2019

Current Tax Reading

Robin Boadway

Kim Brooks

Jinyan Li

Alan Macnaughton

canadian tax journal / revue fiscale canadienne (2019) 67:2, 481-98
https://doi.org/10.32721/ctj.2019.67.2.ctr

Current Tax Reading

Co-Editors: Robin Boadway, Kim Brooks, Jinyan Li, and Alan Macnaughton*

Alexandre Laurin, *Unhappy Returns: A Preliminary Estimate of Taxpayer Responsiveness to the 2016 Top Tax Rate Hike*, C.D. Howe Institute E-Brief
(Toronto: C.D. Howe Institute, September 27, 2018), 8 pages

Beginning in 2016, the federal government created a new tax bracket that starts at $200,000, and it increased tax rates in that bracket from 29 percent to 33 percent. Laurin investigates how much additional tax revenue was raised by that tax change.

The results of such an enquiry will depend on how the tax base at high-income levels responded to the tax increase. The high-income tax base in 2016 might have fallen if taxpayers had responded to the tax change by changing the timing of their (mainly dividend) income to 2015 in anticipation of the tax increase, or if they had changed their behaviour—for example, by choosing to earn less income. To the extent that the tax base falls, the revenue gain to the federal government from the increase in the tax rate is compromised. The tax revenues of the provinces, whose tax rates have not changed, unambiguously fall with the tax base.

Laurin provides a rough first estimate of these effects that is based on preliminary statistics released by the Canada Revenue Agency (CRA). His method of analysis is to compare the change in the tax base that occurred in the top income group with the change in the tax base that occurred in the next income group down. The latter change reflects economic factors other than the tax rate change. Reported income in the top bracket differed in two respects from that of the next income group down. First, the top tax base temporarily increased in 2015, then significantly declined in 2016. Laurin attributes this temporary increase to one-off forestalling—that is, moving some income up to 2015 that would otherwise have been reported in 2016. He estimates that this forestalling effect increased the income tax base by $20.6 billion in 2015, of which $13.7 billion was unwound in 2016. When forestalled income is removed from the data, there remains a reduction in taxable income of $5.7 billion, attributable to behavioural change. This translates into a short-run elasticity of taxable income of about 0.56, which is comparable to estimates in the literature.

* Robin Boadway is of the Department of Economics, Queen's University, Kingston, Ontario. Kim Brooks is of the Schulich School of Law, Dalhousie University, Halifax. Jinyan Li is of Osgoode Hall Law School, York University, Toronto. Alan Macnaughton is of the School of Accounting and Finance, University of Waterloo.

Laurin calculates that, as a result of these behavioural responses, the increase in the top tax rate yielded only one-third of the federal income tax revenues that would have been raised in the absence of this increase. He estimates the increase in tax revenue, when one-off forestalling is left out, to be $1.2 billion, about $0.8 billion less than budgeted. In addition, provincial tax revenues are estimated to have fallen by about $1.3 billion owing to the behavioural response, a loss that outweighs the gain in federal revenues.

Laurin suggests some policy responses. One would be to devote more resources to tax enforcement in order to reduce the behavioural response. A second would be to reduce the federal tax rate so that the combined federal-provincial rate does not exceed 50 percent. A third would be to double the income threshold at which the top tax rate applies. He estimates that this would cost the federal government $500 million (in the short run) but would, by expanding the base, increase provincial revenues by $700 million. Of course, all of these proposals presume that provincial tax rates do not respond to the federal changes.

R.B.

B. Cecilia Garcia-Medina and Jean-François Wen, "Income Instability and Fiscal Progression" (2018) 51:2 *Canadian Journal of Economics* 419-51

Employment and earnings are becoming more volatile as temporary work and self-employment become more common. Some of the uncertainty that this causes can, in principle, be addressed by employment insurance, but most workers that face fluctuating incomes are not eligible for such insurance, either because self-employment rules them out or because they are unable to meet the qualifying criteria. One policy that implicitly provides insurance to these workers is the progressive income tax and transfer system. This innovative paper by Garcia-Medina and Wen provides a quantitative evaluation of the changes in the income volatility of working-age households between 1993 and 2008, and the extent to which these changes were attenuated by the income tax system.

Income volatility is measured by the variance of the logarithm of transitory incomes for family incomes both pre-fisc (before income taxes and transfers) and post-fisc (after taxes and transfers). The ratio of post-fisc to pre-fisc variances, which is called "the stabilization ratio," indicates the extent to which the tax-transfer system mitigates transitory income volatility. Data used to obtain transitory incomes come from the longitudinal panel data reported in the Survey of Labour and Income Dynamics. Calculations are done for the entire working-age population, as well as for four subsets of the population differentiated according to the levels of education of the family head: (1) less than high school, (2) high school, (3) college, and (4) university. For each of these population groups, the variance of incomes is decomposed into permanent and transitory components through the use of well-known statistical procedures. The variance of the permanent components represents a measure of inequality, while the variance of the transitory components indicates volatility.

In the pre-fisc situation, the transitory income variance for the full population is roughly constant over time, and it is, on average, about 18 percent of total income variance. The variance of the permanent component increases by about 20 percent over the period, a result that reflects the growing inequality of market incomes. Similar patterns are found for the four education subgroups, but both permanent and temporary income variances tend to be higher for less-educated groups.

