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FISCAL AND TAX POLICY

## Shifting the Federal Tax Burden to the One-Percenters: A Losing Proposition

by  
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- The new government in Ottawa has committed to increase the tax burden on the richest 1 percent of earners and redistribute the proceeds by reducing the burden on middle-income earners. As presented in the Liberal election platform, the changes would be more or less revenue neutral.
- Very high-income taxpayers, however, have been found to be more sensitive than others to tax rate hikes. The reason: high-income earners find ways to reduce taxable income, leading to a shrinkage in the tax base.
- Using a measure of behavioral response consistent with a large body of recent economic literature, this paper estimates that the high-income tax rate could bring in less than \$1 billion in revenue for the federal government, well short of the new government's expectation of \$2.8 billion, as set out in its electoral platform.
- Critically, the same shrinking of the tax base would cost provincial governments an estimated \$1.4 billion in revenue.
- We estimate the federal tax changes could result in national tax receipts falling short of commitments for both federal and provincial levels of government by more than \$4 billion, meaning higher taxes elsewhere, unplanned spending cuts, or larger increases in government debt.
- The government should adopt prudent budgeting practices with respect to the potential impact of taxpayers' response, consistent with recent experiences estimated in the literature. Markets and taxpayers tend to prefer positive budget surprises to negative ones.

The federal government's election platform promised measures that would shift more of the federal tax burden from middle-income earners to high-income earners. The tax rate on taxable income greater than \$200,000 would rise from 29 to 33 percent. The tax rate on taxable income from

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\$45,000 to \$90,000 would drop from 22 to 20.5 percent. As presented in the Liberal platform, the changes would be more or less revenue neutral: the new top rate is supposed to bring in as much as the decreased middle-income rate is supposed to forego (Liberal Party of Canada 2015).

A more probable scenario, however, is that the response of high-income taxpayers to changes in rates will likely be much greater than anticipated. And the middle-income bracket rate reduction will likely cost more than anticipated as well.

The result of the federal tax changes could be national tax receipts falling short of commitments for both levels of government by more than \$4 billion, meaning higher taxes elsewhere, unplanned spending cuts, or larger increases in government debt.

## People and Taxes: How Do Taxpayers Respond?

Taxpayers tend to respond to taxes and tax changes – individuals with higher incomes, in particular. Confronted by a marginal income tax rate increase, high-income taxpayers may respond in various ways. Some may reduce work effort, for instance by choosing leisure over more work.<sup>1</sup> Others may also plan their affairs in a way to minimize their tax burden. Tax planning can involve, for example, postponing an important taxable transaction, modifying income sources and forms of compensation, and moving to, or avoiding moving from, a lower-tax jurisdiction. In short, taxpayers tend to react to high taxes by attempting to reduce their taxable income (Dahlby 2008, Canada 2010).

