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Tax Efficiency: Not All Taxes Are Created Equal

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Executive summary

One reason that governments impose taxes is to finance the services that citizens demand. This study examines how governments can extract tax revenues in the least costly and economically damaging manner in order to improve economic performance.

Costs of taxation

Efficiency costs

The costs associated with taxation extend far beyond the amount of tax collected. First, there are significant incentive-based costs, which are generally referred to as efficiency costs. These costs emerge because taxes alter relative prices and thus the incentives for productive behaviour and affect a wide range of decisions regarding savings, investment, effort, and entrepreneurship. These costs vary widely by the type of tax.

One main method for quantifying these costs is referred to as the marginal efficiency cost (MEC). It calculates the cost of raising one additional dollar of tax revenue using different types of taxes. Estimates of the marginal efficiency costs of both American and Canadian taxes indicate that consumption and payroll (wage and salary) taxes are much less costly (and thus more efficient) than taxes on capital or the return to capital. For example, a study by the Department of Finance for the OECD (1997) concluded that corporate income taxes imposed a marginal cost of \$1.55 (MEC) for one additional dollar of revenue compared to \$0.17 for an additional dollar of revenue raised through consumption taxes.

Similarly, one of the most widely cited calculations of marginal efficiency costs (MEC) is that by Harvard Professor Dale Jorgensen and his colleague Kun-Young Yun (1991). Their estimates of the MEC of select US taxes indicate significant variation in the economic costs of different taxes and support the Canadian findings. Specifically, capital-based taxes (MEC = \$0.92) and corporate income taxes (MEC = \$0.84) were

shown to impose much higher costs than other, more efficient types of taxes such as the sales tax (MEC = \$0.26).

As a result, there are economic gains available to taxpayers and Canadians in general from shifting the tax mix away from capital-based taxes to those based on consumption.

Compliance and administrative costs

In addition to the incentive-based costs, there are also compliance and administrative costs associated with taxation. Compliance costs are the resources that individuals and firms use to comply with tax regulations. The estimates of these costs of tax compliance contained in the studies surveyed in this paper range from 3.3 percent to 6.6 percent of GST revenues for the goods and services tax, to between 2 and 5 percent of taxes remitted for corporate income and capital taxes, to roughly 3 percent of taxes paid for payroll taxes.

Administrative costs are the expenses that government incurs—and ultimately which citizens pay—to manage and enforce the tax collection system. An important study reviewed in this paper by Professor François Vaillancourt (1989) concluded that the administrative costs for personal income taxes and the two main payroll taxes (Employment Insurance (EI) and Canada Pension Plan (CPP)/Quebec Pension Plan (QPP)) represent roughly 1.0 percent of the gross revenues collected (p. 84).

Clearly, compliance and administrative costs add to the tax burden. These costs must be taken into consideration when considering tax changes and the design of specific taxes.

Canada's tax mix—an international comparison

Canada has the fourth highest reliance on income and profit taxes among OECD countries. At 46.5 percent of

total tax revenues, income and profit taxes constitute nearly half of all tax revenues for governments in Canada and are significantly greater than the OECD average of 34.4 percent.

On the other hand, sales tax, which is one of the most efficient types of tax, represents a much lower percentage of total tax revenues in Canada than in other industrialized countries. Specifically, Canada ranks 24th out of 30 OECD countries in terms of its reliance on taxes on goods and services. Only 25.9 percent of total tax revenues in Canada are collected from such taxes. This compares with an OECD average of 32.3 percent.

Canada also ranks low (25th of 30 OECD countries) in its use of social security taxes, another relatively efficient tax. In Canada, social security taxes collect 15.2 percent of total tax revenues compared to an OECD average of 25.9 percent.

An analysis of the composition of Canada's tax mix indicates that this country relies too heavily on high-cost taxes such as those on investment income and profit, and relies too little on less economically damaging taxes such as those on goods and services. To the extent that our tax system over-relies on high-cost sources of tax revenue, the Canadian economy grows at a lower rate than might be possible with a more efficient tax system.