The stabilization ratios for the full population—that is, the ratio of post-fisc to pre-fisc variances of temporary income—rise over the period, from about 0.57 to 0.70. This means that, at the end of the period, only 30 percent of the pre-fisc income volatility was absorbed by the tax-transfer system, down from 43 percent at the beginning of the period. This reflects a reduction in tax progressivity, as discussed below. Broadly similar patterns apply for education subgroups. The stabilization ratio tends to be higher for more-educated households than for less-educated households. Thus, although less-educated families face more income volatility, less of this volatility is absorbed by the tax-transfer system.

To interpret these results in terms of income tax progressivity, Garcia-Medina and Wen derive a novel result. They take from the literature the notion of residual-income progressivity (RP), which is defined as the elasticity of post-fisc income with respect to pre-fisc income. This elasticity will be less for more progressive tax systems. RP can also be expressed as the ratio of 1 – MTR to 1 – ATR, where MTR is the marginal income tax rate and ATR is the average tax rate. The authors show that if RP is constant across income levels, its squared value is exactly equal to the stabilization ratio of variances. They present some empirical analysis to show that RP-squared is, statistically, virtually the same as the stabilization ratio.

For the population as a whole, RP-squared rises over time, showing that tax progressivity is decreasing. The increase in RP-squared is largely driven by increases in 1 – MTR—that is, decreases in the marginal tax rate that result from a flattening of the rate structure. Similar patterns apply for different education subgroups. The values of RP-squared increase for all groups, and they are higher for groups that have more education. Values of 1 – MTR also increase over time for all groups, and they are higher for more-educated families. 1 – ATR is relatively unchanged for all groups.

In summary, the main finding is that the ratio of transitory variances—the stabilization ratio—increased over the period, especially after the 1998-2001 period, when major income tax reforms occurred and when provincial social assistance rates were relatively low. At the same time, the tax-transfer system absorbs relatively more of the instability of less-educated families. Garcia-Medina and Wen do not pursue the policy implications of these findings, but one such implication, presumably, is that a return to general income averaging is worth investigating.

R.B.

Erich Hartmann, Jordann Thirgood, and Andrew Thies, *A Fair Fiscal Deal: Towards a More Principled Allocation of Federal Transfers*, Mowat Research no. 166 (Toronto: University of Toronto, Munk School of Global Affairs and Public Policy, Mowat Centre, July 2018), 25 pages

The federal tax-transfer system as a whole (including intergovernmental transfers), if it is considered in terms of a zero-sum exercise, is bound to have gainers and losers. The gainers and losers may be classified by income class, or, in the Canadian federal context, by provinces. Since different provinces are populated by different income distributions, higher-income provinces are likely to be losers, or (to use a less charged term) net contributors. In this report from the Mowat Centre, the question addressed by Hartmann, Thirgood, and Thies is whether the extent of the net contribution by Ontario residents as a whole is fair. The authors do not dispute that Ontario should be a net contributor to the federal tax-transfer system, but they argue that in the case of the major transfers to individuals and provincial governments, the design of the transfer system violates some basic fairness principles and that this works to Ontario's significant disadvantage.

To set the stage, Hartmann et al. calculate Ontario's net fiscal contribution for each of the 10 years from 2007 to 2016, along with the cumulative net contributions by each of the other provinces over the same period. This involves toting up (1) all federal tax revenues collected by each province, and (2) all federal transfers to each province and to the individuals who reside in each province. The difference is the net contribution. Ontario's annual net contribution ranges from $6.5 billion to $13 billion, and the cumulative 10-year total is $96.3 billion. This contribution is second only to that of Alberta, whose cumulative 10-year contribution is $228.6 billion. British Columbia and Saskatchewan were the only other net contributors. All other provinces were net beneficiaries, with Quebec by far the largest at $116.7 billion—although Quebec's benefit was lower than the others in per capita terms. Oddly enough, Ontario was an equalization recipient for most of the period, while Newfoundland and Labrador was a net recipient despite being ineligible for equalization for much of the period.

Hartmann et al. focus their remaining attention on the treatment of Ontario, and they argue, on the basis of some principled allocation methods that they propose, that this province contributed excessively compared with others. Their principles focus entirely on federal spending, and they presumably accept that the revenue-raising side is fair. They suggest that federal spending should be allocated among provinces (1) in a clear and transparent way; (2) fairly, no matter where the recipients live; (3) in accordance with the policy objectives of the transfer; and (4) predictably, though with flexibility. Depending on the transfer scheme involved, shares could be (1) equal per capita, (2) based on the size of a target population, (3) need-based, or (4) merit-based.

The authors use these principles to assess five major federal transfer programs that make up almost 70 percent of federal spending: equalization, social transfers (Canada Health Transfer/Canada Social Transfer [CHT/CST]), other transfers to provinces, employment insurance (EI), and old age security (OAS). Of these five, two are reckoned to be principled: CHT/CST and OAS. CHT/CST transfers are equal per capita, and the authors argue that this is reasonable, given that these social transfers are intended mainly to close a vertical fiscal gap between the revenue-raising and expenditure responsibilities of the provinces, and are not intended to address horizontal imbalances. (Given the fact that equal per capita transfers to the provinces financed by federal general revenues are in fact equalizing, one might quibble with this argument.) OAS transfers to the elderly are deemed to be fair on the grounds that they are intended to be needs-based transfers and are allocated on that basis.

