: B.C., Manitoba and Saskatchewan. The METRs for these three provinces are, in sequence, the fifth-, sixth-, and 14th-highest among the 44 jurisdictions.

The common feature of these three provincial tax systems is having a conventional retail sales tax, which is not based on value added and, hence, is not refundable when it is applicable to capital inputs such as building materials, machinery and equipment as well as intermediate goods (the latter are not included in effective tax-rate measures for capital investments). Note that the effective sales-tax rates applied in our METR model are based on revenue statistics classified by industry and by type of asset. Because of the partial exemption for capital inputs provided by governments, the effective sales-tax rates applied in our model are significantly below the corresponding statutory rates. For example, the aggregated effective sales-tax rate used in our METR model is well below four per cent for Manitoba and below three per cent for B.C. and Saskatchewan, despite their statutory tax rates ranging between five (Saskatchewan) and seven per cent (British Columbia and Manitoba). Still, every percentage point of retail sales tax levied on capital goods is a direct addition to the cost of capital and has a significant impact on the METR. In contrast, income taxes are levied on profit from capital investment net of tax allowances. Therefore, a provincial sales tax not based on value-added appears to entail a much higher tax cost compared to income taxes.

The second group includes Ontario, Alberta and Quebec, occupying the middle ground in the ranking of tax-competitiveness among the 44 jurisdictions. However, these three provinces are very different in terms of their tax structures. Alberta has the lowest corporate income tax rate (10 per cent) and the simplest tax structure because it provides few special tax incentives. Quebec has the highest corporate income tax rate (11.9 per cent) but the lowest METR among the three provinces. This is a result directly related to Quebec's investment tax credit (five per cent) provided for manufacturing and processing assets.²⁹ Ontario's general corporate income tax rate (11.5 per cent) is slightly lower than that of Quebec's, but it taxes manufacturing and processing and resource profits at a reduced rate (10 per cent).

²⁹ Quebec, and to a lesser degree Ontario, also provide numerous special tax incentives targeting selective business sectors (<http://www.revenuquebec.ca/en/entreprise/impot/societes/credits/>). We do not include these special tax provisions because they are so narrowly specified and have so little impact on aggregate results that no statistics are available for our modeling purposes.

The final group includes the four Atlantic provinces. They are among the most tax competitive of all 44 jurisdictions, with New Brunswick having the lowest METR ranking (44th) followed by Nova Scotia (42nd), Newfoundland and Labrador (38th) and P.E.I. (37th). This result is mainly attributable to the Atlantic Investment Tax Credit specifically provided to these provinces under the federal income tax. The relative ranking among these four provinces is then affected by the level of the provincial statutory corporate income tax rate and, to a lesser degree, the relative share of manufacturing and forestry industries, which are entitled to the Atlantic Investment Tax Credit. For example, compared to the other three Atlantic provinces, New Brunswick still has the lowest corporate income tax rate (11 per cent for 2013, although it will rise to 12 per cent in 2014) and has the largest share of manufacturing industry and, hence, the lowest METR. Our simulations show that, by eliminating the Atlantic Investment Tax Credit and additional provincial investment tax credits, which would require both the federal and provincial governments to take action, the four Atlantic provinces can keep their current tax competitiveness by substantially reducing their corporate income tax rates. The more important benefit from this change in tax structure is the increased tax efficiency that would result from taxing all business sectors equally.

PROVINCIAL DIVERSITY IN TAX EFFICIENCY

To further illustrate specific provincial tax features, Table 6A provides Canadian METRs by province and by industry for 2013. In comparison, Table 6B presents METR simulations for our proposed changes: (1) eliminating all the preferential tax treatments for manufacturing and processing assets, including the federal Atlantic Investment Tax Credit, provincial investment tax credits and “temporary” accelerated depreciation allowances for manufacturing and processing assets; (2) complete sales-tax harmonization with the GST across provinces; and (3) lowering all the provincial CIT rates to 10 per cent. This simulation is consistent with Simulation B presented in Table 2, which shows a significantly reduced METR dispersion across different asset types and industries.