Trends in Canada's tax mix

Canada's tax mix has changed significantly over time. Unfortunately, instead of moving towards a greater reliance on low-cost taxes, Canada has actually been increasingly relying on higher cost taxes.

In the period from 1965 to 2004, Canada's taxes on personal income have become an increasing percentage of total tax revenues. Specifically, the country's reliance on personal income taxes has increased from 22.6 percent of the total tax take in 1965 to 35.1 percent in 2004. This increasing reliance on personal income taxes contrasts starkly with the overall OECD average, which saw a slight decline: 26.2 percent of total taxes in 1965 versus 24.6 percent in 2004.

The dramatic increase in Canada's reliance on personal income taxes is matched by a nearly equal decline in its reliance on taxes on goods and services (consumption). The proportion of taxes raised from goods and services declined from 40.5 percent in 1965 to 25.9 percent in 2004. While the OECD average for taxes on goods and services as a share of total tax revenue also declined over the same period, from 38.2 percent to 32.3 percent, the decline was much smaller than in Canada.

Interestingly, the most dramatic change is in social security contributions. In Canada, this tax category increased from 5.6 percent of total tax revenue in 1965 to 15.2 percent in 2004. The increase for the OECD average was notable, but less stark: from 17.7 percent in 1965 to 25.9 percent in 2004.

Recommendations

Given that capital-based taxes are more economically damaging than consumption taxes, and that Canada relies heavily on these high-cost taxes, Canadian governments should reduce their use of capital-based taxes while increasing their use of consumption-based taxes. Such a shift in Canada's tax mix would have two beneficial effects. First, it would reduce this country's reliance on high-cost taxes by replacing them with taxes that cost the economy less. Second, it would bring Canada's tax mix more in line with our main industrial competitors—other countries in the OECD.

Specifically, Canadian governments should reduce two broad categories of taxes:

- **Business taxes.** Two key taxes in this category should be reduced or eliminated: corporate income taxes (reduced) and capital taxes (eliminated).
- **Personal income taxes.** Personal income tax rate reductions will decrease the tax rate on labour income (wages and salaries). In addition, taxes on savings, investment, and capital gains income (all capital-based taxes) will be reduced because the underlying applicable rate is based on personal income tax rates.

As well, governments should implement the following changes:

- Harmonize provincial sales taxes with the federal GST. This change would materially reduce taxes on capital for five provinces: British Columbia, Saskatchewan, Manitoba, Ontario, and PEI. These provinces maintain independent provincial sales taxes and apply those taxes to business inputs and capital goods. Harmonization would also reduce government costs for collecting and enforcing the tax, as well as the costs to individuals and businesses who must collect and remit the tax.
- Encourage savings. The federal government should eliminate, or at least substantially increase, the limits for contributions to tax-sheltered savings accounts, such as RRSPs and pensions, and create new, prepaid tax savings accounts.
- Offset immediate revenue losses. Canadian governments could offset the immediate revenue losses by increasing consumption-based taxes such as the GST.

Rough estimates of revenue changes

If Canada were to cut its reliance on personal and corporate income taxes to the OECD average, governments would lose \$49.1 billion (in 2004 dollars). Alternatively, if Canadian governments were to increase their reliance on goods and services taxes to the OECD average, they would see an increase of \$28.0 billion (in 2004 dollars). Canadian governments also tend to under-rely on less costly taxes in the broad category of social security taxes, including payroll-type taxes. If Canadian governments were to increase their use of such taxes to the OECD average, they would raise an additional \$46.8 billion.

The overall objective for Canadian policy should be to reduce reliance on more damaging taxes, such as taxes on income and profits, and replace the lost revenues with less costly taxes, such as consumption taxes.