The other three federal transfer programs are judged to be unprincipled and to work to the detriment of Ontario. Equalization is based only on revenue capacity and not on expenditure need. Given the relatively high wage level in Ontario, the cost of providing public services in that province is well above average and ought to be recognized in a principled equalization system. On the basis of a literal reading of the equalization commitment in section 36 of the Constitution,[1] one might reasonably argue that both expenditure needs and revenue capacities ought to be equalized. However, such a measure was ruled out as being too complicated and non-transparent by the report of the Expert Panel on Equalization and Territorial Formula Financing to the Department of Finance—the report upon which the current system is based.

Other transfers to the provinces consist of a variety of specific-purpose transfers to which it is hard to attribute a particular principle. Hartmann et al. use equal per capita transfers as a proxy principle, and they find that Ontario falls below the national per capita average in every year but one. They cite Labour Market Development agreements as an example of other transfers, and they argue that a reasonable criterion is to allocate such transfers on a per-client basis (that is, on the basis of the number of unemployed). They calculate that although Ontario has about 38 percent of the nation's population, it receives only 30 percent of funds under these agreements.

Finally, Hartmann et al. turn to EI. They argue that a principled allocation of EI benefits would be based on the number of unemployed in each province. Because of varying eligibility rules across the country and differences in regional employment patterns (for example, full-time versus part-time), Ontario's share of EI benefits falls far short of its share of unemployed. They calculate that if Ontario's unemployed received EI benefits on a per-client basis, the province would have received \$11.8 billion more during the 2016-2017 period than it received.

By increasing the fairness of equalization, EI and other transfers would reduce Ontario's net contribution significantly without eliminating it. The notion of an ideal allocation of transfers is well worth proposing and defending, though widespread consensus on what constitutes fair principles is unlikely. Hartmann et al. have staked a reasonable first claim.

R.B.

---

1 Constitution Act, 1982, being schedule B to the Canada Act 1982 (UK), 1982, c. 11.

Bridget J. Crawford and Anthony C. Infanti, eds., *Feminist Judgments: Rewritten Tax Opinions* (New York: Cambridge University Press, 2017), 329 pages

Feminist academics and practitioners have been rewriting judicial decisions at a fervent pace over the last 15 years. The first set of feminist rewrites (six judgments) was published in 2006 in the *Canadian Journal of Women and the Law*.[2] Academics in other countries followed suit, and collections of judgments have been released in the United Kingdom,[3] Australia,[4] the United States,[5] Ireland,[6] and New Zealand,[7] with feminists in other countries planning to add to this accumulating literature.

One might not have predicted that tax judgments would be the subject of feminist rewriting, yet that is precisely the project in Crawford and Infanti's spectacularly edited collection. The book features 11 rewritten American tax decisions—six Supreme Court decisions, one federal circuit court opinion, and four Tax Court opinions. The subject matter of the cases ranges from medical expense deductions, to tax-filing status, to Indian rights. This book may not be required reading for a practitioner who faces a daunting slate of technical amendments and new Canadian tax decisions. However, if you can find a quiet moment, you will find that the book offers some higher-order insights into the writing of tax law judgments.

The parameters for rewriting the judgments were strict. The authors had to rely on precedents and authorities available at the time that the initial decision was rendered. The earliest decision in the set was rendered in 1903, the most recent in 2013.[8] The contributors could write majority opinions (seven contributors did), dissents (two contributors did), or concurrences (one contributor did). The 11th author wrote a judgment that was in part a dissent and in part a concurrence. The length of the judgments was limited to 10,000 words.

In addition to the 11 decisions, *Feminist Judgments* includes a commentary on each. Each commentary, which precedes the case to which it relates, establishes valuable context for the judgment that follows. Each author was charged with explaining the original court decision, identifying how the rewritten judgment

2 (2006) 18:1 *Canadian Journal of Women and the Law* 1-376.

3 Rosemary Hunter, Clare McGlynn, and Erika Rackley, eds., *Feminist Judgments: From Theory to Practice* (West Sussex, UK: Hart, 2010).

4 Heather Douglas, Francesca Bartlett, Trish Luker, and Rosemary Hunter, eds., *Australian Feminist Judgments: Righting and Rewriting Law* (West Sussex, UK: Hart, 2014).

5 Kathryn M. Stanchi, Linda L. Berger, and Bridget J. Crawford, eds., *Feminist Judgments: Rewritten Opinions of the United States Supreme Court* (New York: Cambridge University Press, 2016).

6 Máiréad Enright, Julie McCandless, and Aoife O'Donoghue, eds., *Northern/Irish Feminist Judgments: Judges' Troubles and the Gendered Politics of Identity* (West Sussex, UK: Hart, 2017).

7 Elisabeth McDonald, Rhonda Powell, Mamari Stephens, and Rosemary Hunter, eds., *Feminist Judgments of Aotearoa New Zealand* (West Sussex, UK: Hart, 2017).

8 *United States v. Rickert*, 188 US 432 (1903) and *United States v. Windsor*, 570 US 744 (2013).

varies from it, and articulating how the feminist approach might have led to a different result.

The collection also includes a substantial contribution from Kathleen Lahey that is not a judgment. In this chapter, Lahey compares Canadian and American approaches to gender in constitutional and tax law. She underscores the importance of the Convention on the Elimination of All Forms of Discrimination Against Women[9] and of our Charter[10] as major factors in the differences between the Canadian and US approaches. She reviews the decisions of our Supreme Court in *Symes* and *Thibaudeau*,[11] contrasting their progressive spirit with the American aversion to affirmative action. Finally, she situates the book in the context of broader international initiatives that might assist in moving countries toward greater gender equality in the design of tax laws.

