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E-BRIEF

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FISCAL AND TAX POLICY

Unhappy Returns: A Preliminary Estimate of Taxpayer Responsiveness to the 2016 Top Tax Rate Hike

by
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- Newly released preliminary tax statistics make it now possible to roughly assess the impact of the federal 2016 high-income tax rate hike on the reported income of the top 1 percenters. Many commentators warned that high-income taxpayers would react to the hike by reducing their earned income or engaging in tax avoidance.
- Data show a substantial amount of income (mostly dividends) brought forward to 2015 in anticipation of the 2016 hike. Stripping away the impact on the broad income base of this one-off forestalling, as well as changes in economic conditions, indicates a fairly strong underlying behavioural response falling within the range of responsiveness estimated in prior studies.
- Leaving out the one-off fiscal impact of forestalling, the tax hike would likely have yielded only about a third of the tax revenues that would have been raised without the behavioural response, and resulted in provincial budgets suffering fiscal losses greater than the federal revenues raised. This suggests room at the top of the income distribution scale for Canada to boost its tax competitiveness with the world, particularly the US, without incurring large fiscal losses.

The Canada Revenue Agency garnered headlines early this month with data showing that the steep 2016 federal tax hike on top earners failed to produce the promised billions in new revenue. In fact, tax revenue collected from those in the top 1 percent (Canadians earning above $250,000 a year) fell significantly in 2016. This had been anticipated by numerous tax experts and the C.D. Howe Institute (Laurin 2015). The release of those preliminary statistics by the CRA gives us an

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opportunity to roughly measure the underlying behavioural response of affected taxpayers to the 4 percentage point hike in the top tax rate.[1]

Empirical evidence from a number of sources has shown that top earners, when confronted by a tax rate increase, are likely to change their behaviour in various ways (Laurin 2015). Some may reduce work effort, for instance by choosing leisure over more work. Others may also plan their affairs in a way to minimize their tax burden. The bottom line is that high tax rates may discourage earning additional income, and may encourage shifting taxable income to different forms, times and jurisdictions, so they may not only negatively affect the economy, but add little to, or even reduce, government revenues.[2]

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).[3] This E-brief uses the recently released statistics for tax year 2016 to roughly measure the short-run ETI from the federal top tax-rate hike, and arrives at an estimated ETI of 0.56 – a fairly high behavioural response but within the range of responsiveness estimated in prior studies of the Canadian and other countries' tax systems (See Laurin 2015 p. 3).[4] This is a preliminary rough estimate and thus should be interpreted as providing an early indication of relative size rather than a precise estimate.

This level of taxpayer responsiveness means that the hike likely yielded about a third of the tax revenues that would have been raised without the behavioral response. It also led to an erosion of the tax base that resulted in provincial budgets suffering fiscal losses greater than the federal revenues raised. In this E-Brief, I argue that, in contrast to the tax-hike approach, there is room at the top of the income distribution scale for Canada to boost its tax competitiveness with the world, particularly the US, without incurring large fiscal losses.

Estimating the Extent of the Short-Run Behavioural Response

Preliminary CRA statistics reveal that taxpayers in the top income group – those earning more than $250,000 annually – paid $26.3 billion in in federal income tax for the 2016 tax year, a drop of $6.8 billion from the $33.1 billion paid in 2015 – despite having to pay a higher tax rate. But how much of this drop is attributable to

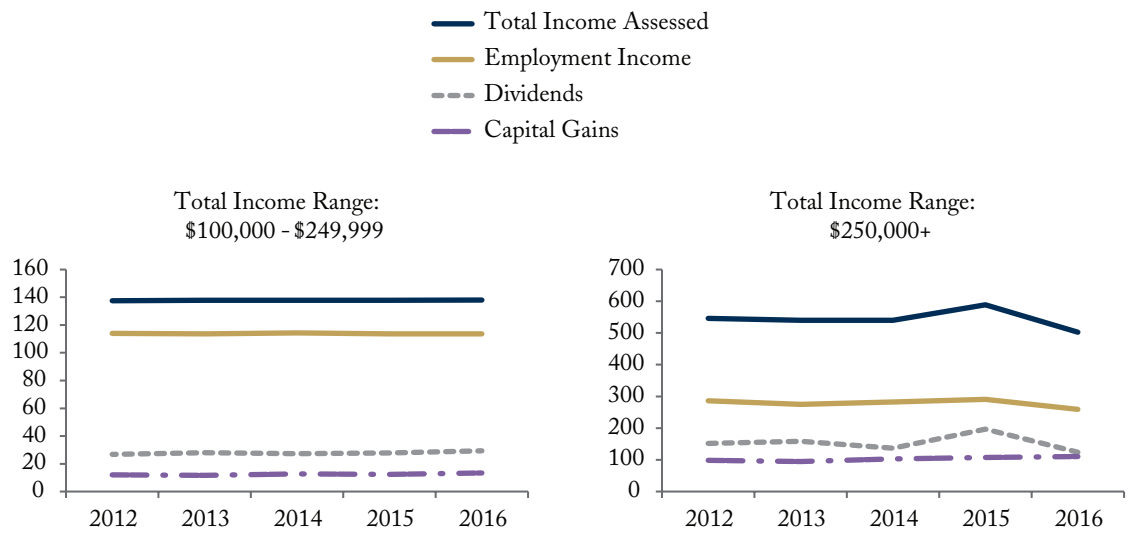
1 As a result of the 2016 hike, the combined federal/provincial tax rate on net income exceeding $200,000 jumped to 50 percent or over in the seven provinces east of Saskatchewan (more than 53 percent in Ontario and Quebec, for instance), and to slightly less than 50 percent in the three western provinces (48 percent).