Introduction

One reason that governments impose taxes is to finance the services that citizens demand.¹ This study examines how governments can extract tax revenues in the least costly and economically damaging manner. There are, of course, other policy considerations in determining tax policy. Indeed equity (often referred to as fairness) and simplicity are critical policy factors.² That acknowledged, this study focuses on economic efficiency, which is frequently ignored in public policy discussions about tax policy. The reason to focus on economic efficiency is because not all taxes are created equal; the economic costs of different taxes are different. Some taxes impose greater costs on society than others. The key for societies is to rely more on the less costly taxes and less on the more costly taxes.

Organization

This study is divided into four sections. The first section reviews research on the cost of different taxes. It provides compelling evidence that certain types of taxes impose much higher costs on society than do others. The second section compares Canada's tax mix to those in the 29 other industrialized countries that form the Organization for Economic Cooperation and Development (OECD). The section presents data that illustrate that Canada's tax mix is out of step with most other industrialized countries, which provides a competitive rationale for changing our mix of taxes. The study's third section provides some concluding remarks and recommendations. The final section is a series of appendices that provide additional information for interested readers.

1 In theory, governments also tax in order to deal with externalities and/or to redistribute income. In fact, a primary argument for progressive personal income taxes is income redistribution. For a discussion of taxes and redistribution, see Boadway and Ken, 2000; Matti, 1990; Salanie, 2003; and Slemrod, 1994. For research regarding taxation and externalities, see Pigou, 1920; Samuelson, 1955; Bator, 1957; and Baumol, 1972.

2 Equity or fairness refers to both horizontal equity (individuals and households with similar incomes should face similar tax burdens) and vertical equity (individuals and households pay more tax as their incomes increase). While not central to this study, these additional tests of equity and simplicity are critical since they, along with efficiency, influence what forms of taxation a jurisdiction uses. For example, if a jurisdiction is unconcerned with equity (fairness) then it can use lump-sum taxes, which impose no efficiency costs. For further information, see Emes *et al.*, 2001; Clemens *et al.*, 2003; Ott and Vegari, 2003; and Slemrod, 1994.

1. Costs of Taxation

The costs to society of government taxation are not limited to just the amount of taxation.³ Individuals and businesses incur three additional costs. The first of these is referred to as efficiency costs. These costs are related to the fact that taxes change people's behaviour. They do so by changing the prices that households pay for the goods and services they consume and by changing the after-tax returns they receive from the inputs (land, labour and capital) that they provide. Depending on the design of a specific tax, these changes can lead to such undesirable results as less savings, investment, work effort, and risk-taking than would otherwise be the case.

The second of the costs is referred to as compliance costs. These costs include the time and expenses that individuals and businesses incur to maintain proper records, undertake tax planning, file necessary reports, and calculate necessary remittances, to name but a few. These costs are all associated with conforming to tax regulations.

The third cost that society bears is the administrative cost of taxation. These costs are incurred by governments in order to collect and enforce taxes, but are ultimately paid by members of the society. Taxpayers have to pay yet higher taxes to pay for the cost of government.

The sum of these costs (tax liability, efficiency costs, compliance expenses, and government administrative costs) comprise the total cost of government taxation.

The following section focuses principally on the efficiency costs of taxes. It presents empirical research documenting the fact that some taxes impose much higher costs on society by altering incentives for sav-

ings, investment, work force participation, effort, diligence, risk-taking, and entrepreneurship compared with other taxes that impose lower costs. The section also contains a brief discussion of both compliance and administrative costs.

I. Efficiency cost of taxes

Taxes impose efficiency costs on society because they change the way individuals, families, and businesses behave. Individuals and firms make decisions based on prices. Raise the price of a good, and consumers will likely purchase it less, and substitute alternatives (i.e., other goods) in its place. Similarly, raise the price of a business input, and the business will search for ways to compensate for the increased costs through substitution and innovation. Taxes change the relative prices of goods, services, and inputs by making some inputs more expensive and others relatively less so. This change in prices distorts a firm's production decisions—what to produce, and how, where, and when to produce it. Taxes can also reduce the net return that workers get from working, or taking advanced training or education, and the net returns that investors get from employing their capital in one industry rather than another.

