



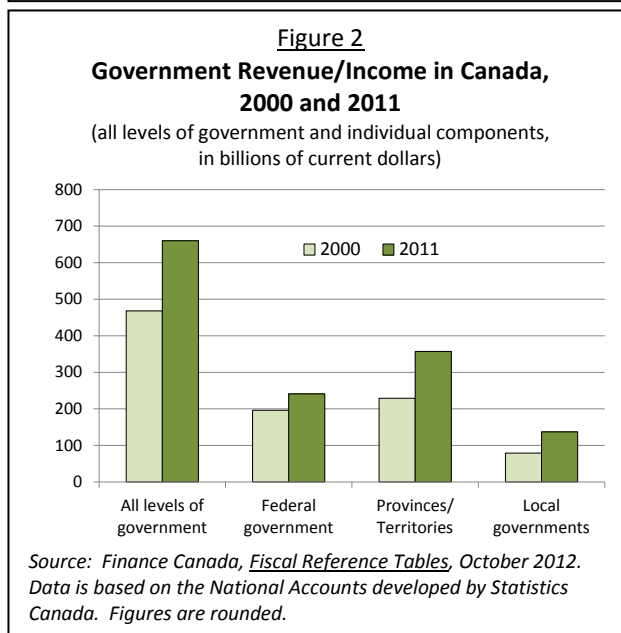
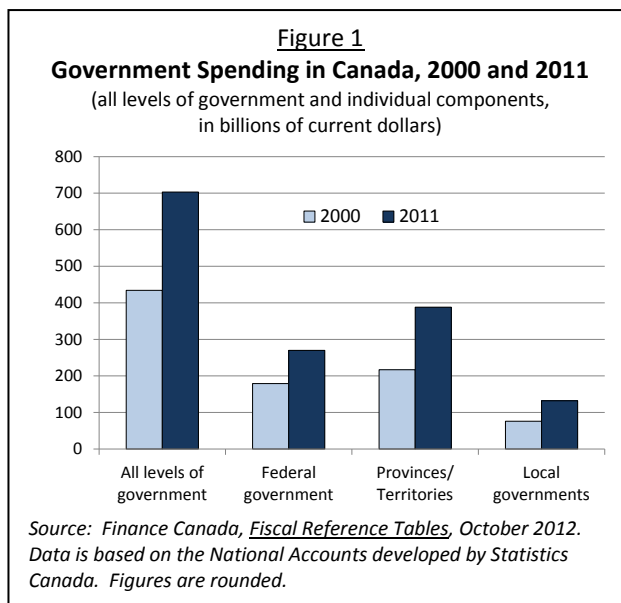
## Thinking Through the Economic Consequences of Higher Taxes

After 15 years of significant if somewhat intermittent tax cuts, a number of provincial governments across Canada seem to have shifted to a tax-raising mode. The trend arguably is most evident in Ontario and Quebec, where both provincial governments announced higher taxes in their 2012 budgets. Nova Scotia hiked its Harmonized Sales Tax and established a new high-income personal tax bracket a couple of years back.<sup>1</sup> Prince Edward Island is moving to adopt an HST that will be integrated with the federal Goods and Services Tax, a policy change which is expected to result in a higher tax burden on many Island residents. Here in British Columbia, the province's carbon tax was recently boosted, for the fifth time since its introduction five years ago; at \$30 per ton of carbon dioxide emissions, it is now the highest such tax in North America.<sup>2</sup> The upcoming 2013 BC election is likely to see a high-profile public debate on various elements of tax policy.

The return of budget deficits at the federal level – and in most of the provinces – since 2007-08 has helped to put tax increases back on the agenda in some jurisdictions. Recent fiscal policy discussions in the United States have also served to highlight tax issues. Another relevant factor is that since the mid-1990s, the overall tax burden in Canada has eased, declining by the equivalent of approximately four percentage points of

<sup>1</sup> The Nova Scotia government has indicated that the HST will be returned to the previous rate by 2015.

<sup>2</sup> The increase in the BC carbon tax is fully offset by decreases in other taxes, leaving the total provincial tax burden unchanged.



gross domestic product (GDP).<sup>3</sup> Then too, concern over inequality in the US and also in Canada is causing some people to wonder

<sup>3</sup> Organization for Economic Cooperation and Development, *OECD Revenue Statistics*, 2012.

whether raising taxes might be part of a strategy to address widening income disparities. All of this has encouraged proponents of bigger government to step up efforts to make the case for higher taxes.