Ultimately, the editors of the collection note that the book's judgments and commentary suggest three conclusions:

> First, tax law is political. Second, statutes are just as subject to interpretation as constitutional provisions. And third, incorporating feminist methods or theories into the interpretive process of judicial decision-making can lead to results that may (or may not) vary from a decision that does not incorporate that perspective.[12]

K.B.

Vito Tanzi, *The Ecology of Tax Systems: Factors that Shape the Demand and Supply of Taxes* (Cheltenham, UK: Edward Elgar, 2018), 175 pages

Vito Tanzi has made a legacy contribution to a variety of international organizations, including the World Bank, the United Nations, and the International Fiscal Association (where he served for many years as the director of the Fiscal Affairs Department). The 12 chapters in this book are derived from some of his previous papers. The central claim of the book is that tax scholars and policy makers undervalue the supply-side influencers of tax design. He refers to these influencers as the "ecology of taxation." They include (1) the changing views of the economic role of government, (2) the structures of economies, (3) international relations, (4) technology, and (5) economic fluctuations and bubbles.

The book makes for fascinating reading. Among other attributes, it offers a summary glance at how dramatically the world has changed since many of our major tax systems were designed and implemented. Tanzi asks us to think about the consequences of changes such as the relaxation (and re-tightening?) of foreign trade

9 The Convention on the Elimination of All Forms of Discrimination Against Women was adopted by the United Nations General Assembly on December 18, 1979, and entered into force as an international treaty on September 3, 1981.

10 Canadian Charter of Rights and Freedoms, part I of the Constitution Act, 1982, supra note 1.

11 *Symes v. Canada*, [1993] 4 SCR 695 and *Thibaudeau v. Canada*, [1995] 2 SCR 627.

12 *Feminist Judgments*, at 20.

restrictions; the increasing derivation of personal income from the sale of labour to large enterprises; the concentration of wealth in fewer, larger units; the decline (or increase) in the share of national income from industries such as agriculture and mining; the rise (or decline) in rates of inflation; the availability of technologies (including the rise of the Internet and, presumably, of artificial intelligence) that facilitate tax collection and the imposition of new taxes; and changes to the education of the citizenry. It is likely that all of these factors have profound effects on the design of tax systems (and on the need for changes to that design), and yet we rarely explore these effects, choosing instead to focus our analytical energies on how taxes are designed to respond to revenue demands or on the economic implications of the imposition of particular taxes.

Each chapter addresses a high-level policy problem. Chapter 2 looks at the need for greater coordination among countries (echoing Tanzi's earlier calls for a world tax organization as a global public good). Chapter 3 identifies factors that promote tax complexity, suggesting that we should pay greater attention to the regular and continuous small changes that make tax systems increasingly complex. Chapters 4 and 5 turn to the seemingly intractable problem of taxing high-income individuals (including those who engage in tax evasion), and Tanzi chastises economic theories and the lack of international cooperation for their roles in reducing the amount of tax paid by people in the upper-income echelons. Chapter 6 investigates the relationship between fiscal crises, tax rates, and monetary policy, repeating Tanzi's common theme regarding the need for more harmonization (he urges the establishment of a European fiscal authority). Chapter 7 runs counter to the dominant discourse in some international tax circles, urging policy makers in lower- and middle-income countries to focus—before they rush to raise additional tax revenue—on how to raise taxes progressively and how to spend tax revenue without creating dependency and poverty traps. In a related undertaking, chapter 8 takes on the question of why developing countries have low tax levels; it concentrates on supply and governance factors and argues that the "ecology of taxation" approach facilitates understanding. Tanzi's contribution to tax reform in Latin America was substantial, and chapter 9 reflects his long-standing interest in the region; ultimately, his assessment is that the region has made a lot of progress in its tax policy but that the quality of public services remains insufficient (a finding that aligns with his position in chapter 8). In chapter 10, which turns to the question of what is needed to enhance fiscal capacity in developing countries, Tanzi's long-time service as an expert tax adviser is apparent. Finally, chapter 11 looks at revenue-sharing arrangements for federations—a once-popular but now seemingly dormant academic topic. In this chapter, he offers a typology of tax-assignment possibilities, with a brief evaluation of each. (Spoiler alert: he believes that there is no one-size-fits-all solution.)

Tanzi concludes with a final plea to tax experts to spend less time on narrow technical issues and more time on the factors that influence the design of tax systems.

K.B.

Jay A. Soled and Kathleen DeLaney Thomas, "Automation and the Income Tax" (2018) 10:1 *Columbia Journal of Tax Law* 1-48 (https://taxlawjournal.columbia.edu/article/automation-and-the-income-tax/)

The academic literature concerning the end of labour proliferates today, in the face of promises that robots will soon perform the major productive tasks of life—what we used to call "jobs." Soled and Thomas ask how the tax system will survive in the face of these anticipated transformations. Their short answer is, not well.

Set in the US context, section II of the paper provides a background to the labour-capital tax divide in the Code.[13] Section III offers a review of automation's effects. Section IV anticipates how Congress will need to respond if the tax system is to continue as a robust revenue-raising tool.

Not to dismiss the rest of the paper, but the summary in sections II to IV highlights a couple of matters worth dwelling on. First, in section II's background discussion, the authors provide a succinct statement of the rationales for treating labour, business profits and investment, and capital gains differently from one another in the current tax system. It is a useful, high-level discussion of these rationales, which aren't technical tax rationales. Instead, the authors primarily cite political and administrative rationales. Second, for those who have been trying to avoid reading about the (as it seems) inevitably transformative effects of automation, part III's review of these effects is well worth reading. Ultimately, the authors focus on three directions for congressional reform: embrace a universal progressive tax rate structure, reduce the subsidy to capital, and alter the approach to social security.