TABLE 6A: MARGINAL EFFECTIVE TAX RATE ON CAPITAL INVESTMENT IN CANADA: 2013

	Forestry	Utility	Constr.	Manuf.	W. Trade	R. Trade	Transp.	Comm.	Other Services	Aggregate
Canada	2.3	19.3	24.7	7.2	23.1	23.4	19.7	23.8	25.3	18.6
NF	-51.0	NA	24.3	-40.1	21.8	23.5	19.4	22.0	21.8	10.7
PEI	-126.9	NA	26.5	-89.7	25.6	26.0	23.2	23.9	26.9	11.4
NS	-136.5	21.9	26.5	-105.6	25.4	25.7	21.1	23.9	23.7	6.9
NB	-44.4	17.9	21.9	-33.9	20.9	21.3	17.1	19.6	19.5	3.8
PQ	-3.5	18.7	22.7	2.2	22.1	22.4	17.1	20.4	24.6	15.2
ON	8.9	18.3	22.3	10.9	21.4	21.9	17.5	20.0	24.4	18.2
MB	-1.5	24.1	35.3	-0.5	30.1	29.8	27.3	38.4	35.6	26.2
SK	9.3	22.9	32.1	11.7	29.0	28.2	23.5	35.4	31.1	24.3
AB	9.6	17.2	21.0	13.1	20.1	20.4	16.6	18.8	18.7	17.0
BC	14.6	23.5	34.6	17.2	29.4	29.1	24.4	37.5	33.1	27.5

Source: Authors' estimate.

NA = non-applicable because of the insignificant share for the industry.

TABLE 6B: MARGINAL EFFECTIVE TAX RATE ON CAPITAL INVESTMENT IN CANADA: POLICY SIMULATIONS

	Forestry	Utility	Constr.	Manuf.	W. Trade	R. Trade	Transp.	Comm.	Other Services	Aggregate
Canada	16.7	17.2	21.0	18.2	20.1	20.4	16.1	18.8	18.5	18.3
NF	16.1	NA	21.0	19.4	20.1	20.4	16.4	18.8	18.5	18.6
PEI	16.7	NA	21.0	17.8	20.1	20.4	18.3	18.8	18.5	18.7
NS	16.6	17.2	21.0	18.3	20.1	20.4	16.5	18.8	18.7	18.6
NB	16.7	17.2	21.0	19.6	20.1	20.4	16.3	18.8	18.6	18.5
PQ	16.8	17.2	21.0	18.1	20.1	20.4	15.6	18.8	18.4	18.3
ON	16.7	17.2	21.0	17.9	20.1	20.4	16.4	18.8	18.5	18.3
MB	17.2	17.2	21.0	17.8	20.1	20.4	15.3	18.8	18.6	17.9
SK	17.0	17.2	21.0	19.5	20.1	20.4	16.0	18.8	18.4	18.1
AB	17.0	17.2	21.0	19.0	20.1	20.4	16.6	18.8	18.7	18.4
BC	16.6	17.2	21.0	18.1	20.1	20.4	15.8	18.8	18.5	17.9

Source: Authors' estimate.

NA = non-applicable because of the insignificant share for the industry.

* The simulation includes a 10-per-cent provincial CIT rate, no preferential treatment for manufacturing and processing assets, and complete sales tax harmonization with the federal GST for all provinces.

Several observations can be drawn from Table 6A and 6B:

First, the four Atlantic provinces display the most distorted tax structures among the 10 Canadian provinces, as indicated by the very negative METR for manufacturing and forestry industries and the very high METR for other industries compared to the provincial aggregated METR. This is a combined result from the generous Atlantic Investment Tax Credit, targeting only manufacturing and processing investment, and rather high provincial corporate income tax rates of up to 16 per cent. The most striking result is the excessively negative METR for manufacturing and forestry in P.E.I. and Nova Scotia, because these two provinces provide a 10-per-cent investment tax credit for manufacturing and processing assets in addition to the federal Atlantic Investment Tax Credit. Note that a negative METR does not mean tax refunds but tax savings associated with marginal investment, which can be used to offset tax liability associated with overall investment.