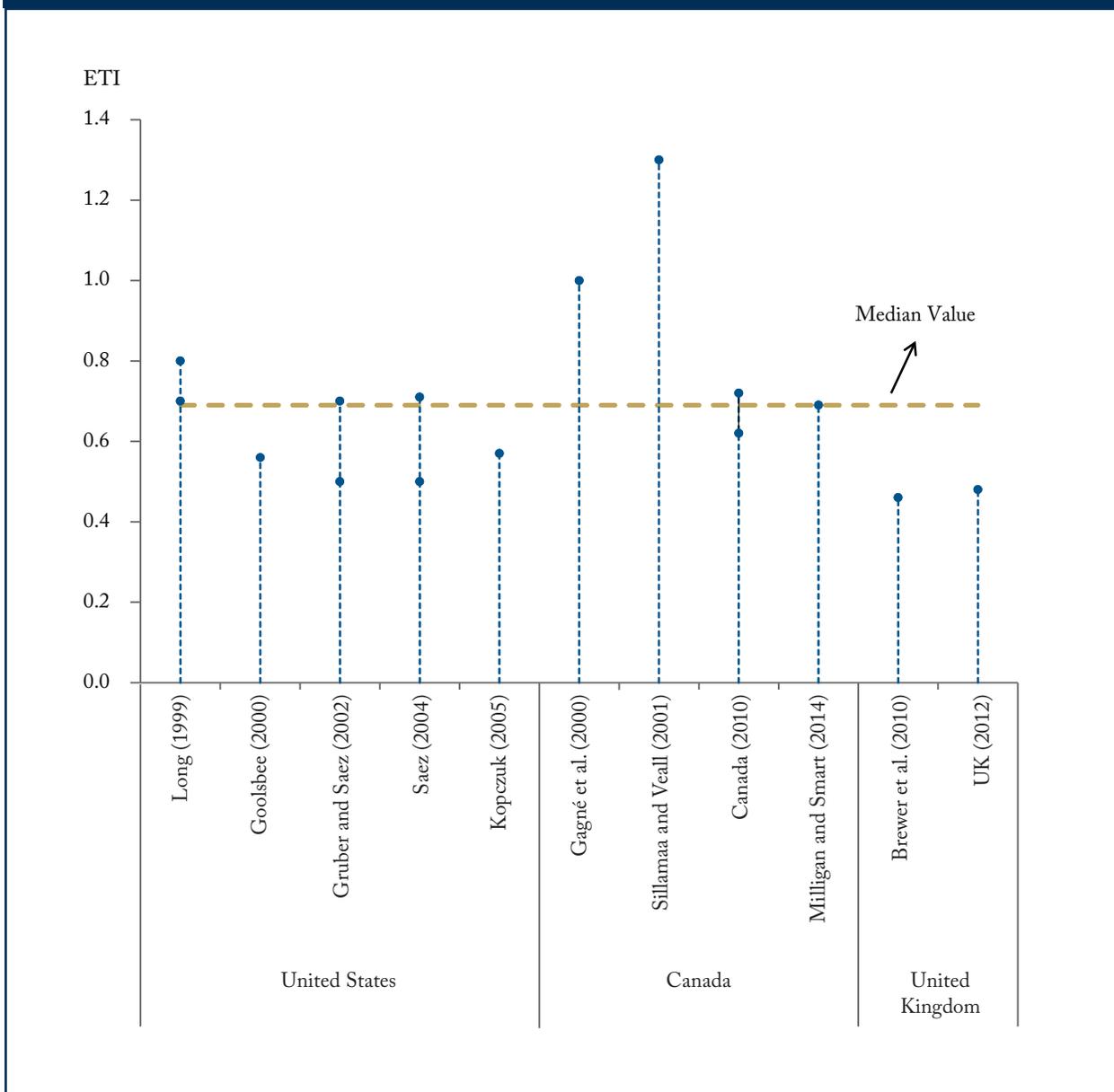
### High Earners' Tax Responsiveness: A Body of Empirical Evidence

The responsiveness of high-income taxpayers – i.e., in or around the top 1 percent of the income distribution scale – to changes in their marginal tax rates has been estimated in many studies over the last 20 years. The measure that captures all of the possible behavioural responses to changes in marginal income tax rates is known in the economic literature as the “elasticity of taxable income” (ETI). The ETI measures the overall responsiveness of reported taxable income to a 1 percent change in the tax rate.<sup>2</sup>

Figure 1 shows the ETIs found in 11 studies. Although all make use of empirical analysis likely to yield reliable estimates, countries' tax systems and institutions vary so the ETI found in another country may not be directly applicable to Canada. But, similarities between the US, the UK, and Canada make international comparisons instructive nonetheless. Five US studies in the early 2000s found ETI values for high-income earners ranging from 0.5 to 0.8. In the United Kingdom, recent estimates point to ETI values approaching 0.5, which means a decrease in reported taxable income of 0.5 percent.