K.B.

Sebastian Beer, Ruud de Mooij, and Li Liu, *International Corporate Tax Avoidance: A Review of the Channels, Magnitudes, and Blind Spots*, IMF Working Paper WP/18/168 (Washington, DC: International Monetary Fund, 2018), 45 pages

Beer, de Mooij, and Liu have put together a useful primer on corporate profit shifting. It explains the various mechanisms used by multinational corporations (MNCs) to move reported profits among affiliates, and it summarizes the literature's empirical estimates of the magnitude of profit shifting. The estimate of such shifting is captured in the semi-elasticity of reported profits of an affiliate in a given country with respect to the international tax differential that the country faces. Specifically, the semi-elasticity measures the percentage change in reported profits in response to a one-percentage-point change in the tax differential, holding real activity fixed. Profit shifting results in a negative value for the semi-elasticity, with greater negative values indicating more responsiveness to tax differential changes. Beer et al. use a meta-analysis of existing studies to estimate a consensus value for the semi-elasticity.

13 Internal Revenue Code of 1986, as amended.

The paper begins with a cursory review of the key features of the international corporate tax environment, including the conventional tax treatment of the active and passive business income of MNCs, and the role of permanent establishments, controlled foreign company rules, withholding taxes, and tax treaties. This review is followed by a careful discussion of the many channels of profit shifting, including a survey of some of the empirical studies of each channel. Among the profit-shifting mechanisms discussed are transfer pricing, international debt shifting, relocation of intellectual property, tax treaty shopping, tax deferral through the postponement of profit repatriation, and the changing of country of residence by corporate inversion. Various anti-avoidance measures are briefly discussed, including transfer-pricing regulations, thin capitalization rules, controlled foreign corporation rules, and general anti-avoidance rules.

The core of the paper reviews the empirical evidence of aggregate profit shifting by all mechanisms collectively. Some 37 studies are reviewed, covering the period 1994-2017. The earlier studies use cross-sectional data, and more recent ones use firm-level panel data. The studies use variants of an estimating equation that regresses reported profits in country *i* (in logarithmic form) against the difference between the corporate tax rate in country *i* and the average corporate tax rate among affiliates of the same group. A number of control variables are added to account for other effects on affiliate profits, and there may be an interaction term (between the tax differential and other explanatory variables) that affects the elasticity of profit shifting. The estimated coefficient on the tax differential is the semi-elasticity of reported profits with respect to the tax differential. The 37 studies included in the meta-analysis yield 402 separate semi-elasticities, which have an average value of −1.6. Different subsamples yield comparable semi-elasticities. The semi-elasticities decline over time, which may reflect either a reduction in tax responsiveness or an increased use of more disaggregated data (firm-level versus country-level).

Through the use of the semi-elasticities observed in several studies, a meta-regression estimates an underlying semi-elasticity by controlling for structural differences among studies. Specifically, observed semi-elasticities are regressed against a constant term and against several dummy variables that capture (1) data features (micro versus aggregate), (2) the profit measures used (reported profit versus profit ratio), (3) the tax variables (statutory rate versus effective tax rate), (4) the measures of real activity and debt, and (5) time. The estimated constant term is the consensus semi-elasticity. A number of different specifications are estimated, and the preferred one yields a semi-elasticity of reported profits with respect to the tax differential of −0.98: a one percentage point increase in the tax differential leads to a reduction in reported profits of about 1 percent. The value of this semi-elasticity increases to about −1.4 if real activity is not controlled for. The estimated semi-elasticity increases in absolute value over time, from 0.6 in 1990 to 1.5 in 2015.

These estimates are used to estimate tax revenue losses induced by profit shifting in various countries. By far the largest of these losses is in the United States, where the estimated fall in corporate tax revenues in 2015 is 17.2 percent. This figure may be compared with a 4.1 percent fall for the largest 15 countries, and a 2.6 percent fall for all 30 countries in the sample (which does not include Canada). For the 15 countries with the lowest corporate tax rates, there is a gain in corporate tax revenues of almost 20 percent.

As the authors stress, many aspects of profit shifting are not addressed by the studies cited in the paper. Only aggregate profit shifting is estimated, not individual forms of profit shifting, and not the interactions between different forms. Nor is there evidence regarding variations in tax avoidance among countries or in the effects of anti-avoidance measures. Finally, there is little evidence concerning the interaction between profit shifting and the reallocation of real production activities among countries. Nonetheless, the magnitude of the semi-elasticities of reported profits with respect to the corporate tax differential lends support for concerns about pressures for international tax competition.

R.B.

Elias Steinmüller, Georg U. Thunecke, and Georg Wamser, "Corporate Income Taxes Around the World: A Survey on Forward-Looking Tax Measures and Two Applications" (2019) 26:2 *International Tax and Public Finance* 418-56

The stylized view of the evolution of corporate taxation in an increasingly globalized and open world economy comprises many elements. The safest prediction is that, as capital becomes more mobile, tax competition intensifies and corporate tax rates fall. This seems to have been borne out in practice, but, surprisingly, corporate tax revenues as a percentage of gross domestic product (GDP) have remained buoyant. The decline in corporate tax rates also reflects the common perception that this tax is unnecessarily distortionary and that it erodes investment and productivity in a highly competitive environment. Both the mobility of capital and the presumed effect of the corporate tax on investment suggest that the elasticity of the corporate tax base with respect to the rate may be high, thereby reducing the revenue-raising value of the corporate tax.