Second, the other strikingly distortive provincial tax structure is that of Manitoba. With its provincial sales tax not harmonized with the GST, Manitoba has the second-highest METR (26.2 per cent) among the 10 provinces. However, with a 10-per-cent provincial investment tax credit for manufacturing and processing assets, its METRs for manufacturing and forestry industries are both negative. This indicates an excessively unbalanced tax structure that discourages overall capital investment through a combination of a sales tax on capital goods and a relatively high corporate income tax rate (12 per cent) while encouraging investment only in manufacturing and processing activities through an overly generous investment tax credit.

Third, other provinces, except Alberta, share similarly distortive tax features favouring the manufacturing and processing sectors, albeit to a lesser degree. For example, Ontario taxes non-manufacturing and non-processing businesses at a higher rate, Quebec provides a five-per-cent investment tax credit for manufacturing and processing investment, and Saskatchewan provides a combination of both. B.C. does not provide any such obvious favours for manufacturing and processing activities, but it does provide more generous exemptions from the provincial sales tax for manufacturing and processing industries.

Fourth, in contrast to all other provinces, Alberta presents the simplest and most efficient tax structure, as indicated by the lowest dispersion in METRs across sectors. The only exception is its METR for manufacturing and forestry, which deviates significantly from the provincial aggregated METR. This is a result caused solely by the federal “temporary” fast-writeoff for manufacturing and processing assets and can be seen more clearly by comparing METRs for Alberta between Tables 6A (which presents the existing tax system) and 6B (which excludes the fast writeoff for manufacturing and processing assets).

And finally, as shown in Table 6B (and the policy simulation in Table 2), we can significantly improve our tax efficiency by eliminating all the preferential treatments for manufacturing and processing activities, harmonizing all the provincial sales taxes with the GST, and lowering all the provincial corporate income tax rates to 10 per cent.

In Table 6B, the significantly reduced variation in METRs across industries is largely related to the mismatch between tax and economic depreciation rates by class of depreciable assets. That is, for a given class of depreciable assets, a tax depreciation allowance higher (or, conversely, lower) than the economic depreciation rate contributes to a lower (or higher) METR. Therefore, an industry that incurs a higher (or lower) METR is often the industry that uses a larger share of capital assets associated with a higher (or lower) METR. As for the aggregated provincial METR, a higher (or lower) METR is largely related to a capital structure that has a higher share in the industry that incurs a higher (or lower) METR. For example, in Table 6B, where all of the tax factors are identical across provinces, Alberta appears to incur the highest METR. This is largely because Alberta has the highest capital share in the construction industry among all provinces, and the construction industry incurs the highest METR among all industries.

The implication for tax policy is the following: the federal government should continue correcting the existing mismatch between the tax and economic depreciation rates so as to further improve our tax efficiency. The incentives in place for manufacturing, for example, have not been effective in arresting the decline of the industry over the years.³⁰ It is like King Canute trying to stop the tidal waves. Sometimes it just does not work.

³⁰ Manufacturing incentives for capital investment were in place from 1972 to 1988, and from 2007 until now. Manufacturing still declined, much in the same way as in other OECD countries that also had manufacturing job losses. Chen and Mintz, “2012 Annual Global,” 12-13; and M. Krzepkowski and J. Mintz, “Canadian Manufacturing Malaise: Three Hypotheses,” *SPP Research* 6, 12 (March 2013).

CONCLUSION

In this version of the tax-competitiveness report, we are telling old stories that we have told in our previous tax reports concerning the Canadian tax structure. However, they bear repeating. The business tax system can be made more competitive and less distorted. Canada is at a crossroads where it could either give in to the political pressure to increase business taxes, as recently seen in some of the provinces, or reduce rates and broaden the tax base. We think the second road is a better path to follow.

So do other countries. U.K. policy-makers have set an example for us: the U.K.'s 23-per-cent corporate tax rate is already the lowest among the G7 countries and it treats all non-financial industries equally. It will tax all non-financial firms, regardless of their size, at a single corporate tax rate of 20 per cent by 2015. Other G7 countries are reducing their rates (e.g., Japan) or contemplating rate-reducing and base-broadening tax reforms (e.g., the United States).

Canada should not be complacent as other countries continue to reform their business tax systems. Canada could improve its competitiveness further if it broadened the tax base and lowered rates. Further, we will not maintain tax competitiveness for long if federal and provincial governments do not take the right path for reform. Raising the federal-provincial corporate tax rate, as some have recently proposed, is going down the wrong road. Instead, the best path to follow is to broaden tax bases and lower rates. It has worked well this past 13 years.