For example, an increase in an employer payroll tax means that labour, at least in the short term,⁴ has become more expensive. When faced with higher labour costs, firms, particularly labour-intensive ones, will look for ways to mitigate the increased expense by substituting capital, such as machinery and equipment, for labour.

Taxes on savings, such as personal income taxes on interest, dividends, and capital gains, and taxes on cap-

3 For an overview of the costs associated with taxation see US GAO, 2005.

4 Over the longer term, payroll taxes become part of the overall cost of labour in terms of compensation. In other words, payroll taxes are borne by workers through lower wage rates.

ital such as corporate income taxes and capital taxes (for more information on Canada's unique corporate capital taxes, see Clemens *et al.*, 2002), reduce investors' rates of return (after-tax), and so reduce the incentive to save and invest (for information on the ultimate incidence of business taxes, see Clemens and Veldhuis, 2003). This can have a profound effect on productivity-enhancing investment, and ultimately on workers' wage rates. Indeed, in its recent report *Advantage Canada*, the federal government explained the importance of business investment:

Business investment is critical to our long-term prosperity. It yields innovation and growth, with more jobs and higher wages for Canadian workers. High investment taxes are harmful because they reduce the returns from investment, thereby reducing the amount of investment that takes place in Canada. (Department of Finance, 2006b, p. 73)

Another example of taxes affecting behaviour relates to personal income taxes, which affect labour supply decisions by decreasing after-tax wages. For instance, the drop in after-tax wages caused by personal income taxes affects how much people work (the total number of hours worked) and their overall work effort. (For further information on these incentive effects and their influence, see Clemens *et al.*, 2004; and Veldhuis and Clemens, 2006). The federal government report that outlined problems with Canada's taxes on savings and investment also identified serious

problems with Canada's personal income taxes. For example, *Advantage Canada* notes that "Canada's tax burden on highly skilled workers is too high relative to other countries," and that the country needs to lower these marginal rates⁵ in order to:

...attract and retain highly skilled workers; encourage more Canadians to realize their full potential and improve the standard of living in Canada; encourage all workers to invest in training and education. (Department of Finance, 2006b, p. 46)

Finally, sales taxes also affect the incentive to work because they reduce a worker's real wage rate by increasing the prices of consumer goods.⁶ In addition, sales taxes that are levied on the inputs purchased by firms (a common feature of the provincial retail sales taxes)⁷ drive up businesses' costs and reduce their competitiveness.⁸

Research on marginal efficiency cost

Numerous academic and government-commissioned studies have estimated the economic costs of different types of taxes. A critical contribution to this field was made in the early 1970s by Nobel Laureate James Mirrlees, who developed the theory of optimal taxation. The core of Mirrlees' work was that governments should achieve given revenue requirements by choosing taxes that have the best social welfare outcome (Mirrlees, 1971 and 1972; Diamond and Mirrlees, 1971).

5 The same report also discusses marginal tax rate problems that Canadians of low and modest income face (pp. 44-45).

6 Note that sales taxes do not distort inter-temporal consumption decisions if the tax rate is constant.

7 British Columbia, Saskatchewan, Manitoba, Ontario, and Prince Edward Island all apply their provincial sales taxes to business inputs and capital goods, albeit to varying degrees due to the presence of exemptions on certain types of goods.

8 The federal government estimates that harmonization of provincial retail sales taxes with the GST, which would exempt business inputs and capital goods, would materially reduce the cost of new investment. For example, *Advantage Canada* indicates that such harmonization in Ontario would reduce the marginal effective tax rate by 9 percentage points (Department of Finance, 2006b, p. 76). Note that the large gains from harmonization are restricted to those provinces that apply non-integrated provincial sales taxes: British Columbia, Saskatchewan, Manitoba, Ontario, and P.E.I. In its 2006 *Economic Survey of Canada* (OECD, 2006a), the OECD concludes that harmonization of provincial sales taxes with the GST would "provide a more productivity-friendly environment" (p. 12).

