
FINANCES OF THE NATION

TAXATION OF TOP INCOMES IN CANADA—RECENT DEVELOPMENTS IN RATES AND REDISTRIBUTION

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The “Finances of the Nation” feature presents annual surveys of provincial and territorial budgets and data-driven analyses of taxation and public expenditures in Canada. This series is a successor to the annual monograph titled Finances of the Nation (and, previously, The National Finances), published from 1954 to 2013 by the Canadian Tax Foundation.

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In this article, Michael Smart presents evidence on the evolution of top tax rates and tax progressivity since 1982. While top tax rates have recently increased substantially, the impact of these changes on redistribution through the tax system has been rather small to date. Smart suggests some possible explanations for this finding.

KEYWORDS: TAX RATES ■ TAX REVENUES ■ REDISTRIBUTION ■ EQUALITY

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INTRODUCTION

“Practical men,” wrote Keynes, “who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist.”¹ Well, the world moves faster now. In the age of Twitter, the economist no longer needs to be “defunct” to influence policy. Far from it.

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1 John Maynard Keynes, *The General Theory of Employment, Interest and Money* (Cambridge, UK: Cambridge University Press, 1936), at 383.

Consider top income taxation. In the early 2000s, some influential economists began to document the remarkable rise in the income share of the top 1 percent in some western countries, and to analyze its implications for tax policy.² By 2008, “We are the 99 percent” became a rallying cry for the Occupy movement, and governments around the world began to respond with new taxes on the income and wealth of the rich. In Canada, seven provinces and the federal government have introduced new top brackets since 2010, with higher marginal tax rates and in many cases substantially higher income thresholds than were previously the norm.

In this brief article, I present evidence on tax rates and the degree of tax progressivity in the Canadian system since 1982. While new top brackets and new higher top marginal rates are headline-grabbing, their impact on redistribution through the tax system has been rather small to date. As I show below, the share of income taxes paid by the top 1 percent of taxpayers has risen substantially over the past 30 years. But this reflects rising inequality more than the effects of taxes per se. According to the data, the average effective tax rate applying to top incomes remained unchanged in the years following the recent increases in provincial tax rates—before rising slightly with the increase in the top federal rate in 2016. Measured by a standard index used in the economic literature, the overall progressivity of the Canadian income tax system also remained essentially unchanged throughout this period.

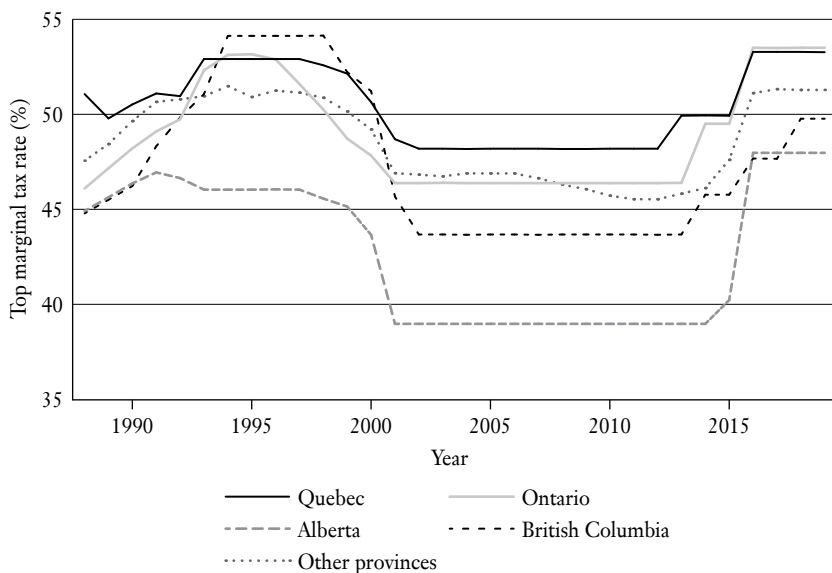
Thus, the impact of recent tax changes on redistribution has been small. I suggest a few candidate explanations for this finding: the new bracket thresholds are too high; the rate increases are too small; or the opportunities for high-income tax avoidance are too great. In all, top tax rates would have a greater impact on progressivity if they applied at lower thresholds than currently—say, at incomes around \$125,000. I conclude with a brief discussion of future opportunities for reforming the taxation of top incomes.