APPENDIX A

METHODOLOGY AND INFORMATION USED FOR ESTIMATING METRS

The estimates of marginal effective tax rates on new investment in this report are based on a methodology summarized in Duanjie Chen and Jack Mintz, “Taxing Business Investments: A New Ranking of Effective Tax Rates on Capital,” World Bank, 2008. Our model assumes a multinational company seeking to maximize value for its projects around the world, raising equity and debt financing from international markets. The company minimizes its cost of finance by choosing an optimal debt and dividend policy, taking into account tax and non-tax factors that influence financial decisions (independent of the investment decision). The cost of equity and debt is determined by international markets and is independent of the availability of domestic savings in a small open economy. Therefore, personal income taxes on dividends, interest and capital gains do not affect the multinational’s cost of financing, even though those personal taxes do affect personal savings decisions.

To calculate the effective tax rate on new investments, similar investment projects in manufacturing and service industries are assumed in each country. The same capital structure for eight industries (manufacturing, construction, utilities, communications, transport, wholesale trade, retail trade, and other services) is assumed across countries, using data for capital-stock weights developed by the Canadian Department of Finance. We also use Statistics Canada’s recently estimated economic depreciation rates, and apply them across all countries. For country-specific inflation rates and industrial structures (i.e., the relative GDP share for the manufacturing sector and services sectors, including all non-manufacturing, non-resource and non-agricultural industries), we rely on the latest statistics published on the UNdata website (data.us.org), except in the case of Canada and the U.S., for which we obtained capital share by industry from the Canadian government agency.

The standard method used to estimate marginal effective tax rates has been extensively documented. The formula based on this method has been modified to incorporate miscellaneous taxes such as capital or asset-based taxes and property-related taxes. Following are the general formulas used in this study. Note that these formulas are for profitable and, therefore, taxpaying firms only. For a tax-loss case, the formulas will be much more complicated and empirically based on the history and use of tax loss deductions.

(i) Marginal effective tax rate (t)

The marginal effective tax rate on a given type of capital is defined as the proportional difference between the gross-of-tax rate of return (r^G) required by a firm and the net-of-tax rate of return (r^N) required by an investor. r^G is the marginal revenue product (or user cost of capital, in equilibrium) net of economic depreciation. The after-tax rate of return is the weighted average of the return to debt and equity securities held by the financial investor. Thus, the effective tax rate (t) is defined as

$$t = (r^G - r^N)/r^G \quad (1)$$

(ii) The net-of-tax rate of return on capital (r^N)

The net-of-tax rate of return on capital is defined by the formula

$$r^N = \beta i + (1 - \beta)\rho - \pi \quad (3)$$

This is the rate of return on capital required by financial investors, or suppliers of investment funds to firms. Note that financial investors often include firms themselves when there is equity generated internally.

(iii) The real cost of financing (r^f)

The real cost of financing (r^f) is one of the main components of cost of capital, or gross-of-tax rate of return (r^G) on capital. The real cost of financing (r^f) is defined by

$$r^f = \beta i(1 - U) + (1 - \beta)\rho - \pi \quad (2)$$

with β = the ratio of debt to assets ratio, i = cost of debt, U = the statutory corporate income tax rate, ρ = cost of equity, and π = inflation rate. That is, the cost of financing for the firm is the weighted-average cost of financing net of the inflation rate.

(iv) The gross-of-tax rate of return (r^G) on capital³¹

A. Depreciable assets (i.e. buildings and machinery and equipment)

$$r^G = (1+tm)(r^f + \delta)(1 - k)[1 - A + \tau(1-U)/(\alpha + r^f + \pi)]/(1-U) - \delta \quad (4)$$

Where tm = tax on transfer of property, or a transaction tax (e.g., the state sales tax) on capital goods wherever this is applicable, r^f = real cost of financing as defined in Section (iii) above, δ = economic depreciation rate, k = investment tax credit rate, A = the present value of tax benefit from the investment allowance and depreciation allowance, τ = the state capital tax rate, and α = tax depreciation rate.