2 Supporting this view, the Québec Taxation Review Committee, in March 2015, recommended that the maximum federal/provincial tax rate should not exceed 50 percent (Québec 2015).

3 The ETI measures the overall responsiveness of reported taxable income to a 1 percent change in the net-of-tax rate (or the marginal retention rate). For instance, an ETI of 0.5 combined with a 10 percent decrease in additional income left in taxpayers' pockets would mean a 5 percent average decrease in reported taxable income (0.10 × 0.5).

4 This is a preliminary rough estimate for many reasons. First, the ETI estimate takes into account the contemporaneous hike in Alberta's top tax rate, increasing our estimated national change in the marginal retention rate and lowering the ETI. Second, the data by income group is only available at the national level – provincial data would help to disentangle Alberta-specific factors. And third, the model is based on rough assumptions as explained in Box 1. It should be interpreted as providing an early indication of magnitude rather than a precise estimate.

Figure 1: Personal Income Assessed from Various Sources, Average per Reporting Taxfiler, $ Thousands



Source: CRA Statistics; author's calculations.

taxpayer responsiveness to the rate increase, as opposed to changes in economic conditions, other tax changes, or one-off transitional factors such as moving forward (forestalling) capital income recognition to 2015 when it became clear that the tax reform would pass?

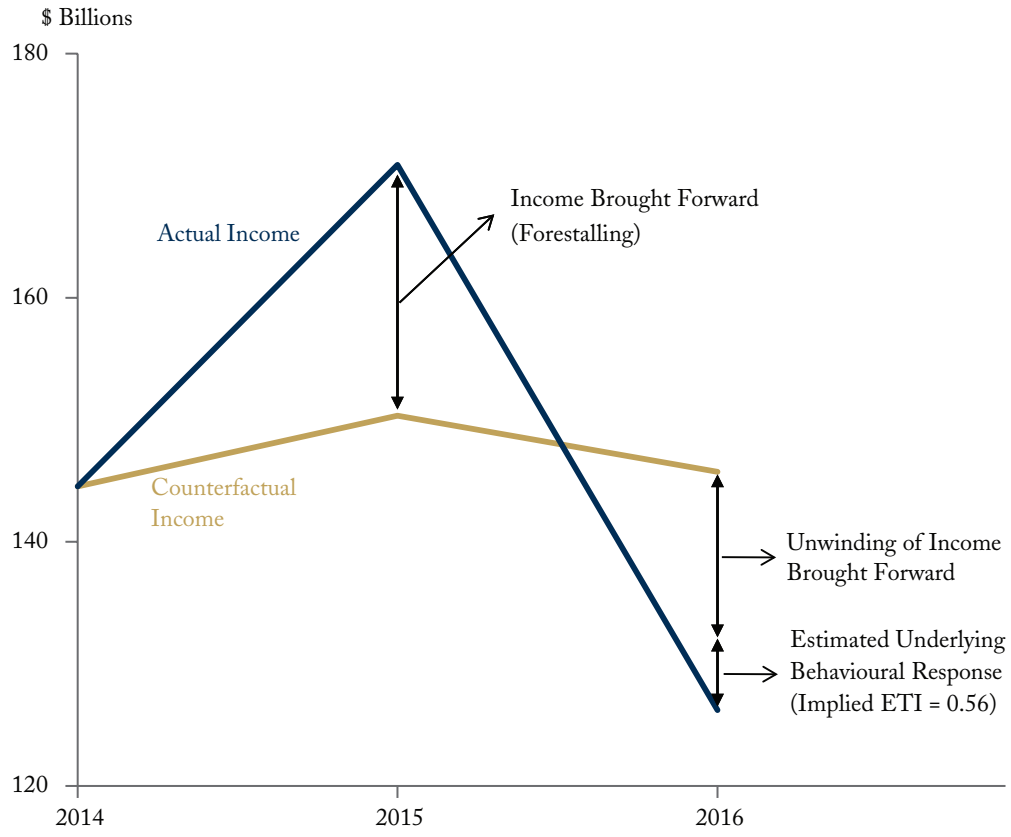
One way to disentangle these effects is to compare the behaviour of top earners to those in an immediately lower income group who are mostly unaffected by the rate increase but otherwise share similar economic and tax circumstances. For those in the $100,000 to $250,000 income group, total income and employment income per reporting individual remained relatively constant from 2012 to 2016, while capital gains and dividends trended slightly upwards, reflecting positive global equity market performance (Figure 1).