This study by Steinmüller, Thunecke, and Wamser sheds considerable light on these issues. It first documents changes in statutory and effective corporate tax rates for a large sample of countries around the world over the past two decades. It then uses these effective tax rates to estimate the responsiveness of both tax revenues and investment to effective tax rates.

Three well-known measures of corporate tax rates are compiled. First, statutory tax rates (STRs) are obtained for 178 countries from 1996 to 2016. On average, STRs declined each year over this period, but the decline was particularly pronounced from 1996 to 2011 (close to 8 percentage points), with only modest declines in subsequent years. All years saw considerable variation in STRs across countries. In the absence of other changes in tax policy, reductions in STRs might be expected to reduce tax revenues. Any broadening of corporate tax bases would counter that effect and might explain why, in practice, corporate tax revenues have remained buoyant.

To obtain a proxy of base-broadening measures, Steinmüller et al. calculate the net present value (NPV) of tax depreciation allowances for 142 countries between 2004 and 2016. Lower values of the NPV correspond with larger tax bases. The average NPV fell rapidly from 2004 to 2009, and has fallen very little since then. Although earlier studies have shown that STR reductions were accompanied by base-broadening in the 1990s and before, such broadening did not materialize in more recent years.

The second measure is the effective marginal tax rate (EMTR). This measure is of the share of profits paid in corporate taxes on the marginal investment. Higher EMTRs, which result from less generous deductions and credits for capital costs as well as from higher tax rates, reduce the incentive to invest. From 2004 to 2011, the average EMTR fell by about 3 percentage points, to 11.2 percent, and it has remained relatively constant since then. This is consistent with reductions in STRs that outpaced reductions in NPVs.

Finally, the effective average tax rate (EATR) measures the proportion of profits of the representative (non-marginal) investment project that is paid in corporate taxes. Like EMTRs, these rates decreased each year between 2004 and 2016, with the decline more rapid from 2004 to 2011. Overall the EATR fell by about 4 percentage points, to 18.4 percent, and varied across countries. Data were also presented on EMTRs and EATRs at the industry level over the period 2004-2014.

The latter part of the paper uses these data to undertake two empirical applications. First, the paper estimates the relationship between countries' tax revenues and each of the three measures of effective tax rates. The preferred estimates regress tax revenues against the chosen effective tax rate, the tax rate squared, the GDP growth rate, and both year and country fixed effects. For each of the three effective tax rates, the relationship between tax revenue and the tax rate takes the form of a Laffer curve—that is, an inverted U-shape relationship. In the case of the STR, the peak of the Laffer curve, corresponding with maximum corporate tax revenue, is at a tax rate of 31 percent. However, this peak occurs at an EMTR of 17 percent and an EATR of 27 percent. These are average values across the 112 countries included in the estimation. These revenue-maximizing effective tax rates exceed the average STR, EMTR, and EATR values observed in practice. The implication is that tax rates could be increased to generate more tax revenue. Steinmüller et al. suggest that tax competition accounts for a reluctance to do so.

The second empirical application involves estimating the responsiveness of investment in fixed assets to the three effective tax rates (STR, EMTR, EATR) and to the NPV, as well as to various control variables that affect investment. Separate equations are estimated for the EMTR and the EATR, and for the STR and NPV combined. In each case, the effective tax rate has a negative effect on investment that is, statistically, highly significant. The NPV has a weakly significant positive effect. The elasticities of investment with respect to each of the effective tax rates are comparable and are in the range of −0.33 to −0.4—relatively large elasticities. The elasticity of investment with respect to the NPV is about 0.90.

Overall, this paper represents one of the most detailed studies to date of international effective corporate tax rates and their effect on tax revenues and investment.

It confirms that these effects are substantial, and it reflect the constraints that policy makers face in choosing tax policies.

R.B.

Assaf Likhovski, *Tax Law and Social Norms in Mandatory Palestine and Israel* (Cambridge, UK: Cambridge University Press, 2017), 335 pages

In an era of growing interest in tax collection and enforcement, Likhovski's comparative and historical reflection on that topic, in the context of Mandatory Palestine and Israel, may be of some interest. Likhovski documents the changing attitudes toward the payment of taxes through the Ottoman, Mandatory Palestine, and Israeli regimes. Although these regimes once benefited from a kind of intimacy with citizens, which facilitated largely voluntary financial transfers to the state, the social and economic change of the 1960s brought a need to replace voluntarism with compliance measures that were, increasingly, legally enforced. Concurrent with this change was the rise of the tax profession, which saw its role not as assisting citizens in their civil duty to yield income to the state but, instead, as facilitating the reduction of tax obligations. This book is an enjoyable read, in part because of Likhovski's willingness to reach beyond conventional legislative and judicial sources. He adds depth to the tax-collection story by offering references to the film and literature of the relevant eras.

K.B.

Mick Moore, Wilson Prichard, and Odd-Helge Fjeldstad, *Taxing Africa: Coercion, Reform and Development* (London: Zed Books, 2018), 276 pages

The International Centre for Tax and Development (ICTD) was established in 2010. It produces research on a variety of tax-related subjects of interest to scholars, practitioners, and policy makers who care about the role that taxation plays in advancing pro-poor economic growth and good governance.