³¹ Formulas provided here are only for the regular case where companies are profitable and pay taxes. For the cases of Belgium, Brazil and Italy that provide an allowance for corporate equity financing costs, formulas are available upon request from the authors.

B. Inventory

$$r^G = (r^f + U\pi\zeta)/(1-U) \quad (5)$$

Where $\zeta = 1$ for the FIFO accounting method, 0 for LIFO, and 0.5 for the average cost method. Note that $\zeta = 0.5$ for the US model since both LIFO and FIFO are currently permitted.

C. Land

$$r^G = r^f [1 + \tau (1-U)/(r^f + \pi)]/(1-U) \quad (6)$$

(v) Aggregation

The METR for a given industry is the proportional difference between the weighted average of the before-tax rate of return by asset type and the after-tax rate of return; the latter is the same across asset types and sectors. That is, the marginal effective tax rate for industry i , t_i , is calculated as following:

$$t_i = (\sum_j r_{ij}^G w_{ij} - r_i^N) / \sum_j r_{ij}^G w_{ij} \quad (7)$$

where j denotes asset type (i.e. investments in buildings, machinery, inventories, and land), and w_{ij} denotes the weight of asset type j in industry i . (Refer to Step I in the spreadsheet)

APPENDIX B

CORPORATE TAXATION: STATUTORY PROVISIONS BY COUNTRY

	Statutory Corporate Income Tax Rate									Other Taxes	Capital cost allowance (%) ^(A)	Inventory accounting ^(B)
	2013	2012	2011	2010	2009	2008	2007	2006	2005			
Argentina*	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	(a)	2.0-20.0	FIFO
Australia	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		4.0-Flexible	Optional
Austria*	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	(b)	2.0-25.0	Optional
Bangladesh	27.5	27.5	27.5	27.5	27.5	27.5	30.0	30.0	30.0		10.0-100	Optional
Belgium	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0		5.0-33.0 (F)	LIFO
Bolivia	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0		2.5-25.0	FIFO
Botswana	22.0	22.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0		2.5-25.0 ^	Optional
Brazil	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0		4.0-20.0	Optional
Bulgaria	10.0	10.0	10.0	10.0	10.0	10.0	10.0	15.0	15.0		4.0-50.0	Optional
Canada*	26.3	26.1	27.6	29.4	31.0	31.4	34.0	33.9	34.2	(c)	4.0-55.0 ^	FIFO
Chad	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	45.0		5.0-33.3	Optional
Chile*	20.0	20.0	20.0	17.0	17.0	17.0	17.0	17.0	17.0		2.5-33.3	LIFO
China	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0		5.0-20.0	Optional
Colombia*	34.0	33.0	33.0	33.0	33.0	33.0	34.0	35.0	35.0	(d)	5.0-20.0	LIFO