At first glance, however, it's hard to see that governments in Canada are struggling with inadequate financial resources. Indeed, government spending and revenues have both been rising at a brisk clip. As summarized in Figures 1 and 2 on the previous page, total public sector outlays in Canada soared from \$434 billion in 2000 to more than \$700 billion in 2011 (an increase of 62%). Total government revenues also grew steadily over the same period, climbing from \$469 billion to \$660 billion. By any standard, all levels of government in Canada – federal, provincial, and local – saw substantial increases in both spending and revenues over the past decade.

The picture in British Columbia is broadly similar. According to the BC Ministry of Finance, provincial government budgetary expenditures reached \$42.8 billion in 2011-12, up from \$28.5 billion in 2000-01 (an increase of 50%). Budgetary revenues went from \$29.7 billion to \$41 billion over the same period.<sup>4</sup> Still, it's worth noting that the growth of government, whether measured by spending or revenues, has been slower in BC than in most other provinces since the beginning of the 2000s.

<sup>4</sup> BC Ministry of Finance, 2012 British Columbia Financial and Economic Review, April 2011-March 2012, p. 67.

### The Economic Costs of Taxation

As policy-makers in various jurisdictions consider options to generate more revenue by raising tax rates, instituting new taxes, or modifying existing tax rules,<sup>5</sup> it may be useful to re-consider the economic consequences of following this path. In this regard, it's important to recognize that all forms of taxation – whether on individual or business income, consumption, employment, investment, or property – carry an economic cost. This is so mainly for three reasons:

- 1) Taxes affect the prices that consumers must pay for goods and services, as well as the prices that businesses receive for what they produce.
- 2) These “tax wedges,” in turn, “distort economic decisions, leading to an allocation of resources that...is less productive or beneficial to society as a whole.”<sup>6</sup>
- 3) Taxation also results in economic costs because scarce resources must be dedicated to collecting, administering and complying with the numerous taxes that governments levy.<sup>7</sup>

None of this is to suggest that taxes aren't necessary. Clearly, they are essential in any modern economy and civilized society. Governments perform a number of vital functions and deliver many necessary services – from paying for infrastructure to

<sup>5</sup> Apart from changing tax rates, governments can raise more or less revenue by altering tax credits, capital cost allowances, or the definition of taxable income.

<sup>6</sup> Bev Dahlby and Ergete Ferede, “What Does it Cost Society to Raise a Dollar of Tax Revenue?” C.D. Howe Institute Commentary, March 2011, p. 1.

<sup>7</sup> *Ibid.*

providing income support, safeguarding public health and safety, and helping to pay for education and health care, among many others. The point is simply that the costs of taxation must also be counted, along with the benefits that flow from the services and programs that taxes pay for. For economists and public finance scholars, the central insight about the cost of taxation is that “...more tax revenue can be obtained from a tax base only by giving up some of the private sector activity that generates that tax base.”<sup>8</sup>

How big are the costs of taxation? Academic studies in the US and some other advanced countries suggest that the average economic cost for all forms of taxation is in the range of 18-25% of the total revenues raised. This means that, on average, a dollar of revenue collected by the state across all forms of taxation costs the private sector between \$1.18 and \$1.25.<sup>9</sup> The costs vary depending on the mix of taxes used in a jurisdiction and the details of any particular tax policy changes.

In arriving at such estimates, economists try to quantify how consumers, businesses, investors and workers respond to changes in tax policy. The intuition is that when taxes are imposed or increased, some businesses

will reduce (or shift) production, some individuals will choose to work less (or not at all), some investments won't be made, and many people will dedicate more time and resources looking for ways to minimize tax liabilities and burdens. All of these responses are examples of how taxes dampen economic activity and reduce beneficial economic exchanges.

A few years ago, two economists at the federal Department of Finance produced a detailed study that looked at the economic effects of taxation, based on a sophisticated general equilibrium model of the Canadian economy.<sup>10</sup> The logic underlying their model is that altering taxes affects the economy through four different types of decisions made by households and firms: the decision to consume or save/invest, the decision by firms whether to invest in a particular jurisdiction or outside of it, the work-leisure choices made by individuals, and the mix of consumption and capital goods produced in the economy as a whole.