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- 1 One Canadian study found that changes in employment income play an important role in the response of high-income Canadian taxpayers to marginal tax rate changes, through changes in “the quantity and quality of labour supplied (Canada 2010, p. 55).” Milligan and Smart (2014) also find “strong responses by employment income” as well as capital income. However, there is no consensus in the economic literature that high-income earners respond to tax hikes by modifying their labour supply. In particular, Saez et al. (2012) ranks labour-supply responses third in importance behind timing and avoidance.
  - 2 To be more precise, the ETI measure the responsiveness to a change in the marginal “net-of-tax” rate which represents the proportion of incremental income retained by individuals after paying taxes.

Figure 1: Measuring the Extent of High-Income Taxpayer Response: Review of the Empirical Evidence on the Elasticity of Taxable Income (ETI) for High-Income Earners



Sources: UK (2012), pp. 18-19, Canada (2010) p. 49, various other sources.

In Canada, two earlier studies by Gagné et al. (2000) and Sillamaa and Veall (2001) found very high ETI values for high-income earners. More recently, Milligan and Smart (2014) found an ETI of 0.69 (their preferred estimate) at the Canadian provincial level for the top 1 percent of income earners. The Department of Finance (Canada 2010) found an ETI ranging from 0.62 to 0.72 for the highest income group.

For the purpose of estimating tax revenues in the following section, our preferred value will be 0.62, implying that a tax hike that would reduce after-tax earnings by 1 percent reduces reported taxable income by 0.62 percent. This is a conservative assumption located at the lower-end of the range of Canadian estimates, and also below the median ETI value of 0.69 for the 11 studies reported in Figure 1.

The new government's electoral platform also envisaged a probable taxpayer response to the proposed tax hike, which amounts to an estimated ETI value of 0.15 for high-income earners.<sup>3</sup> It is indeed possible that the extent of the behavioural response will be lower than assumed in this E-Brief and documented in Figure 1. For instance, the electoral platform envisaged – without specifying the details – a reduction in high-income taxpayers' avoidance opportunities. This would be achieved by limiting international tax evasion and by limiting the use of Canadian-Controlled Private Corporations (CCPCs) for tax planning. Some conceptual issues and uncertainties that may result in a lower ETI are summarized in Box 1. Even though there will always be uncertainty around the right level of taxable income responsiveness, we believe it is more prudent to assume an ETI within the range of estimates found in the literature.

## Real-World Examples

Two recent experiments in the United Kingdom and in Quebec are instructive. Although we do not precisely know the extent of the behavioural taxpayer response to top tax rate hikes, some degree of taxpayer response has been evident.

### *United Kingdom*

In November 2008, the UK government announced that the top tax rate on high-income earners would rise from 40 to 45 percent starting in April 2011. Later in 2009, the government announced that the top tax rate would in fact rise to 50 percent, and sooner: in April 2010. "It was the first increase in the highest rate of tax in the UK for over 30 years, and was expected to yield around £2.5 billion" (UK 2012).

The taxpayer response was vigorous. In a comprehensive assessment of the impact of the tax hike, the government reported a considerable amount of taxable income moved up to the taxation year preceding the tax hike. But even after adjusting for timing considerations, the government estimated that the behavioural response decreased the anticipated tax revenue yield by at least 83 percent (UK 2012). Fearing that the 50 percent rate was highly distortive, the government reversed course and brought down the top tax rate to 45 percent in 2012.

### *Quebec*

The electoral platform of the newly elected Quebec government in 2012 featured tax rate hikes on high incomes. The government envisaged new combined federal/provincial tax rate of 52.2 percent for taxable incomes ranging from \$130,000 to \$250,000, and a tax rate of 55.2 percent for income greater than \$250,000. Tax rate hikes on capital gains and dividends were also part of the proposed reform.

Soon after the election, evidence of taxpayer response became evident. Media outlets reported an exodus of taxpayers to Ontario. Concern that the increase would not yield the desired revenue led the government to partially backtrack, limiting the increase in the top tax rate to 50 percent on incomes greater than \$100,000.

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3 ETI value estimated in accordance with the methodology employed in Figure 2 of this E-Brief.