TOP-BRACKET TAXATION OVER TIME

Figure 1 shows the evolution of top marginal tax rates among provinces since 1988.³ The pattern is clear. Top rates in Canada had fallen with the tax reforms of 1981 and 1987, but then started to rise again in the 1990s, largely because of increases in federal surtaxes during an era of deficit fighting under the Mulroney and Chrétien governments, including a high-income surtax that applied to the top 2 percent of taxpayers. The early 1990s also saw increases in some provincial tax rates. By the end of the decade, the tide had turned again toward tax flattening. Federal surtaxes were abolished in 1999 and 2000. As well, the 2000 tax year saw the introduction of the “tax on income” system, which allowed provincial governments under tax

2 For example, Thomas Piketty and Emmanuel Saez, “Income Inequality in the United States, 1913-1998” (2003) 118:1 *Quarterly Journal of Economics* 1-41 (<https://doi.org/10.1162/00335530360535135>).

3 Figure 1 is based on data from Kevin Milligan, “Canadian Tax and Credit Simulator: CTaCS,” version 2019-1 (<http://faculty.arts.ubc.ca/kmilligan/ctacs/>).

FIGURE 1 Combined Federal-Provincial Top Marginal Tax Rates, 1987-2019

collection agreements to levy taxes as a function of taxable income rather than as a percentage of basic federal tax. This new provincial flexibility led to a major tax-flattening reform in Alberta in 2000, followed by less dramatic reductions in top rates in other provinces. With these changes, the weighted average top marginal rate fell to 44.8 percent in 2001, compared to 51.3 percent in 1998.

The latest episode of top-rate increases also originated at the provincial level, with a new top-bracket rate instituted by Nova Scotia in 2010, followed by Ontario in 2012 and other provinces subsequently, and with the new federal top bracket first applying for the 2016 tax year. The current top marginal rates and top-bracket thresholds are reported in table 1. Since 2009, new top brackets have been created in seven provinces. The average of top rates, weighted by provincial shares of top-income taxpayers, is now 19.3 percent, up from 16.2 percent in 2009. Coupled with the 4 percentage point rise in the federal top rate in 2016, this represented a substantial rise in combined top tax rates. As a result of these changes, the combined federal-provincial average top marginal tax rate has increased by 7 percentage points since 2009. More relevant for taxpayers' decisions is probably the take-home rate (1 minus the marginal tax rate), which has decreased by 12.5 percent on average since 2009.

Although top rates have increased, there have also been marked increases in the threshold income at which these rates apply—which, as we will see, tend to blunt the impact of the rate increases. The weighted average of provincial top-bracket thresholds is now over \$210,000, compared to just over \$125,000 in 2009. The federal top-bracket threshold has increased commensurately.

TABLE 1 Top Marginal Tax Rates and Bracket Thresholds, 2019

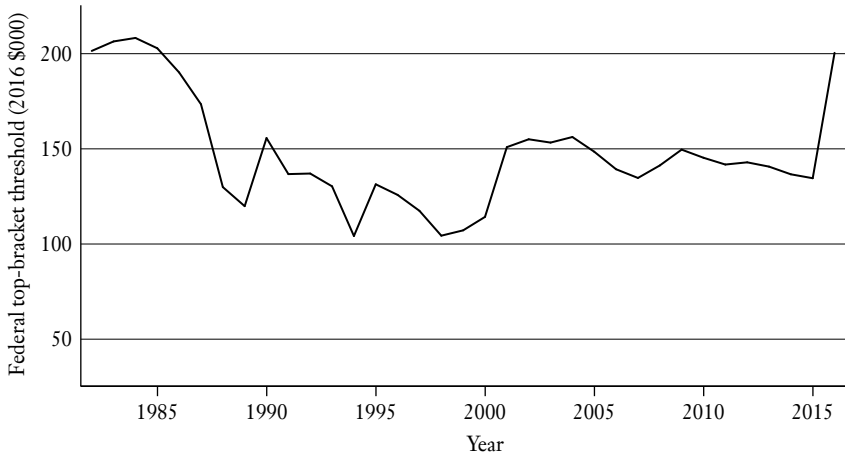
| Province | Tax rate (%) | Bracket threshold (\$) | Change in tax rate since 2009 (%) |
|-------------------------------------|--------------|------------------------|-----------------------------------|
| Newfoundland and Labrador | 18.3 | 175,100 | 2.8 |
| Prince Edward Island | 18.4 | 101,200 | 0.0 |
| Nova Scotia | 21.0 | 150,100 | 1.8 |
| New Brunswick | 20.3 | 157,900 | 3.3 |
| Quebec | 25.7 | 107,700 | 1.7 |
| Ontario | 20.5 | 224,500 | 3.1 |
| Manitoba | 17.4 | 70,700 | 0.0 |
| Saskatchewan | 14.5 | 129,300 | -0.5 |
| Alberta | 15.0 | 315,000 | 5.0 |
| British Columbia | 16.8 | 154,000 | 2.1 |
| Federal | 33.0 | 210,500 | 4.0 |