For taxpayers in the top income group ($250,000 plus), average total income jumped in 2015 and fell in 2016. The 2015 jump is almost exclusively supported by a jump in dividend income (and employment to a much lower extent), while the 2016 drop is mostly the result of both much lower employment income and dividends.

The same one-off pattern – jump one year, drop the next – happened in the UK in 2010, when the top tax rate was increased from 40 to 50 percent, before being brought down to 45 percent due to intense taxpayer response (UK 2012). As in the UK, the Canadian response is the result of income brought forward in anticipation of the tax increase (forestalling), followed by the unwinding of the advance income recognition in subsequent years. Because the tax change is known in advance of implementation, individuals (business owners, mostly) advance the timing of their discretionary income (dividends, mostly) to minimize their future exposure to the tax rate increase. This behavioural response is entirely legitimate and difficult to prevent using anti-avoidance legislation.

Disentangling the impacts of this one-off forestalling, as well as changes in economic conditions, and other tax changes, from the underlying responsiveness of taxpayers requires a counterfactual estimate of income

Figure 2: Estimating Canada's ETI



Source: CRA Statistics. Author's calculation as described in text.

(where it would be without the influence of these factors and the tax hike). Following the UK government's HMRC (Her Majesty's Revenue and Customs) analysis of the effects of its own 2010 tax hike, we can use the total income growth of the immediately preceding income group as a guide: this group is mostly unaffected by the tax hike, yet it is affected all the same by changes in economic conditions and other tax provisions (UK 2012).

We also need an estimate of the extent of income brought forward in 2015 and unwound in 2016. In the United Kingdom, HRMC (UK 2012) examined the previous three-year history of individual high-income taxpayers to identify large jumps in dividend (and employment) income the year prior to the hike coming into effect, to model the amounts of forestalling and unwinding. Confidentiality issues restrict individual tax data availability, but we can use the UK modelled unwinding response as a guide – unwinding in the first year of the tax hike was estimated to represent about two-thirds of the previous year's forestalled income. We adopt this assumption in our model.

The result for Canada is illustrated in Figure 2. In 2015, the amount of counterfactual income is estimated at $150.3 billion and forestalled income at $20.6 billion. In 2016, counterfactual income is estimated at $145.7 billion – about $19.5 billion higher than actual. Of this difference, about $13.7 billion is attributable to

Box 1: Uncertainty around the ETI estimate

There is considerable uncertainty around the estimated value of ETI.

The ETI estimate is sensitive to assumptions about the counterfactual income growth; i.e., how income would have grown in the absence of the tax change and forestalling/unwinding. In our base case estimate, we assume that the path of total income of the top income group ($250,000+) would have roughly followed that of the preceding income group ($100,000 to $249,999). This is roughly the method adopted by HMRC (UK 2012).

Total reported income (a broader definition than taxable income) is used for consistency with the income thresholds provided in the CRA data. Most income tax relief is provided through tax credits so the taxable income base is comparable to the broader reported income base (for the top income group, the latter is greater than the former by just over 10 percent). This adds a layer of prudence to the our estimate since the responsiveness of broader reported income is lower than that of taxable income.

The ETI estimate is also sensitive to assumptions about the extent of income brought forward in 2015 and unwound in the first year of the tax change. We do not assume that all of the income brought forward would have been realized in the first year because presumably forestalling taxpayers can and would bring forward capital income that would have been realized in many years ahead. In our base case, we assume that 2/3 of the income brought forward would have been unwound in the first year of the tax change. This assumption is based on the microdata modelling performed by HMRC (UK 2012) reviewing UK's 2010 tax hike.

The table below shows the ETI value under different assumptions. The ETI values range from 0.26 to 0.98 depending on the strength of assumed income growth and on the extent of unwinding happening in the first year.