In *Taxing Africa*, Mick Moore, Wilson Prichard, and Odd-Helge Fjeldstad pull together and elaborate on insights from the growing body of research inspired by the ICTD. The book is written for the non-technician. Its nine chapters delve into a range of current tax dilemmas and situate those dilemmas in the local specificities of Africa (if a continent can have local specificities). Of particular interest for technical tax specialists are chapter 4, which focuses on international tax challenges (from an African perspective); chapter 5, which turns to the challenges of taxing the extractives industry; and chapters 6 and 7, which address taxation issues in federated states.

Throughout the book, the authors elaborate on six themes. First, they emphasize the considerable variety of Africans' experience with tax systems. Although some large taxpayers (including multinationals) engage with corporate, personal, and value-added tax systems that are comparable with the systems of countries on other continents, many taxpayers engage only with levies that the authors term "informal taxes." These informal taxes are collected in person by tax collectors and are often connected with local governments instead of central ones. The authors distinguish this world of informal tax collection, labelling it "small taxes," and they note that it merits separate and substantial study—study that has often been lacking.

Second, the authors draw attention to the increasing significance of fairness discussions in Africa. These discussions centre on the tax mix that best achieves national distributive goals. Supranational organizations, such as the International Monetary Fund, have been focused on value-added taxes for some time, and the authors note (with approval) that greater attention is being paid to property taxes. They push for studies that go beyond the theoretical incidence of taxes to provide a better understanding of who actually pays which taxes. For example, a highly progressive income tax that is evaded by the wealthy may not, in fact, be a progressive tax in practice.

Third, the authors agonize about how African governments should respond to international tax pressures, including tax havens and illicit financial flows. They caution African ministries of finance to be skeptical of lobbyists, and they focus considerable analysis on the extractives industry.

Fourth, the challenge of tax reform looms large as a theme of this book. In that respect, the authors join a long list of others who have attempted to understand the relationship between tax collection, tax morale, public spending, and tax technologies. They label as dysfunctional many of the relationships between central and local governments in Africa.

Fifth, on a related theme, the authors underscore the need for accountability in the quest for more effective taxation in Africa. Like Vito Tanzi, the authors acknowledge the increasing pressure on African states that has resulted from initiatives, such as the United Nations' Sustainable Development Goals, to raise revenue from taxation, and they warn that, without a viable plan for how that revenue will be used to increase public goods (including that of a more effective public sector), the aspirations to improve the quality of life in Africa will not be realized.

Finally, the authors argue that taxation in Africa must be understood in its historical context. In particular, the imposition of tax laws derived from outside the African context hampers the effectiveness of taxation in Africa. On this point, however, the authors find reason for optimism in the rise of civil-society organizations in Africa and in the creation of the African Tax Administration Forum.

K.B.

Daniel Halliday, *The Inheritance of Wealth: Justice, Equality, and the Right To Bequeath* (Oxford: Oxford University Press, 2018), 235 pages

Growing concerns about income inequality, along with less prevalent (but, presumably, even more urgent) concerns about wealth inequality, justify spending some time with Daniel Halliday's excellent and highly readable contribution to the literature. In this book, Halliday concerns himself with exploring the political philosophies that support the individual right to transfer wealth and with those philosophies that would favour the constriction of this right. His aim is to assess whether inherited wealth limits social justice. Ultimately, he concludes that some kinds of inherited wealth (for example, multigenerational transfers) are more justice-infringing than others (for example, first-generation transfers).

Halliday identifies a number of harms that flow from inherited wealth, but he focuses most attention on the "egalitarian complaint . . . that [inherited wealth] helps keep the life prospects of individuals unjustly dependent on being born into families that possess substantial wealth."[14]

Most of the book is devoted to the explication of the various justificatory theories supporting equality and of the harms created by deep wealth inequality. The theories that he considers include early liberal theories (chapter 2), classic utilitarian theories (chapter 3), and libertarian theories (chapter 6). Halliday also dedicates chapters to the relationship between inheritance and luck (chapter 4), the harm of economic segregation (chapter 5), and the compounding effect of such segregation when it spans multiple generations (chapter 6). He presents these middle chapters as connected to contemporary egalitarian views.

Halliday's analysis of the interaction of tax as an instrument for reducing wealth inequality, with its harmful segregationary consequences, is concentrated in chapter 8. In this final chapter, he draws substantially on the Italian theorist, Eugenio Rignano, who argued that inheritance taxes should be more significant when the inheritance is rolled over more than once. Simplified, the underlying theory is that the availability of wealth through multiple generations creates the possibility for parents (and grandparents) to create informal (and in some cases formal, depending on the timing of the wealth transfer) conditions of social segregation early in the lives of their children. (Single-generation transfers, by comparison, come too late in the lives of the children-inheritors to result in changes to these children's social clustering.) In addition, single-generation transfers may actually facilitate the dispersion of wealth and ensure a robust middle class, justifying a reduced tax rate on those transfers. Halliday does not offer a precise description of the kind of tax system that he imagines, and therefore no "off-the-shelf" solution is offered to policy makers here. However, he does invite readers into a more than unusually textured and morally grounded discussion of inheritance taxes, and his book may serve as a springboard for governments that are interested in thinking through how they can respond to growing public concerns about wealth inequality. Ultimately, Halliday's work as a political theorist is a welcome contribution to the literature on wealth inequality (and on what might be done about it), popularized by economists such as Piketty.

K.B.