Costa Rica	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		2.0-34.0	Optional
Croatia	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0		10.0-50.0	Optional
Czech Republic	19.0	19.0	19.0	19.0	20.0	21.0	24.0	24.0	26.0		2.0-33.3	Optional
Denmark	25.0	25.0	25.0	25.0	25.0	25.0	25.0	28.0	28.0		4.0-25.0	FIFO
Ecuador*	22.0	23.0	24.0	25.0	25.0	25.0	25.0	25.0	25.0	(e)	5.0-33.3	Optional
Egypt^	25.0	25.0	25.0	20.0	20.0	20.0	20.0	20.0	34.0		5.0-50.0	Optional
Estonia	21.0	21.0	21.0	21.0	21.0	21.0	22.0	23.0	24.0		N/A	NA
Ethiopia	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		5.0-25.0	Optional
Fiji	20.0	20.0	28.0	28.0	29.0	31.0	31.0	31.0	31.0		2.5-40.0	FIFO
Finland*	24.5	24.5	26.0	26.0	26.0	26.0	26.0	26.0	26.0	(f)	4.0-25.0	FIFO
France*	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	35.0	(g)	2.0-25.0	Optional
Georgia*	15.0	15.0	15.0	15.0	15.0	15.0	20.0	20.0	20.0	(h)	5.0-20.0 ^	Optional
Germany	30.2	30.2	30.2	30.2	30.2	30.2	38.9	38.9	38.9		3.0-33.3	LIFO
Ghana	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0		10.0-40.0	Optional
Greece*	26.0	20.0	20.0	24.0	25.0	25.0	25.0	29.0	32.0	(i)	5.0-20.0	Optional
Hong Kong	16.5	16.5	16.5	16.5	16.5	16.5	17.5	17.5	17.5		4.0-100 ^	Optional
Hungary*	19.0	19.0	19.0	19.0	20.0	20.0	20.0	17.3	16.0	(j)	2.0-50.0	FIFO
Iceland*	20.0	20.0	20.0	18.0	15.0	15.0	18.0	18.0	18.0	(k)	1.0-35.0	FIFO
India*	34.0	32.4	32.4	33.2	34.0	34.0	34.0	33.7	36.6	(l)	10.0-30.0	Optional
Indonesia	25.0	25.0	25.0	25.0	28.0	30.0	30.0	30.0	30.0		5.0-25.0	Optional
Iran	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0		5.0-17.5	Optional
Ireland	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5		4.0-12.5	FIFO
Israel	25.0	25.0	24.0	25.0	26.0	27.0	29.0	31.0	34.0		1.5-33.0	Optional
Italy	27.5	27.5	27.5	27.5	27.5	27.5	33.0	33.0	33.0		3.0-15.0	Optional
Jamaica	30.0	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3		2.5-22.5 ^	Optional
Japan	37.0	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5		2.0-50.0	Optional
Jordan	15.1	15.1	15.1	15.1	23.2	23.2	23.2	23.2	23.2		4.0-25.0	FIFO
Kazakhstan	29.9	29.9	29.9	29.9	32.0	40.5	40.5	40.5	40.5		10.0-40.0	Optional
Kenya	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		10.0-37.5 ^	Optional
Korea*	24.2	24.2	24.2	24.2	24.2	27.5	27.5	27.5	27.5	(m)	2.5-45.1	Optional
Kuwait	15.0	15.0	15.0	15.0	15.0	15.0	55.0	55.0	55.0		4.0-33.3	Optional
Latvia	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0		10.0-70.0	Optional
Lesotho	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	35.0		5.0-25.0	FIFO