## Box 1 – Issues and Uncertainties around the Elasticity of Taxable Income

The most pervasive empirical evidence for taxable income responses to taxes is found at the very top of the income distribution scale. For instance, the Department of Finance (Canada 2010) found a low ETI of 0.19 for the top 10 percent of income distribution, but a significantly higher taxable income response ranging from 0.62 to 0.72 for the top 1 percent. Milligan and Smart (2014) found that the ETI is small (and not statistically significant) for the top 10 percent, but high for the top 1 percent (0.69) and even higher for the top 0.1 percent (1.45). Other studies have found the same pattern of ETIs being larger at the top end of the income distribution scale and lower or insignificant at the bottom. This suggests that it would be inappropriate to use a lower ETI value estimated for the full sample of taxpayers to project the response of a sub-sample of high-income taxpayers.

A concern with using the ETI concept is that it is difficult to disentangle the components of behavioral responses. Different response channels will have different policy implications.

One such component of the behavioral response may reflect personal income being shifted to corporate income. This would mean that a portion of lost personal tax revenues would be recouped when taxed as capital income. However, the amount of taxes being recouped on the corporate side is difficult to identify. Dahlby and Ferede (2011), when measuring the effects of tax rate changes on tax bases for Canadian provinces, found no significant cross-base elasticities, suggesting that the extent of tax base shifting could be small. Milligan and Smart (2014) found strong employment and capital income responses at the top 1 percent, but surprisingly a lower and not statistically significant response for self-employment income – a tax base that one might think would show a stronger response given the ease at which self-employment income can be shifted to corporate income. The small business tax rate (and the corporate tax rate) is lower than the top personal income tax rate independent of personal income tax rate changes, so it is possible that most tax base shifting opportunities have already been exhausted, and that further base shifting would be more sensitive to the elimination of the small business tax rate, for example, than a marginal change to the top personal tax rate.

We also do not know how short-term tax responses differ from longer-term responses. In the very short term, it may be possible to alter the timing of income received (or capital gains realized) between adjacent years. This would lead to a higher ETI in the shortterm than in the longterm. UK Revenue and Customs (2012) found large short-term timing reactions to a 2010 high-income tax hike; but, even after adjusting for those timing effects, they found an ETI that is still relatively high (0.48). Other behavioural changes will have longer-term impacts. Tax changes may incite individuals to change their career paths, educational choices, or the level of entrepreneurial and other risk-taking activities. Dahlby and Ferede (2011) found that the cumulative impact of a tax hike on taxable income increases with time. There are still a lot of uncertainties around the relative magnitudes of long-term effects versus short-term effects, so the jury is still out as to whether the ETI is lower or higher in the longer term (Saez et al. 2012).

Some behavioural changes, such as work effort, will directly impact economic activity. But other tax avoidance behaviours can be conditioned by the structure of the tax system, and its administration and enforcement. Broadening the tax base, as well as strengthening tax enforcement, would reduce

(...Cont'd)

## Box 1 Continued

avoidance opportunities. Therefore, the ETI can be reduced by government policies if such policies tend to lower the size of behavioural responses, even if it takes some time (Saez et al. 2012). On the other hand, Canada already has a well-developed tax enforcement system, which means that the potential impact of improving tax enforcement by eliminating the next tax avoidance opportunity on the ETI would be smaller than starting from scratch.

Finally, Milligan and Smart (2014) estimate the ETI at the provincial level. They argue that their estimated ETI will overstate the national ETI for Canada as a whole because of interprovincial income shifting possibilities. In fact, the ETI may be very different from the perspective of a low-tax province like Alberta compared to that of high-tax provinces like Quebec and Ontario. In a way, the recent top tax rate hike in Alberta should help mitigate this concern. Nevertheless, other ETI estimates based on micro-data at the national level (such as in one of the two estimation strategies used by the Department of Finance in Canada 2010) found ETI values in the same range as Milligan and Smart (2014).