Note: Data are rounded to nearest \$100.

Just how significant are those increases, given that prices and nominal incomes are also increasing over time? Figure 2 shows the evolution of the federal top-bracket threshold from 1982 to 2016 (the latest year for which taxable income data are available).⁴ To render the nominal thresholds comparable over time, I have deflated them to 2016 dollars using an index of the growth in the 99th percentile of taxpayer incomes in each year up to 2016. Thus, in 2016, the federal top bracket started at \$200,000, which was about 81 percent of the 99th percentile income, whereas in 1982 the top bracket started at \$58,100, which was also about 81 percent of the then prevailing 99th percentile. In this sense, the top bracket meant roughly the same thing to taxpayers in 1981 as it does today. However, figure 2 shows that the top bracket was lower in relative terms in the intervening period. We can distinguish three different reasons for the fall in the top threshold over the period:

1. After 1985, tax brackets were no longer fully indexed to inflation. As nominal incomes rose with rising inflation, many more taxpayers were brought into the top bracket. In effect, this was a “stealth” tax increase on middle-bracket taxpayers, which increased real tax revenues without any legislated change in rates—and which had substantial, if perhaps unintended, consequences for tax progressivity.
2. In 1987, a major tax-flattening reform was enacted, replacing 10 brackets with just 3 and reducing the top threshold substantially.
3. In 2000, the top threshold was increased by legislation, and full indexation was restored. This brought the threshold back to around 60 percent of the 99th percentile income (\$150,000 in terms of the 2016 income distribution), where it roughly remained until the 2016 changes.

⁴ Top income shares appear anomalous for 1994 and so have been omitted from the data used in this article.

FIGURE 2 Federal Top-Bracket Threshold, 1982-2016, Real 2016 Dollars

IMPLICATIONS FOR TAX PROGRESSIVITY

Marginal tax rates are important for economists studying the effects of taxation on the economy, but they are comparatively unimportant for taxpayers' welfare, because they apply only to income reported above the relevant bracket threshold. What really matters to taxpayers is their total tax burden, not the marginal tax rate paid on the last dollar of taxable income reported. In turn, what really matters to economists assessing redistribution through the tax system is how total tax burdens vary with taxpayers' individual incomes.

To study redistribution, consider instead the average tax rate—that is, an individual's total tax burden expressed as a percentage of his or her total income. Economists generally define a tax system as progressive if the average tax rate increases with income, and regressive if the opposite is true. (If the average tax rate does not vary with income, the tax system is proportional.) While this is merely a definition, and value-free in principle, it clearly embodies the ethical notion that individuals' ability to pay taxes increases with increasing their income. This conclusion might, for example, be derived from the utilitarian perspective on social welfare, under the restriction that the marginal social benefit of individual income decreases as income rises.

Progressivity is fundamentally a local concept, in that average tax rates might be increasing at some income levels and decreasing at others. Actual tax systems may be more or less progressive—or even regressive—over different ranges of incomes and for different types of taxpayers. This has led to a search of aggregate measures of the degree of redistribution of taxes over the full range of incomes, to which I turn below.