The research summarized in this section relies on what is referred to as marginal efficiency cost (MEC)⁹ or marginal excess burden (MEB) calculations. The MEC methodology provides a mechanism by which to estimate the cost of different taxes. Specifically, the MEC calculates the efficiency cost of raising one additional dollar of revenue.¹⁰ The following section broadly surveys a number of key studies on the efficiency costs of taxes for Canada and the US.

The MEC in Canada

The federal department of finance has calculated, and the Organisation for Economic Co-operation and Development (OECD) has published, the MEC estimates for Canadian taxes (OECD, 1997). As will be evident throughout this summary, capital-based taxes tend to impose much higher costs on society due to their incentive effects (lower savings, less investment, and ultimately less income growth based on lower productivity) than other taxes deemed to be less costly (more efficient) such as consumption taxes.

Table 1 summarized the results from the study. The department of finance concluded that corporate income taxes impose a marginal cost of \$1.55 (MEC) for one additional dollar of revenue.¹¹ This compares with a cost of \$0.17 for an additional dollar of revenue raised through consumption taxes.¹² Payroll taxes were also determined to impose relatively low costs on society.

More recently, the federal department of finance published a study by Baylor and Beausejour (2004) that calculated the long-term economic costs imposed by the main taxes used in Canada.¹³ Table 2 contains and figure 1 illustrates the results of the study.

Table 1: Estimates of Marginal Efficiency Costs (MEC) for Select Canadian Taxes

	MEC (\$CDN)
Corporate Income Tax	\$1.55
Personal Income Tax	\$0.56
Payroll Tax	\$0.27
Sales Tax	\$0.17

Source: OECD, 1997.

Table 2: Welfare Gains from Tax Reductions¹

Capital Cost Allowance	\$1.40 ²
Sales Tax on Capital Goods	\$1.30
Personal Capital Income Tax	\$1.30
Capital Tax	\$0.90
Corporate Income Tax	\$0.40
Average Personal Income Tax	\$0.30
Wage Tax	\$0.20
Consumption Tax	\$0.10

Notes

¹Revenue loss is assumed to be recovered through “lump-sum” taxation. Welfare gains are calculated as the gain in economic well-being per dollar of tax reduction.

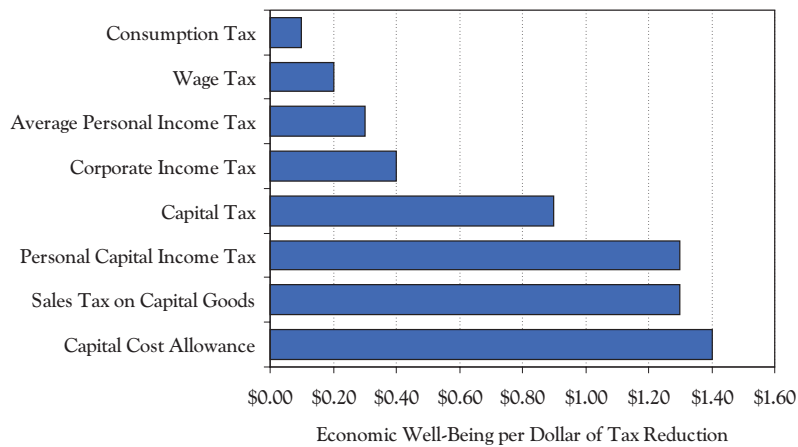
²The estimate for an increase in capital cost allowances (CCA) is for new capital only. Increasing CCA is not a tax reduction per se but rather an increase in a deduction against corporate income taxes.

Source: Baylor and Beausejour, 2004.