Even so, high-income Quebecers reacted: Quebec is the only province in which the number of taxfilers in the top 1 percent earnings category actually declined, from 43,055 taxpayers to 40,610 – a 6 percent decline – between 2012 and 2013.<sup>4</sup>

### What about Middle-Income Earners?

Many studies of taxable income elasticity have shown that the degree of behavioural response is not constant along the income distribution scale – the bottom 90 percent of taxfilers exhibit low taxable income responsiveness to marginal tax rate changes. Tax avoidance strategies are more cost effective, accessible and easier to use at very high income levels, if only for the simple reason that high-income taxpayers tend to be more mobile and have more access to financial advice on tax minimization strategies. Also, low- to mid-income families may well decide to work more when confronted with higher taxes because they have basic needs to fulfill. However, the higher up the income scale, the less an additional dollar of consumption adds to someone's welfare, which likely makes leisure more attractive over additional work and entrepreneurial efforts.

The two most recent Canadian studies found a low ETI for the top 10 percent of the income distribution scale: the Department of Finance (Canada 2010) found an ETI of 0.19 and Milligan and Smart (2014) found a value not statistically different from zero. It is clear from available evidence that most of the taxable income response among high earners is found at the very top, and that the response below the top 10 percent is likely insignificant.

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<sup>4</sup> Number of taxpayers measured at the national (all-province) top 1 percent income threshold. (Statistics Canada, Table 204-0001.)

**Table 1: Top Combined Federal/Provincial Personal Income Tax Rate after the Proposed Introduction of a New Federal Top Tax Bracket, 2016**

	Proposed Top Combined Federal/Provincial Rate (percent)	Top Income Threshold (\$)
New Brunswick	58.75	250,000
Nova Scotia	54.00	200,000
Ontario	53.53	220,000
Quebec	53.31	200,000
Prince Edward Island	51.37	200,000
Manitoba	50.40	200,000
Newfoundland and Labrador	48.30	200,000
Saskatchewan	48.00	200,000
Alberta	48.00	303,900
British Columbia	47.70	200,000
Source: Various.		

Thus, based on the empirical evidence, it appears reasonable to assume no significant taxable income responsiveness on average (i.e.,  $ETI \approx 0$ ) when costing the fiscal impact of the small, broad-based middle-income tax rate reduction.

## Is There Tax Room at the Top? An Empirical Investigation

Several provinces recently targeted high-income earners to yield new revenues. Starting with Nova Scotia in 2010, six provinces increased their top tax rates, with Quebec, Ontario, and Nova Scotia now having combined federal/provincial top tax rates rounding to 50 percent, and New Brunswick's rounding to 55 percent.<sup>5</sup> These recent provincial hikes unavoidably leave less room for the federal government to increase its own top tax rate. The proposed new federal tax bracket on incomes greater than \$200,000 would put the top marginal income tax rate above 50 percent in six provinces (Table 1). It should be noted that the Québec Taxation Review Committee, in March 2015, recommended that the maximum federal/provincial tax rate should not exceed 50 percent (Québec 2015).