Table 2 shows the average effective tax rate paid across the 2016 distribution of income, aggregated from individual tax returns and available through Statistics

TABLE 2 Effective Tax Rates and Concentration Curves for Income and Taxes, 2016

| Income group | Average income | Effective tax rate | Cumulative share of income | Cumulative share of taxes |
|-------------------|----------------|--------------------|----------------------------|---------------------------|
| | <i>dollars</i> | | <i>percent</i> | |
| P0-10 | 3,631 | 0.1 | 0.7 | 0.0 |
| P10-20 | 12,351 | 0.2 | 3.3 | 0.0 |
| P20-30 | 18,634 | 1.0 | 7.1 | 0.3 |
| P30-40 | 24,267 | 3.4 | 12.0 | 1.3 |
| P40-50 | 31,625 | 7.0 | 18.5 | 4.1 |
| P50-60 | 39,659 | 9.9 | 26.6 | 9.0 |
| P60-70 | 48,673 | 12.4 | 36.5 | 16.6 |
| P70-80 | 61,398 | 15.1 | 49.0 | 28.3 |
| P80-90 | 80,965 | 18.0 | 65.5 | 46.5 |
| P90-99 | 130,957 | 22.6 | 89.6 | 79.9 |
| P99-99.9 | 376,595 | 30.7 | 96.5 | 92.9 |
| P99.9-99.99 | 1,293,950 | 32.6 | 98.9 | 97.7 |
| P99.99+ | 5,561,356 | 32.9 | 100.0 | 100.0 |

Sources: Statistics Canada, “Federal and Provincial Individual Effective Tax Rates,” table 11-10-0054, and “High Income Tax Filers in Canada,” table 11-10-0055, and author’s calculations.

Canada.⁵ This measures total federal and provincial income taxes as a share of income, but excludes payroll taxes.⁶ The available data are for vingtiles (five percentile bins) of income, plus information on the top 1 percent. To get more detail on the distribution of taxes paid at the top of the distribution, I augment the data with information from Statistics Canada’s High Income Tax Filers database,⁷ which reports income and tax shares for the top 1, 0.1, and 0.01 percent of the distribution. While the measurement concepts in the two data sources are somewhat different, the totals appear to be very close where the data overlap. Merging the two data sources, it is possible to show the distribution of income and taxes in four groups of progressively higher incomes and smaller size within the top decile.

5 Average effective tax rate is defined as total income tax payments divided by total income in each vingtile (5 percent group) of the income distribution. The data are from Statistics Canada, “Federal and Provincial Individual Effective Tax Rates,” table 11-10-0054, which is in turn derived from microdata in the Longitudinal Administrative Databank (LAD), a confidential microdata sample of individual tax returns maintained at Statistics Canada. The vingtile data are here aggregated to deciles in table 2 for concision. In constructing indexes of progressivity below, I use vingtiles, not deciles.

6 Payroll taxes might be regarded as less progressive than income taxes.

7 Statistics Canada, “High Income Tax Filers in Canada,” table 11-10-0055. The definition of income in this data source is “total income with capital gains,” which appears to be close to “modified total income” from the vingtile-level data. Note that this income measure exceeds line 236, “net income” on the T1 return largely by the inclusion of 100 percent of realized capital gains and of certain tax-exempt income sources.

By and large, the Canadian personal income tax system is progressive. As shown in table 2, average income tax rates increase with income across deciles. Taxfilers⁸ in the bottom 30 percent of the distribution pay average tax rates of less than 1 percent, reflecting the impact of the income exemption through the personal amount and of non-refundable tax credits that bring basic federal tax to zero in most cases.⁹ Average tax rates rise through middle incomes, reaching 24 percent on average in the top decile and 31 percent on average in the top 1 percent. There is little average rate progression within the top 1 percent, since the top-bracket thresholds in most provinces and federally remain below that income level.

Table 2 also shows the cumulative share of taxes paid and income received by each income group, which gives a broader measure of progressivity. Thus, for example, the bottom 99 percent of taxfilers received 89.6 percent of total income in 2014, but paid only 79.9 percent of income taxes. Equivalently, the top 1 percent paid 20.1 percent of total income taxes while receiving 10.4 percent of total income.