	Statutory Corporate Income Tax Rate									Other Taxes	Capital cost allowance (%) ^(A)	Inventory accounting ^(B)
	2013	2012	2011	2010	2009	2008	2007	2006	2005			
Luxembourg*	29.2	28.8	28.8	28.6	28.6	29.6	29.6	29.6	30.4	(n)	1.5-25.0 ^	Optional
Madagascar	20.0	21.0	22.0	23.0	24.0	25.0	30.0	30.0	30.0		5.0-25.0	Optional
Malaysia	25.0	25.0	25.0	25.0	25.0	26.0	27.0	28.0	28.0		3.0-20.0 ^	FIFO
Mauritius	15.0	15.0	15.0	15.0	15.0	15.0	22.5	25.0	25.0		5.0-50.0 ^	Optional
Mexico	30.0	30.0	30.0	30.0	28.0	28.0	28.0	29.0	30.0		5.0-30.0	LIFO
Morocco	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	35.0		4.0-25.0	Optional
Netherlands	25.0	25.0	25.0	25.5	25.5	25.5	25.5	29.6	31.5		R-20.0	Optional
New Zealand	28.0	28.0	28.0	30.0	30.0	30.0	33.0	33.0	33.0		0.0-40.0	Optional
Nigeria	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0		10.0-25.0 ^	FIFO
Norway	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0		2.0-30.0	FIFO
Pakistan*	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	(o)	10.0-30.0	Optional
Peru	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		5.0-25.0	Optional
Philippines	30.0	30.0	30.0	30.0	30.0	35.0	35.0	35.0	35.0		Flexible	Optional
Poland*	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	(p)	1.5-30.0	Optional
Portugal	31.5	31.5	28.5	26.5	26.5	26.5	26.5	27.5	27.5		2.0-33.3	Optional
Qatar	10.0	10.0	10.0	10.0	35.0	35.0	35.0	35.0	35.0		5.0-33.3	Optional
Romania	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	35.0		1.67-50.0	Optional
Russia*	20.0	20.0	20.0	20.0	20.0	22.0	22.0	22.0	22.0	(q)	3.3-33.3 ^	Optional
Rwanda	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		5.0-50.0	Optional
Saudi Arabia	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0		5.0-25.0	Optional
Serbia*	15.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		2.5-30.0 ^	Optional
Sierra Leone	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		3.0-100.0 ^	Optional
Singapore	17.0	17.0	17.0	17.0	18.0	18.0	18.0	20.0	20.0		10.0-40.0 ^	FIFO
Slovak Republic	23.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0		5.0-25.0	Optional
Slovenia	17.0	18.0	20.0	20.0	21.0	22.0	23.0	25.0	25.0		3.0-50.0	Optional
South Africa	28.0	28.0	28.0	28.0	28.0	28.0	29.0	29.0	30.0		5.0-50.0 ^	Optional
Spain*	30.0	30.0	30.0	30.0	30.0	30.0	32.5	35.0	35.0	(r)	2.0-25.0	Optional
Sweden	22.0	26.3	26.3	26.3	26.3	28.0	28.0	28.0	28.0		2.0-20.0	FIFO
Switzerland*	21.1	21.2	21.2	21.2	21.2	21.2	21.3	21.3	21.3	(s)	1.5-20.0	Optional
Taiwan	17.0	17.0	17.0	17.0	25.0	25.0	25.0	25.0	25.0		2.0-33.33	Optional
Tanzania	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		5.0-37.5 ^	Optional
Thailand	20.0	23.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		5.0-33.33	Optional
Trinidad*	25.0	25.0	25.0	25.0	25.0	25.0	25.0	30.0	30.0	(t)	10.0-40.0 ^	Optional
Tunisia*	30.0	30.0	30.0	30.0	30.0	30.0	30.0	35.0	35.0	(u)	5.0-33.3	Optional
Turkey	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	30.0		2.0-25.0	Optional
Uganda	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		5.0-40.0 ^	Optional
U.K.	23.0	24.0	26.0	28.0	28.0	28.0	30.0	30.0	30.0		0.0-25.0	FIFO
Ukraine	19.0	21.0	23.0	25.0	25.0	25.0	25.0	25.0	25.0		5.0-50.0	Optional
U.S.*	39.1	39.1	39.2	39.2	39.1	39.3	39.3	39.3	39.3	(v)	MACRS	Optional
Uzbekistan*	16.3	16.3	16.3	16.3	17.2	17.2	17.2	19.0	19.0	(w)	5.0-20.0	Optional
Venezuela*	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	(x)	Flexible	LIFO
Vietnam	25.0	25.0	25.0	25.0	25.0	28.0	28.0	28.0	28.0		2.0-50.0	Optional
Zambia	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		2.0-50.0	FIFO
Average:												
G7	31.1	31.6	32.1	32.6	32.8	32.9	35.6	35.6	35.7			
Emerging G-20 (10)	27.1	26.9	26.9	27.0	27.2	27.6	27.7	27.8	29.3			
OECD (34)	25.5	25.4	25.5	25.6	25.7	26.0	27.0	27.5	28.2			
Non-OECD (56)	24.8	24.9	25.3	25.3	26.2	26.6	27.9	28.3	29.2			
All 90 Countries	25.1	25.1	25.4	25.4	26.0	26.4	27.5	28.0	28.8			