Considering the degree of taxpayer responsiveness discussed above, how much room

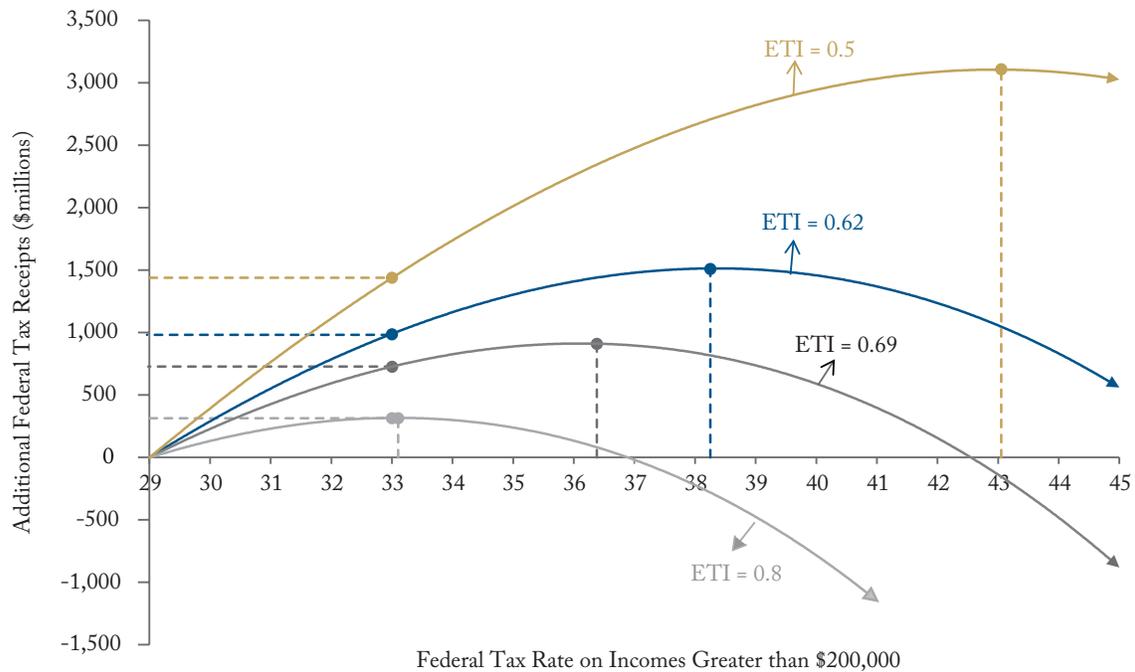
is left for Ottawa to increase its tax rate on the top 1 percent of income earners? Feeding the estimated response rate – ETI values – into a large, sophisticated and widely used tax simulation database of Canadian taxfilers built by Statistics Canada (SPSD/M 2015), we can estimate the amount of tax revenues generated at different tax rates on incomes greater than \$200,000 (Figure 2).

The assumed values of ETI are crucial to tax policy decisions since they are instrumental in producing accurate costings of tax changes. When people reduce their taxable incomes by a larger-than-assumed amount in response to a tax increase, the tax change will result in a smaller increase in tax revenue than anticipated. If the ETI is large enough, the rate increase might reduce taxable income enough to make tax revenues fall. Here are several scenarios:

- Starting with our preferred ETI assumption – a value of 0.62 – Ottawa would collect slightly less than an additional \$1 billion at the proposed 33 percent rate. Ottawa could keep raising the tax rate further up to

5 New Brunswick Finance Minister's Roger Melanson recently said in the media that the province will consider reducing its top tax rate if the federal proposed tax hike goes ahead (Curry 2015).