When depicted graphically over all quantiles of income, these cumulative shares are known as the concentration curves for income and taxes, which are shown in figure 3 for the 2016 data. The concentration curve for income (the solid line in figure 3) is better known as the Lorenz curve, a standard depiction of income inequality. If all individual incomes were equal, the Lorenz curve would be the 45-degree line of perfect equality. The Gini coefficient, a standard index of income inequality, is measured as the area between the Lorenz curve and the 45-degree line (multiplied by 2, so that it takes on values between 0 and 1). A Gini coefficient of 0 indicates complete equality, whereas a Gini of 1 would indicate a condition of extreme inequality, in which all income accrued to the very richest individual.

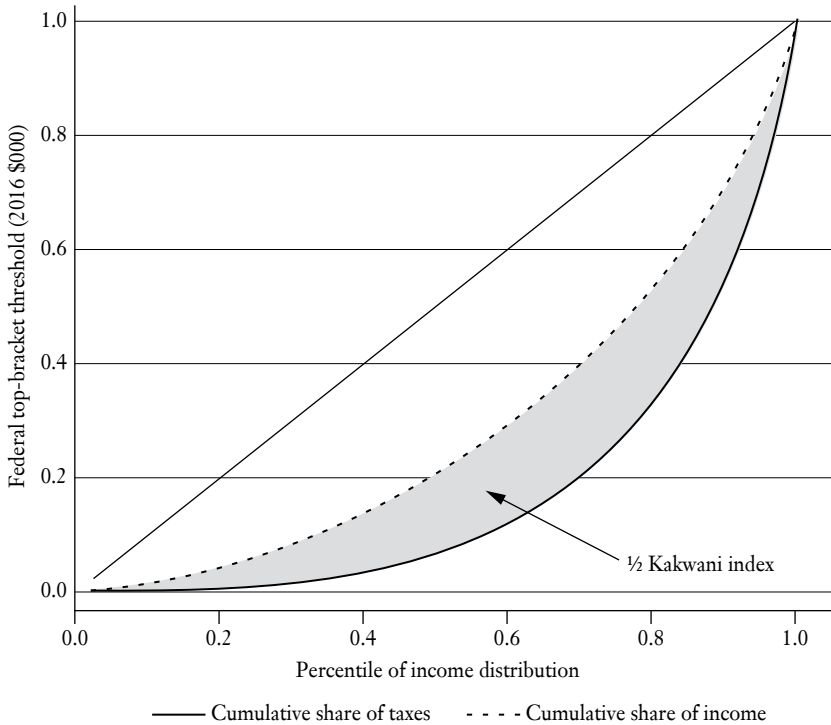
In figure 3, the tax concentration curve (the dashed line) lies everywhere below the income concentration curve, because lower-income taxfilers pay a lower-than-proportional share of taxes. The area between the income and tax concentration curves can therefore be regarded as a numerical measure of the degree of tax progressivity. This measure (again multiplied by 2, so that values lie between 0 and 1 for a progressive tax) is known as the Kakwani index of tax progressivity.¹⁰ (The Kakwani index can also be thought of as the difference in areas above the two concentration curves, so that it can also be equivalently measured as the difference

8 When speaking of the full distribution of tax payments, the term “taxfiler” is preferred to “taxpayer,” recognizing that a high proportion of low-income individuals pay zero or negative income tax, after deducting refundable and non-refundable tax credits.

9 Under the federal government’s current accounting conventions, payments received under the Canada child tax benefit and its successor programs are treated as government spending rather than tax reductions. If these payments were instead netted from tax payments as in past practice, average tax rates reported for the bottom half of the income distribution would be substantially lower.

10 Nanak C. Kakwani, “Measurement of Tax Progressivity: An International Comparison” (1977) 87:345 *Economic Journal* 71-80 (<https://doi.org/10.2307/2231833>).