14 At 4.

Elliott Ash and Omri Marian, *The Making of International Tax Law: Empirical Evidence from Natural Language Processing*, UC Irvine School of Law Legal Studies Research Paper no. 2019-02 (Irvine, CA: University of California, Irvine School of Law, 2019), 46 pages (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3314310)

The era of "big data" tax scholarship has not arrived, but this article proclaims its approach. Ash and Marian use natural-language processing to offer insights into the international tax consensus as it is reflected in the text of income tax treaties. Their data set comprises 4,052 bilateral tax treaties, as well as the model treaties promulgated by the Organisation for Economic Co-operation and Development (OECD), the United Nations (UN), and the United States; and seven other models.

The article takes as its inspiration Reuven Avi-Yonah's claim that international tax has become a form of international law. Ash and Marian's task was to assess the trends in tax treaty negotiation in order to assess whether those instruments are becoming increasingly harmonized. Presumably, to the extent that such harmonization is occurring, the claim that international tax is international law (and that states therefore have limited ability to "go it alone") is strengthened.

The article addresses three questions: (1) Is there an increase in the textual consensus among bilateral tax treaties? (2) Are there some articles on which tax treaty negotiators are more aligned than others? (3) Which of the available models has the most influence on the drafting of tax treaties?

It seems a shame to spoil the surprise of the article. The authors find that the similarity among treaties increased between 1970 and 2010 and decreased slightly after 2010. The increase between 1970 and 2010 was not simply the result of increased similarity in language (a controlled factor); rather, it was a result of the fact that, over time, some articles (those concerned with intercompany pricing, taxation of cross-border business income, and mutual agreement procedures) become more similar while others (those concerned with assistance in collection) do not. In answer to the question of which model treaties seem most influential, the authors identify the OECD as playing a leading role: treaties concluded after a new OECD model is released follow the language in the new model. Interestingly, however, the authors find that the UN model has become increasingly influential in recent years—including as an influence on the language of the OECD model. They suggest that the UN influence on the OECD model might be explained by an increased willingness, in the international context, to allocate taxing rights to the source state. Ultimately, the authors conclude that their analysis aligns with the view that the international tax consensus is growing.

K.B.

International Monetary Fund, "Upgrading the Tax System To Boost Productivity," *IMF Fiscal Monitor: Achieving More with Less*, April 2017, 45-91 (www.imf.org/en/Publications/FM/Issues/2017/04/06/fiscal-monitor-april-2017)

This paper is a chapter in a broader study that addresses recent productivity issues. The paper focuses on how the corporate tax system can reduce a nation's productivity by causing resources to be misallocated from more productive to less productive activities within given industries. It adopts an innovative empirical approach to identifying the sources of low productivity, and it offers some well-worn advice on how to address the issues.

The paper begins by documenting the remarkable decline in the growth of total factor productivity (TFP) since the 2008 financial crisis, especially in emerging-market and developing economies but also, to a less dramatic extent, in advanced ones. It then uses firm-level data to estimate the extent to which resource misallocation across activities within economies accounts for low productivity. The paper argues that, except in the case of new firms, a positive relationship ought to exist between firm size and productivity, and that this positive relationship will be weakened by market distortions.

To provide an empirical estimate of the consequences of such distortions, the paper calculates "revenue productivity" levels by firm, where revenue productivity is the product of physical productivity and output price. For firms in a given industry, the pattern of the dispersion of revenue productivity gives an indication of potential resource misallocations. The paper finds that, for many manufacturing and service industries, there is a wide dispersion of revenue productivities among firms, with a small number of high-productivity firms co-existing with a large number of low-productivity ones. It is estimated that, for advanced economies, the TFP gains from equalizing revenue productivity among firms is on the order of 16 percent for manufacturing industries. The gain is even higher for service industries and for emerging and developing economies. In the long term, this translates into a higher growth rate of 0.7 percent in advanced economies, 1.3 percent for emerging-market economies, and 0.9 percent for developing economies.

Next, the paper illustrates the various ways in which tax policy and tax administration can influence the allocation of resources among firms and thereby influence TFP. Tax policy effects are reflected in the differences in EMTRs by capital asset type, by source of financing, by size of firm, and by degree of informality, particularly in developing countries. Each of these factors can be relevant for firms in the same industry. Larger differences in the EMTR for machinery as compared with buildings lead to lower resource-allocation efficiency in machine-intensive industries, and they cause underinvestment in machinery. Similarly, corporate debt bias, measured by the EMTR on equity minus the EMTR on debt, results in lower resource-allocation efficiency in research-and-development-intensive industries, which tend to rely more on debt finance. Distortions caused by tax disparities and by debt bias can both be eliminated by a cash-flow tax or by a system with an allowance for corporate equity.

Preferential tax treatment of small as opposed to large firms compromises productivity by limiting firm growth. This occurs if the tax preferences are capped by some eligibility threshold regardless of the age of the firm. The paper points to evidence that suggests that the potential TFP gain from eliminating size-related tax incentives is 0.8 to 2.9 percent. It argues that preferential tax treatment should target new firms rather than small ones.

A final source of resource misallocation is the one between formal and informal firms. Given that the latter are non-compliant with taxes, they are preferentially treated and are able to stay in business despite being less profitable than tax-compliant (formal sector) firms. Evidence suggests that this can be a significant source of production inefficiency in emerging-market and developing economies—a problem that can best be addressed by improving the tax administration.

The evidence presented in this paper about the inefficiency effects of tax distortions is international, and it is especially strong in respect of lower-income countries. Some of it rings true for Canada as well.

R.B.