The key findings of the Finance Canada study are summarized in Table 1. Column 1 lists the specific tax change modeled. Column 2 is an estimate, in dollars, of the decline in “economic welfare” – resulting from fewer beneficial economic exchanges – due to a one dollar increase in government revenue from the tax changes identified in column 1. Column 3 is the authors' estimate of the

<sup>8</sup> Ibid., p. 3.

<sup>9</sup> D. Jorgenson and K. Yun, “The Excess Burden of Taxation in the United States,” *Journal of Accounting, Auditing and Finance*, volume 6, 1991, pp. 487-509; C. Ballard, J. Shoven and J. Whalley, “General Equilibrium Computations of the Marginal Welfare Costs of Taxes in the United States,” *American Economic Review*, volume 75, 1985, pp. 128-138; Alex Robson, *No Free Lunch: The Costs of Taxation*, New Zealand Business Roundtable, 2007.

<sup>10</sup> M. Baylor and L. Beausejour, “Taxation and Economic Efficiency: Results from a Canadian CGE Model,” *Department of Finance Working Paper*, November 2004. Note that their study modeled the impact of tax decreases whereas in this paper we are interested in the effects of tax increases. But the same quantitative estimates apply in either case.

decline in Canadian gross domestic product stemming from an increase in government revenues equivalent to 1% of GDP for each of the tax measures noted in column 1.

**Table 1**  
**Impact of Revenue Raising Tax Measures on Economic Welfare and Steady-State Canadian GDP**

Tax Measure	Economic Welfare Loss in Dollars per Dollar of Increased Tax Revenue	Percent Decline in GDP from Increase in Tax Revenue of 1% of GDP
Reduce corporate capital cost allowances	\$1.35	4.39%
Increase personal capital income taxes	\$1.30	3.36%
Increase sales tax on capital goods	\$1.29	3.05%
Increase corporate income taxes	\$0.37	1.94%
Increase personal income taxes	\$0.32	1.29%
Increase payroll taxes	\$0.15	0.66%
Increase consumption taxes	\$0.13	0.19%

Source: Baylor and Beausejour, *Finance Canada*.

This widely cited Finance Canada study, in common with most existing public finance literature, highlights several salient points about the economic consequences of changes in tax policy in general, and higher tax rates in particular.

First, taxes that apply to investment and capital income are the “most distortionary,” in terms of the impact on economic activity. These include capital taxes on the value of a firm, changes in capital cost allowances for new investment, and sales or consumption

taxes that are imposed on business purchases of capital goods and other “inputs.”<sup>11</sup> Taxes on corporate income are also quite costly. More recent international research confirms the findings of the Finance Canada analysis. For example, a major study of the impact of corporate taxation by the Organization for Economic Cooperation and Development (OECD) found strong cross-country evidence that taxes levied on business income, business capital, and business purchases of inputs have “substantial negative effects on productivity and investment.”<sup>12</sup>

Second, taxes on consumption are “least distortionary,” that is, they have a relatively small effect on economic activity. Sales and value-added taxes paid by households fall in this category.

Third, taxes on personal income and on labour – notably payroll taxes – are in-between, as judged by the magnitude of their economic effects.

Finally, note that altering any of the tax measures in Table 1 has a net impact on economic well-being – that is, a one dollar

<sup>11</sup> This explains why BC’s adoption of the HST led to a sharp fall in the effective tax burden on business investment: the HST eliminated most of the sales tax that previously applied to purchases of business inputs. When the province shifts back to the former retail sales tax in 2013, this competitive benefit will be reversed, and BC will end up with a much higher effective tax burden on many categories of private sector investment. This will slow capital accumulation and economic growth over time.