FIGURE 3 Tax and Income Concentration Curves, Canada, 2016



between the Gini coefficient for taxes and the Gini coefficient for incomes.) The Kakwani index for 2016, implied by the data in figure 2, is 23.8 percent, indicating a relatively high degree of redistribution through taxes relative to international norms.¹¹

PROGRESSIVITY OVER TIME

How has progressivity changed over time, particularly at the top? Figure 4 depicts the share of total income taxes paid by the top 1 percent of taxfilers, together with their corresponding share of total income including capital gains. As shown in figure 4, the share of income taxes paid by top taxfilers rose beginning in 1989 with the introduction of the high-income surtax, and peaked in 2000, when top 1 percent taxfilers received 12.7 percent of incomes and paid 21.9 percent of all income taxes. The top share of taxes then began to decrease, following the abolition of surtaxes in 1999 and 2000.

11 See, for example, Gerlinde Verbist and Francesco Figari, “The Redistributive Effect and Progressivity of Taxes Revisited: An International Comparison Across the European Union” (2014) 70:3 *FinanzArchiv* 405-29.

FIGURE 4 Tax and Income Shares and Average Tax Rates of Top 1 Percent Taxpayers, 1982-2016

However, the top income share rose simultaneously with the increase in top tax share, albeit less dramatically. (In a progressive tax system, increases in income tend to lead to increases in average tax rates of taxpayers, and thus more-than-proportionate increases in tax liabilities, exactly as observed in figure 4.) By 2014,¹² the top 1 percent's share of income was 11.6 percent and of taxes was 20.5 percent, providing a rough measure of the extent of tax progressivity at the top. The top percentile's average effective tax rate actually declined following its peak in the late 1990s. In this sense, much of the variation in the top tax share over time reflects changes in income, rather than tax policy choices per se.

It is useful to have a measure of changes in tax progressivity over time that reflect the effects of policy changes alone, and not the effects of changing inequality. The Kakwani index cannot be used to compare progressivity over time: as income inequality grows, the share of tax paid by top quantiles rises, moving the two concentration curves apart in figure 3 and increasing the index value, even in the absence of any tax policy changes. To deal with this, we need a version of the index that is invariant to changes in the underlying distribution of income.

One way to achieve this with the available data is to simulate the distribution of tax payments that would have been observed in each year by multiplying the observed average effective tax rates for each income group and year by a fixed average income

12 Tax and income distribution data are currently available up to 2016, but here I disregard the 2015 and 2016 tax years, where reported incomes of high-income taxpayers were likely influenced by the federal top rate increase, which was announced in 2015 and which probably led to intertemporal shifting of incomes—for example, through capital gains realizations.

in each bin. This gives a measure, albeit a somewhat crude one, of how the distribution of tax payments would have changed over time, given the changes in tax policy, if the distribution of individual incomes had remained constant. I have constructed simulated tax concentration curves using the observed effective tax rates for the vingtile income bins (plus the four quantiles within the top 1 percent). The area between this function and the actual 2014 income concentration curve therefore gives a simulated Kakwani index of tax progressivity that captures differences in tax policy over time, but not differences in actual incomes.

Figure 5 shows the evolution of the Kakwani index of tax progressivity since 1997 for the simulated tax distribution. The results are perhaps surprising. By this measure, tax progressivity has remained relatively stable since 2009 despite the new brackets and higher top marginal rates. Indeed, the index declined slightly through most of the period, before rising somewhat in 2016. In contrast, the index of progressivity did increase quite substantially between 1992 and 1996, when the federal high-income surtax was in place, and between 2004 and 2009, when top tax rates were relatively stable, but there were decreases in marginal tax rates on middle tax brackets and real increases in the thresholds at which higher tax rates applied. This led to a decrease in average tax rates for taxpayers around median income, relative to the top decile, shifting a higher share of taxes to the top taxpayers and increasing progressivity.¹³ Regardless, tax progressivity has not changed much, despite the increases in top tax rates.