**Figure 2: Potential Tax Receipts on Incomes Greater than \$200,000 for Various Tax Rates and Various ETI Values**

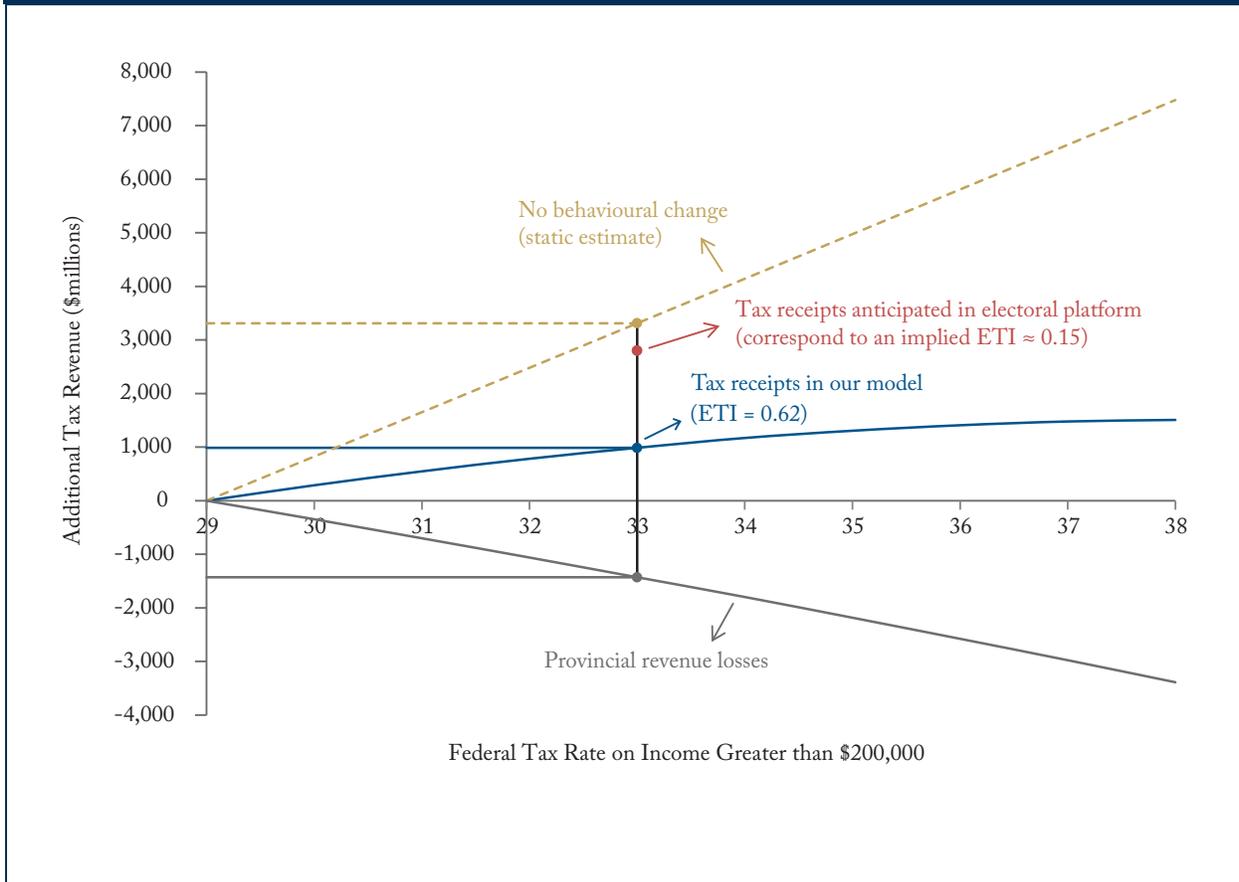


Source: Author's calculations using Statistics Canada's SPSP/M (2015) with various ETI assumptions. Taxable income of affected high-income taxpayers is reduced by the ETI times the change in taxpayers' combined federal/provincial net-of-tax marginal rate. Impact on tax receipts does not include associated rise of the top charitable tax credit rate.

38 percent, for \$500 million more – assuming provincial tax rates stay unchanged. Beyond 38 percent the revenue take would start declining.

- Using the median ETI value (0.69) from our sample in Figure 1, which is also the most recent Canadian estimate, potential additional federal tax receipts would be capped at about \$0.9 billion for a federal tax rate of 36 percent. At the proposed 33 percent rate, Ottawa would collect additional revenues of slightly more than \$0.7 billion.
- With an ETI of 0.8, which is at the high-end of US estimates in Figure 1, the 33 percent rate would yield Ottawa its maximum amount of additional tax revenues.
- With an ETI of 0.5, corresponding to the lowest value in our sample, the 33 percent rate would generate slightly less than \$1.5 billion in additional revenues, and increases in the tax rate would generate increasing tax revenues until the rate reaches 43 percent.

**Figure 3: Behavioural Responses Create Budgets Risks for Both Federal and Provincial Governments**



Source: Author's calculations using Statistics Canada's SPSD/M (2015).

### Impact on Government Budgets

The potential erosion of the personal income tax base creates budget risks because tax revenues may be lower than anticipated at both the federal and provincial levels.

#### **Risks to Federal Revenues**

The proposed 33 percent rate on incomes greater than \$200,000 would generate additional federal tax receipts ranging from \$0.3 billion to \$1.5 billion for ETI values ranging from 0.8 to 0.5 (Figure 2). All of these estimates are considerably lower than a static (no behavioral change) \$3.3 billion estimated revenue yield, and the \$2.8 billion anticipated in the new government's electoral platform document.