<sup>12</sup> C. Schwellnus and J. Arnold, “Do Corporate Taxes Reduce Productivity and Investment at the Firm Level?” *OECD Economics Department Working Papers*, No. 641, 2008, p. 22.

change in the amount of tax collected from each of the taxes listed has an economic cost that exceeds the dollar of revenue actually generated. So, for example, a one dollar increase in government revenue from a higher consumption tax on households reduces economic welfare by 13 cents, over and above the value of the government services and programs that are financed by the extra dollar of tax obtained from this source. An increase in corporate income tax equivalent to 1% of GDP reduces the level of Canadian GDP by 1.94%. These “extra” costs – on individuals, and on the economy as a whole – are sometimes described by economists as the “deadweight costs” of taxation.<sup>13</sup>

### **More Recent Estimates for British Columbia**

A recent C.D. Howe Institute study builds on the earlier Finance Canada analysis by estimating the “marginal cost of public funds” (the MCF) for all ten provinces. The MCF is designed to measure “...the [economic] loss incurred by a society in raising an additional dollar of tax revenue from a particular tax source.”<sup>14</sup> The MCF is similar to the concept of “economic welfare loss” used in column 2 of Table 1.

The C.D. Howe Institute study estimated MCFs for three types of provincial taxes in all ten provinces, as of 2006. For British Columbia, it found that the MCF of raising one additional dollar of tax via an increase in the provincial corporate tax rate was very high – more than \$11 for each incremental

revenue dollar. With an MCF at this level, the authors posit that the government would have garnered more revenue by lowering the corporate income tax rate from where it stood in 2006.<sup>15</sup> This is partly because a lower corporate tax rate would attract more capital investment and business activity, and thus expand the size of the province’s tax base, over time.

Note that the \$11 MCF for a one dollar increase in the BC corporate income tax computed by the authors of the C.D. Howe Institute paper is higher than the “economic loss” figure reported for the similar measure used in Table 1. This reflects the differing features of the models used in the two studies, as well as the fact that the results summarized in Table 1 apply to the Canadian economy rather than to an individual province. The extent of tax competition among provinces within an integrated national economy and financial system is significantly greater than that between separate countries. This is because capital investment is far more mobile within countries than among them.<sup>16</sup>

The lesson is that for a small sub-national jurisdiction like British Columbia, increasing income, capital or input taxes on business has a larger economic cost than imposing the same tax changes at the national level. Another way of saying the same thing is that the business tax base available to the BC government is more mobile (and thus more fragile) than the business tax base overseen by the Canadian government.

<sup>13</sup> See Robson, op. cit., chapter 5 for an accessible treatment of deadweight costs..

<sup>14</sup> Dahlby and Ferde, op. cit., p. 1.

<sup>15</sup> Ibid., p. 8.

<sup>16</sup> The same is true of labour mobility – it is greater within than between countries.

The C.D. Howe Institute study also estimates that the cost of increasing provincial tax revenue from a higher BC personal income tax rate in 2006 was \$1.83, while in the case of a higher general sales tax, the MCF of generating one dollar of extra revenue was \$1.13.<sup>17</sup> Note that in the latter two cases, as with the corporate income tax referenced above, there is a net “economic loss” from higher tax rates since the estimated MCFs exceed one.

### **Conclusion**

Several conclusions follow from this brief review of the economic impact of tax increases.

First, while governments obviously must levy taxes in order to have the means to pay for public programs and services, policy-makers should be mindful that all forms of taxation carry economic costs – and that the magnitude of such costs differs greatly among different tax sources. A “smart tax policy” is one that seeks to raise a larger share of the revenues that government needs from taxes that are least damaging to the economy.

Second, the provincial corporate income tax is one of the most “costly” forms of taxation, in terms of the impact of higher tax rates on economic activity, the size and robustness of

the tax base, and overall GDP. This is particularly true for small jurisdictions like British Columbia that are part of an integrated national economy in which both capital investment and many high-value business functions are increasingly mobile.

Third, whether in Canada as whole or in British Columbia, it is less “costly” in an economic sense for the government to raise an additional dollar of revenue through increases in consumption (or payroll) taxes than by legislating higher tax rates on business or personal income. This insight is consistent with international research on the consequences of taxation for long-term economic growth.<sup>18</sup>

As policy-makers look at the suite of options available to address budget deficits and/or potentially to increase revenues, they should pay careful attention to the economic consequences of higher taxes and of reliance on differing mixes of tax sources. The economic costs of taxation can be quite substantial, and they exist even if the revenues collected by government are used in a productive manner.

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<sup>17</sup> Dahlby and Ferede, op cit.

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<sup>18</sup> G. Myles, “Economic Growth and the Role of Taxation – Disaggregate Data,” *OECD Economics Department Working Papers*, No. 715, 2009.