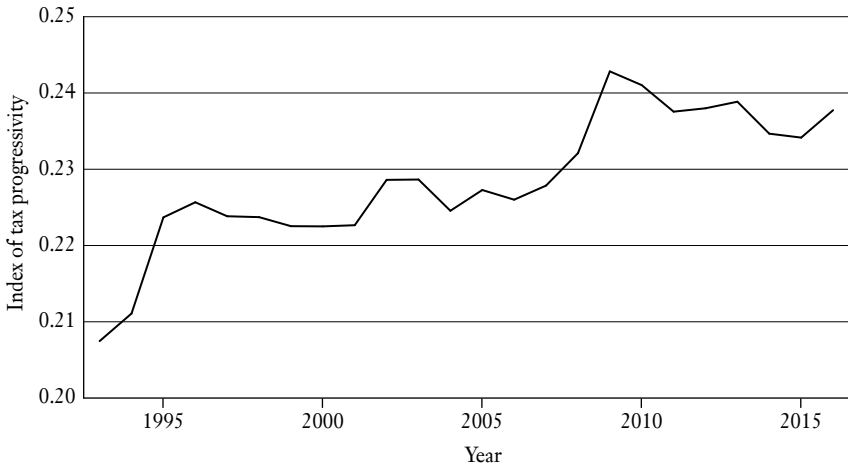
As discussed above, the Kakwani index is just one metric of average rate progressivity throughout the income distribution, and, like the Gini index of inequality, it puts a high weight on incomes in the middle of the distribution, perhaps disproportionately so relative to top incomes. The Suits index is an alternative measure of progressivity that reweights the distances between concentration curves in figure 3, putting a higher weight on top incomes.¹⁴ But the Suits index applied to our data shows essentially the same pattern as depicted in figure 5 for the Kakwani index. Again, the reason is that average tax rates on the top percentile of incomes have not changed much in Canada, while tax rates just below the top have actually declined.

WHY HAVE NEW TOP RATES HAD SUCH LITTLE EFFECT?

The foregoing discussion tells us that although top marginal tax rates have increased since 2009, as yet there has been little impact on redistribution. What can account

13 The data used in these calculations are derived from a 20 percent sample of tax returns that is included in Statistics Canada's Longitudinal Administrative Databank. In this sense, the index numbers reported are statistical estimates of underlying population parameters, but I do not have sufficient data to compute standard errors of those estimates. The reported differences in the index of tax progressivity over time are, however, small, and the changes discussed here might not be statistically significant.

14 See John P. Formby, Terry G. Seaks, and W. James Smith, "On the Measurement and Trend of Inequality: A Reconsideration" (1989) 79:1 *American Economic Review* 256-64.

FIGURE 5 Kakwani Index of Tax Progressivity, 1992-2016

for this? While the discussion here is preliminary and a bit speculative, one may suggest a couple of candidate explanations.

The first candidate explanation is that top-bracket thresholds are simply too high for top marginal rates to have much impact on redistribution. As noted above, the new federal top-bracket threshold has been set close to the 99th percentile of the distribution of taxable income (and higher in some provinces).¹⁵ Marginal tax rates apply only to taxable income above the threshold, and income is unequally distributed even within the top bracket, with disproportionately more taxpayers reporting incomes close to the threshold than there are at higher incomes in the bracket. Thus, an increase in the marginal tax rate in the top bracket raises comparatively little revenue from most taxpayers in the bracket, and its impact on average tax rate progression is small. That is indeed what the data show. The average tax rate of taxpayers in the top 1 percent remained roughly stable as provincial top rates increased between 2009 and 2015, before rising slightly with the new federal top bracket in 2016 (see figure 4). This suggests that if new top tax rates are to have much impact on tax revenues or tax progressivity, the bracket threshold should be lower than it is today. For example, reducing the federal top threshold from \$210,500 to around \$125,000 would bring the top 5 percent of taxpayers into the bracket, thereby raising more revenue and increasing progressivity.

The second candidate explanation is tax-avoidance responses. High-income taxpayers may change behaviour in various ways to offset the impact of rate increases, such as shifting income into lightly taxed forms such as dividends and capital gains or into corporate form, availing themselves of more tax deductions and credits, or moving income or tax residence out of the jurisdiction entirely. If tax-avoidance

15 Ontario and Alberta currently have thresholds above the federal level. New Brunswick and Ontario briefly experimented with even higher thresholds in recent years.

responses are large, reported incomes fall so much as marginal tax rates rise that tax revenue may actually fall. It is even possible that an increase in the top marginal tax rate causes the average tax rate in the bracket to fall, as a result of shifting income into lightly taxed forms. In this sense, tax-avoidance responses undermine the potential for redistribution through high marginal tax rates at the top.