The results from Baylor and Beausejour (2004) support the earlier MEC estimate. Capital-based taxes,

9 The marginal efficiency cost (MEC) of taxes should not be confused with another important concept: the marginal cost of public funds (MCPF). The MCPF is the ratio of the economic costs of taxation to the value of the tax revenues raised to finance a government project. For instance, an MCPF of \$1.50 indicates that an additional dollar of tax revenue imposes a cost of \$1.50 on the economy. In this framework, government spending can only be justified if it produces more than a \$1.50 worth of benefits. For further discussion of MCPF, see Browning, 1976 and 1987; and Dahlby, 1998.

10 Note that the marginal efficiency cost of taxes are estimates of the cost of raising one additional dollar of revenue. They are, therefore, measures of marginal or incremental cost and should be used to measure the benefits of small or incremental tax shifts. The MEC cannot be used to measure the total, or even the average cost of taxes. In other words, MECs should be used cautiously, if at all, when estimating large-scale tax shifts when the relationship between the tax rate and efficiency cost is non-linear.

Figure 1: Welfare Gains from Tax Reductions

Source: Baylor and Beausejour, 2004.

such as sales taxes on capital goods purchased by businesses, personal income taxes on investment income, capital taxes imposed on large firms, and corporate income taxes, impose substantially larger burdens on society than payroll and goods and services (consumption) taxes. For example, decreasing personal income taxes on capital (dividends, capital gains, and interest income) by \$1 and imposing an offsetting \$1 increase in sales taxes would result in a net increase (\$1.30 - \$0.10) of \$1.20 in society's well-being (see table 2 and figure 1).

Along similar lines, Quebec's ministry of finance recently calculated the benefits to Quebec's economy from reducing different provincial taxes (Ministere des Finances du Quebec, 2005). The results of the analysis, which are summarized in table 3, corroborate Baylor and Beausejour's findings. Specifically, Quebec's department of finance found that capital-based and income taxes impose signifi-

Table 3: Impact on Real GDP per Dollar of Tax Reduction in Quebec¹

Tax on Capital	\$1.21
Personal Income Tax	\$0.74
Payroll Tax	\$0.66
Corporate Income Tax	0.62
Quebec Sales Tax (QST)	0.54
Total ²	0.74

Notes

¹Estimates are revenue neutral. The loss in revenue is offset by a fixed tax.

²The total corresponds to a proportion reduction in all taxes.

Source: Ministère des Finances du Québec 2006, p. 11.

cantly higher costs on society than sales taxes. The ministry estimated that reducing taxes on capital by \$1 would result in an increase in inflation-adjusted gross domestic product (GDP) of \$1.21, whereas a \$1 reduction in Quebec's sales tax (QST) would increase inflation-adjusted (real) GDP by \$0.54 (table 3).¹⁴

Although there are differences in the types of economic models and frameworks used to measure the efficiency costs of imposing taxes, leading to different estimates of MECs for spe-

11 The 1997 Department of Finance study found much higher costs for a general corporate income tax than the later Baylor and Beausejour (2004) study.

12 There are critical differences between the federal goods and services tax (GST) and the provincial sales taxes (often referred to as retail sales taxes) in many provinces. Specifically, provinces with independent sales taxes (British Columbia, Saskatchewan, Manitoba, Ontario, and Prince Edward Island) apply them to business inputs such as machinery and equipment. The federal GST, and sales taxes in provinces that have harmonized their retail sales taxes with the GST, exempt such business inputs, ensuring that the tax actually applies to final consumption. Quebec's provincial sales tax, while not harmonized with the GST, is a value-added tax that does not apply to business inputs and capital goods. This is critical since the application of a sales tax to business inputs effectively taxes capital, not consumption.

13 The study calculated the benefits from reducing taxes and assumed that the tax revenues lost due to the tax cuts were offset by a non-distortionary lump-sum tax increase. In other words, the tax changes were revenue neutral. In addition, lump-sum taxes are assumed not to distort individual and firm behaviour because they do not alter relative prices. See Mankiw (2004), for further details on lump-sum taxes.