- A) This is the annual capital cost allowance (CCA) shown in the range from low to high: the lower number is normally for the most enduring buildings and the higher for the machinery and equipment that wears out fastest. In the table, numbers in italics indicate allowances based on the declining balance, otherwise allowances reflect straight-line rates; "flexible" means taxpayers are allowed to make their own estimate of reasonable capital cost allowances for tax purposes; and the sign ^ indicates additional allowances (such as an initial allowance or investment tax credit) are provided.
- (B) FIFO = first-in-first-out, LIFO = last-in-last-out, Optional = both FIFO and LIFO or average accounting method are allowed.

* Indicating additional taxes based on gross revenue or assets.

Note on "other taxes":

- (a) There is a local levy on gross receipts in Argentina. The tax rate varies across provinces although it is, in general, three per cent for commercial activities, 1.5 per cent for industrial activities and one per cent for primary activities. http://country.alibaba.com/profiles/AR/Argentina/taxes_accounting.htm
- (b) There is a one-per-cent capital duty on contributions to capital including retained earnings and a stamp duty ranging from 0.8 to 1.5 per cent on various legal transactions including loans. We apply a combined duty on assets: one per cent to all capital including both equity and debt.
- (c) Three Canadian provinces still have a conventional sales tax that is not based on value-added. The effective tax rate on capital goods in these provinces ranges from three to five per cent.
- (d) Colombia collects a municipal tax, and industry and commerce tax, on all industrial, commercial and service activities, based on the taxpayer's gross business revenue. The tax rates vary among municipalities; ranging from 0.414 per cent to 1.38 per cent in Bogota, and from 0.2 per cent to one per cent in other municipalities. We apply the average of high and low rates, 0.7485 per cent, to our METR model.
- (e) In Ecuador, there is a municipal business-net-worth tax levied annually at the flat rate of 0.15 per cent on net worth and an annual contribution to the administrative authority at the rate of 0.1 per cent of the value of fixed assets.
- (f) Finland levies a 1.6-per-cent transfer tax on the purchase of shares of Finnish companies based on the purchase price.
- (g) France levies a Territorial Economic Contribution, applied to real property business assets (according to Tax Notes International), and the tax is capped at three per cent of the value added. There is also a 0.5-per-cent social debt repayment tax on all income.
- (h) Georgia levies an assets tax on the annual average net book value of fixed assets
- (i) Greece collects a 1.1-per-cent capital duty on any kind of capital contribution including loans for increasing capital.
- (j) Hungary collects a two-per-cent local business tax on turnover, net of acquisition-cost of goods sold (i.e., the gross margin).
- (k) Iceland levies a 0.08-per-cent tax on "industrial activities," based on "operating revenues."
- (l) India collects a transaction tax of 0.125 per cent on share equity payable by both sellers and buyers.
- (m) Korea collects a 0.48-per-cent capital duty and a two-per-cent acquisition tax on property, which also applies to machinery and equipment.
- (n) Luxembourg levies a 0.5-per-cent net worth tax, based on net asset value (i.e., equity capital) annually.
- (o) Pakistan collects a 0.01-per-cent Capital Value Tax (CVT) on shares and securities of listed companies.
- (p) Poland: A 0.5-per-cent capital duty is levied on the nominal value of share capital including external loans.
- (q) Russia: An assets tax is imposed on the net book value of fixed assets with a minimum rate of 2.2 per cent.
- (r) Spain: A 1.0-per-cent- capital duty is levied on incorporation and equity addition.
- (s) Switzerland: There is a net equity tax at the canton level, ranging from 0.001 per cent to 0.525 per cent, and a one-per-cent stamp duty on a one-time capital contribution, with the first 1-million-francs' worth of Swiss shares exempted.
- (t) Trinidad: There is a 0.1-per-cent "green fund" levy on gross receipts.
- (u) Tunisia: There is a 1.0-per-cent tax on business turnover excluding value-added tax.
- (v) U.S.: Some states (e.g., Massachusetts) levy a tax on capital assets, and most states collect sales taxes on the purchase of capital goods. Our estimate of the average capital tax rate is 0.05 per cent and the effective sales tax rate on capital by industry ranges from two to 4.5 per cent.
- (w) Uzbekistan imposes several taxes based on turnover. These taxes include a school education development contribution (0.5 per cent) and road-use-fund contribution (one per cent to 2.5 per cent). Our estimate of the combined rate of such taxes is 2.5 per cent. There is also a 3.5-per-cent property tax applicable to machinery and equipment.
- (x) Venezuela: There is a municipal tax on business activities based on gross receipts or sales. The rate varies by industry and by jurisdiction, ranging from 0.5 to 10 per cent. We use the average of 5.25 per cent in our model.

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Jack M. Mintz was appointed the Palmer Chair in Public Policy at the University of Calgary in January 2008.

Widely published in the field of public economics, he was touted in a 2004 UK magazine publication as one of the world's most influential tax experts. He serves as an Associate Editor of *International Tax and Public Finance* and the *Canadian Tax Journal*, and is a research fellow of CESifo, Munich, Germany, and the Centre for Business Taxation Institute, Oxford University. He is a regular contributor to the National Post, and has frequently published articles in other print media.

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