At our preferred ETI value of 0.62, the behavioural response would reduce the tax hike revenue yield by 70 percent. The drop would leave additional federal revenues below the static estimation by \$2.3 billion, and

**Table 2: Estimated Federal and Provincial Tax Revenue Impacts, 2016**

	Tax Revenue Impact (\$billion)
<b>Federal Government</b>	
Middle-income bracket tax rate reduction	-3.5
High-income tax rate hike	+1.0
Associated rise in maximum charitable tax credit rate (1)	-0.3
<i>Sub-Total</i>	-2.8
<b>Provincial Governments</b>	
Erosion of the personal income tax base	-1.4
<i>Sub-Total</i>	-1.4
<b>Total Federal and Provincial Governments</b>	<b>-4.2</b>

Note: (1) The federal charitable tax credit rate on donations exceeding \$200 is statutorily equal to the highest federal marginal tax rate (*Income Tax Act* s. 118.1).

Source: Author's calculations using Statistics Canada's SPSPD/M (2015).

short of the amount anticipated in the electoral platform by \$1.8 billion (Figure 3).

### ***Provincial Revenue Cost***

Erosion of the national personal taxable income base will affect provincial revenues as well since both order of governments share the same taxable base – a negative externality. The negative impact on provincial revenues will be larger than for federal revenues because the provinces will suffer reduced taxable income bases but without any compensating rise in their tax rates. The proposed federal hike would likely cost provincial treasuries about \$1.4 billion in personal income tax revenues. Since the provincial losses exceed the \$1 billion federal gains, the proposed hike would be a revenue loser on a national scale.

### ***Total National Revenue Shortfall***

The middle-income bracket rate reduction has been drawn up with the expectation that associated revenue losses will be fully compensated by increased revenues from the high-income tax hike. The new government's electoral plan anticipates the middle-income bracket rate reduction will cost \$2.9 billion. Our estimate, using Statistics Canada's SPSPD/M (2015), yields a revenue loss of \$3.5 billion.<sup>6</sup>

Combine the \$3.5 billion cost of middle-income tax relief with the lower-than-anticipated \$1 billion in revenues from the tax hike on high incomes, and we obtain a federal shortfall of \$2.5 billion (Table 2). Add in the impact of the maximum charitable tax credit rate raised to the new top marginal tax rate, and the tax revenue shortfall will reach about \$2.8 billion. Add in the provincial revenue losses, and the total tax revenue shortfall becomes \$4.2 billion – equivalent to revenue loss from a more than half point cut in the GST. This is a substantial potential revenue shortfall that will need to be offset in the future by higher taxes or spending cuts.

### ***The Bottom Line***

Many provincial governments have already raised their top tax rate on high-income earners. Further increasing the top tax rate at the federal level is economically ineffective, and risks eroding the tax base and yielding only

6 The electoral plan does not provide details on assumptions and calculations, or even a precise reference, other than "projection from PBO calculations." Therefore it is not possible to identify the source of the difference between our estimate and that of the electoral plan. Our cost estimate assumes an ETI  $\approx 0$  for reasons explained earlier in the text.

a small share of anticipated tax receipts. The move could also cost provincial governments \$1.4 billion in lost personal income tax revenues – losses greater than federal revenues from the hike. All things considered, the move may lead to a national consolidated government tax revenue shortfall exceeding \$4 billion next year.

Instead of raising income taxes on high-income earners, the federal government could explore other progressive, but less economically damaging, ways of raising revenues. One option already envisaged by the new government would be to eliminate tax preferences targeted to high-income earners. Another would be to eliminate or to reform the small business tax deduction to better target younger firms rather than all firms that are small, including incorporated professionals (Howitt 2015).

If the government proceeds with the proposed tax hike as is, prudent budgeting with respect to the potential impact of taxpayers' response would be in order. Markets and taxpayers tend to prefer positive budget surprises to negative ones.

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