So just how large are avoidance responses? An expansive literature in economics over the past 20 years has sought to estimate the elasticity of taxable income (ETI)—that is, the percentage reduction in average reported income resulting from a 1 percent decrease in the taxpayer's take-home share (1 minus the marginal tax rate). The range of estimates in the literature¹⁶ is fairly wide, varying across jurisdictions and taxpayer income levels, as well as depending on specifics of the statistical methodologies used by researchers. Examining the links between changes in top income shares and top marginal tax rates in the provinces during the 1988-2011 period, Milligan and Smart estimated the ETI to be approximately 0.7 for Canada.¹⁷ This estimate comes from differences in tax rates among provinces, and so may reflect taxpayers' ability to shift income interprovincially in Canada—for example, through the use of trusts. A federal tax rate increase that is common to all provinces might therefore be associated with a smaller ETI.¹⁸ However, many studies of high-income taxpayers in Canada and other countries have found tax responsiveness of similar magnitude.¹⁹

In subsequent work, Milligan and Smart used the estimated ETI to simulate the potential revenue gains from increases in provincial top marginal tax rates, starting from the actual tax rates and provincial distributions of taxable income prevailing in 2011.²⁰ They found that a 5 percentage point increase in top rates (close to what actually occurred in most provinces by 2016) would actually result in net revenue losses to federal and provincial treasuries, in all provinces except Alberta. In other words, avoidance responses are sufficiently large, and top marginal tax rates sufficiently high in Canada, that further tax rate increases would not increase

16 For an excellent survey, see Emmanuel Saez, Joel Slemrod, and Seth H. Giertz, "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review" (2012) 50:1 *Journal of Economic Literature* 3-50 (<https://doi.org/10.1257/jel.50.1.3>).

17 Kevin Milligan and Michael Smart, "Taxation and Top Incomes in Canada" (2015) 48:2 *Canadian Journal of Economics* 655-81 (<https://doi.org/10.1111/caje.12139>).

18 See Kevin Milligan and Michael Smart, "An Estimable Model of Income Redistribution in a Federation: Musgrave Meets Oates" (2019) 11:1 *American Economic Journal: Economic Policy* 406-34 (<https://doi.org/10.1257/pol.20160600>).

19 For example, 0.84 is the average of top income elasticities in research surveyed in Raj Chetty, "Bounds on Elasticities with Optimization Frictions: A Synthesis of Micro and Macro Evidence on Labor Supply" (2012) 80:3 *Econometrica* 969-1018 (<https://doi.org/10.3982/ECTA9043>).

20 K. Milligan and M. Smart, "Provincial Taxation of High Incomes: The Effects on Progressivity and Tax Revenue," in David A. Green, W. Craig Riddell, and France St-Hilaire, eds., *Income Inequality: The Canadian Story* (Montreal: Institute for Research on Public Policy, 2015), 479-507.

revenue, unless more were done to limit tax-avoidance responses. While Milligan and Smart did not study impacts on average rate progressivity per se, it is clear that the potential in Canada for redistribution through rate increases on the top 1 percent is limited at best.

CONCLUDING REMARKS

In this brief article, I have described the evolution of top income tax rates in Canada since 1982, and examined implications for the progressivity of the tax system. The new top brackets and higher top marginal rates enacted by Ottawa and many provinces since 2009 have had only minor impacts on tax revenue and redistribution through the tax system. More important for progressivity were earlier reforms, which affected taxes for a far larger share of the population.

Ongoing policy debates in the United States and Canada have focused on reforms that would impose much higher marginal tax rates on income, but only at much higher bracket thresholds. A recent proposal for a 70 percent marginal rate on incomes over \$10 million was framed in US policy circles, but it appears to have some resonance for Canadians as well. The analysis in this article suggests several reasons for caution here. Such a high bracket threshold would severely limit the impact of the reform (less than 0.01 percent of Canadians reported incomes over \$3 million in 2016), and tax-avoidance responses would almost certainly outweigh the direct effects of such a tax increase on revenues. The data clearly show that, to increase tax progressivity, it is necessary to target rate increases at lower thresholds of top income, or to address preferential tax rates on capital income and avoidance opportunities available to top taxpayers.