14 The Ministry assumed that the tax revenues lost due to the tax cuts were offset by a fixed (non-distortionary) tax.

Table 4: Estimates of Marginal Efficiency Costs (MEC) for Select US Taxes

	MEC (\$CDN)
Capital Income Taxes (Individual & Corporate)	\$0.92
Corporate Income Tax	\$0.84
Individual Income Tax	\$0.60
Payroll Tax	\$0.48
Sales Tax	\$0.26

Source: Jorgenson and Yun, 1991.

cific taxes, the two studies by the federal Department of Finance as well as the study by the government of Quebec all concluded that capital-based taxes imposed much higher costs on society compared to other more efficient taxes such as consumption taxes that impose much lower costs.

The MEC in the United States

Among the most widely cited calculations of estimated marginal efficiency costs (MEC) are those by Harvard Professor Dale Jorgensen and his colleague Kun-Young Yun (1991).¹⁵ Jorgensen and Yun's estimates of the MEC of select US taxes indicate significant variation in the economic costs of different taxes and support the findings from the three Canadian studies cited above (see table 4). Specifically, capital-based taxes (MEC = \$0.92) and corporate income taxes (MEC = \$0.84) were shown to impose much higher costs than other, more efficient types of tax such as the sales tax (MEC = \$0.26). In other words, it costs the economy \$0.26 to raise an additional dollar of revenue using consumption taxes, but \$0.92 to raise an additional dollar of tax revenue using capital-based income taxes.

Another important study that calculated the costs of different taxes was completed by Ballard, Shoven, and Whalley in 1985 and published in the prestigious *American Economic Review*. The study reported MEC estimates for a broad range of taxes in the United States (table 5). The authors calculated that each dollar of additional tax revenue imposed costs in the range of \$0.17 to \$0.56 on the US economy. As observed in the previous studies mentioned, however, there were across-the-board differences in the costs for different taxes. The authors found that the efficiency costs of sales taxes (which were defined to exclude taxes on alcohol, tobacco, and gasoline)¹⁶ were significantly lower (\$0.035) compared to other taxes, such as capital taxes (\$0.181), income taxes (\$0.163), and payroll taxes (\$0.121).

Conclusion

Estimates of the marginal efficiency costs of both American and Canadian taxes indicate that sales (consumption) and payroll (wage and salary) taxes are much less costly (more efficient) than taxes on capital or the return to capital. As a result, there are economic gains available to taxpayers in both Canada and elsewhere from shifting the tax mix away from capital-based taxes to more efficient taxes such as those based on consumption.

Compliance Costs

The second set of costs associated with taxation is that which individuals, families, and businesses pay to comply with tax regulations. These costs include such expenses as bookkeeping, reporting, calculating, and remitting tax payments.¹⁷ Unfortunately, there is no comprehensive study of the compliance costs for all taxes using a standardized methodology. Instead, a host of studies use different methods to estimate com-

15 There are important MEC studies for other countries, although the bulk of such work has been completed for the United States. For example, Professors Erwin Diewert and Denis Lawrence (1996) estimated the MEC of selected taxes for New Zealand between 1971 to 1991.

16 For a discussion of consumption taxes on cigarettes and alcohol, see Hines, 2006.

Table 5: Marginal Excess Burden from Raising Extra Revenue from Specific Portions of the Tax System

Tax	Cost
All Taxes	\$0.170
Capital Taxes at Industry Level	\$0.181
Income Taxes	\$0.163
Labour Taxes at Industry Level	\$0.121
Sales Taxes on Commodities	\$0.035

Note: The original table provided four cost estimates. We have presented only what the authors deemed to be the most “conservative” cost estimates. This table is, therefore, only a partial presentation of the complete table found in the study.
Source: Ballard *et al.*, 1985, p. 136.

pliance costs for one or a few specific taxes. This makes it difficult to compare compliance costs among taxes. Nonetheless, it is important to briefly review the findings from some of the major studies to highlight the magnitude of costs associated with complying with tax regulations.