Table 1: Estimated Value of the Elasticity of Taxable Income (ETI) under Alternative Assumptions

		Unwinding Assumption (share of forestalling)		
		Half	**Two-thirds**	**Three-quarters**
Income Growth Assumption	(A) 10-percent lower growth than assumption B below	0.75	0.43	0.26
	(B) Growth follows the $100,000-$249,999 income group	0.86	**0.56**	0.40
	(C) 10-percent stronger growth than assumption B above	0.98	0.69	0.54

Note that change in simulated marginal retention rate (i.e., 1 – federal/provincial METR) of reported income takes into account the contemporaneous Alberta tax hike.

Source: Author's calculations.

unwinding, with the rest, $5.7 billion, attributable to underlying taxpayer responsiveness. Overall, underlying taxpayer responsiveness – in the absence of forestalling/unwinding – reveals a short-run ETI value of about 0.56. There is, of course, considerable uncertainty around the ETI value estimate. In the 9 scenarios considered in Box 1, the ETI value ranges from 0.26 up to 0.98.

Our preferred estimated ETI value of 0.56 for top earners is very similar to those estimated in recent Canadian literature where values range from 0.62 to 0.72 (Canada 2010, Milligan and Smart 2015), but lower than the very high ETI values found in older Canadian studies. Still, an estimated short-run ETI of 0.56 suggests a taxpayer response stronger than the ETI of 0.40 anticipated by Finance Canada (Canada 2015) or the Parliamentary Budget Officer (OPBO 2016), or in the current government's 2015 electoral platform.

As a result, leaving out the fiscal impact of the one-off forestalling, the hike would likely have yielded about a third of the tax revenues that would have been raised without the behavioural response: the tax hike would likely have yielded Ottawa about $1.2 billion – a small fraction of the more than $3 billion the hike would have yielded without the behavioural response, and $0.8 billion lower than budgeted.[5]

The erosion of the national personal taxable income base affected provincial revenues as well since both orders of governments share the same taxable base – a negative externality. The negative impact on provincial revenues is even larger than for federal revenues because the provinces suffer reduced taxable income bases but without any compensating rise in their tax rates. The federal hike likely cost provincial treasuries about $1.3 billion in personal income tax revenues in 2016. Since the provincial losses exceed the $1.2 billion federal gains, the hike was a revenue loser on a national scale.

Policy Implications

The estimated taxpayer response to the tax hike may suggest that further tightening of the tax system to make tax avoidance harder can reduce the ETI in future years (Kopczuk 2005). Further resources devoted to tax enforcement, to counter top earners' avoidance of the hike, would be efficient to the extent that additional revenue collection from top earners exceeds the extra enforcement costs, and that a large enough slice of the taxpayer response was driven by behaviours that anti-avoidance enforcement can neutralize. This is the approach taken in recent federal budgets.

Perhaps as importantly, the intensiveness of the behavioural response in 2016 may also indicate that Canada has some flexibility to improve its personal income tax competitiveness vis-à-vis the US and the world. Canada's top combined federal/provincial personal income tax rate is among the highest of the OECD (Wyonch et al. 2017).

High personal taxes disadvantage Canada in the competition for global talent. Lower personal income taxes in the US, in particular, hurt Canada's attractiveness to high earners, and its appeal as a location for head offices. A small reduction to the top tax rate could bring back combined federal/provincial top tax rates to or around the 50 percent mark in most provinces, and would cost little federally, while provinces would enjoy a windfall because of its positive impact on the taxable income base.

Alternatively, doubling the income threshold at which the top tax rate applies would reduce Canada's disadvantage with its neighbour to the south – and, in the same vein as above, create a revenue windfall for cash strapped provinces.

5 Updated calculations based on the same model and methods described in Laurin (2015).

Reducing the number of people subject to the highest tax rate by raising the threshold at which it applies from the current $ 205,800 to $411,600 would cost the federal budget around $500 million annually after accounting for the expansion in the tax base and the positive economic impacts of taxpayers' behavioural response. But the response would yield a dividend of around $700 million for provincial governments – a major bonus in an environment where fiscally pressured provinces are pushing Ottawa for more cash.

Bottom Line

Leaving out the impact of income brought forward to 2015 in anticipation of the 2016 federal tax rate hike on top earners, a rough estimate suggests that the hike yielded only about $1.2 billion of fresh federal revenues in 2016. However, the erosion of the tax base cost provinces about $1.3 billion.

Top earners' responsiveness to the hike appears to be within the range found in the literature, which means that Canada can boost its tax competitiveness by lowering the top tax rate or by increasing the threshold at which the top tax rate kicks in. Either measure would result in more combined federal/provincial government revenue overall, while making Canada a more attractive location for top talent and global head offices. In other words, it's a win-win.

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