Plamondon and Zussman (1998) provide one of the more recent surveys of compliance costs across a number of taxes at both the federal and provincial level.¹⁸ The authors concluded that compliance costs for the GST (federal) were between 3.3 and 6.6 percent of gross GST revenues (Plamondon and Zussman, 1998). While not as detailed, there is a wide range of compliance costs for provincial sales taxes. They are relatively low in those jurisdictions with integrated pro-

vincial sales taxes and the federal GST¹⁹ and relatively high in those provinces with independent sales tax regimes (see Veldhuis, 2006).

Plamondon and Zussman (1998) also provide estimates of compliance costs for corporate income taxes. The authors cite a number of international studies that indicate an average compliance cost for corporations of 1 to 2 percent of taxes remitted. However, the authors’ calculations indicate that Canadian compliance costs are more than double those estimates, ranging from roughly 2 to 4 percent of taxes remitted.²⁰ Professor Brian Erard’s (1997a) report for the Technical Committee on Business Taxation concluded that the compliance burden for income and capital taxes for large companies in Canada was roughly 5 percent of taxes paid.²¹

Professor François Vaillancourt (1989) estimated that the employer compliance costs incurred in retaining and remitting personal income taxes and payroll taxes represented 3.5 percent of taxes remitted. A study by Plamondon (1997a) estimated that payroll compliance costs were roughly 3 percent of taxes remitted. However, Plamondon and Zussman (1998) cite a number of international studies that concluded compliance costs were lower for payroll taxes, ranging from between 1 and nearly 2 percent. Their review of the research led them to conclude that a wide range of potential compliance costs existed.

Vaillancourt (1989) also examined the total compliance and administrative costs of the personal income tax and payroll taxes (CPP/QPP and UI) in

17 The calculation for compliance costs are average estimates. They are markedly different from the efficiency cost estimates since the MECs are marginal or incremental estimates.

18 This study concluded that there were some \$171 to \$285 million in potential savings to be realized, representing 6.7 percent of overall compliance costs, from moving to a single tax administration system.

19 The study notes that the “incremental compliance costs associated with the QST [Quebec’s sales tax] are minimal” because its administration and policy are integrated with the federal GST (p. 765).

20 Studies also show, however, that the burden of compliance costs for business in Canada is lower than in the United States due to the harmonization of tax bases in Canada. That is, the federal government and provinces use a common formula to calculate corporate profits. This finding has important implications for other taxes that are not fully harmonized, such as many provincial sales taxes. For a further discussion, see Erard, 1997a.

21 The study noted that the costs were substantially higher for firms in the mining, oil, and gas sectors, as well as those with foreign operations.

Canada.²² Unfortunately, the study did not delineate between the two costs. Vaillancourt's conclusion was that the total compliance and administrative costs for personal income taxes and payroll taxes were some 6.9 percent of taxes collected, in line with the findings from international studies (p. 83).

As stated earlier, these studies incorporate different methodologies to assess compliance costs for different taxes, which makes inter-tax comparisons difficult. Future research on compliance costs should apply a standardized methodology to a group of taxes to allow for direct comparisons of compliance costs for different taxes. Although a number of scholars and reports have generally concluded that business taxes impose higher compliance costs than do individual taxes (US GAO, 2005, p. 8), more empirical research is required.

The studies reviewed clearly indicate that individuals, families, and businesses incur significant compliance costs in addition to the direct costs of taxation. These costs must be considered when assessing tax policy and the design of specific taxes. Unfortunately, the evidence to date regarding compliance costs does not provide persuasive, let alone definitive, evidence that particular types of taxes are more costly to comply with than others, although there is general agreement that business taxes have higher compliance costs than do individual taxes.

Administrative Expenses

The final cost associated with taxation is that of collecting, administering, and managing the tax collection system itself.²³ These costs are directly incurred by governments, which collect taxes, but are ultimately borne by citizens. François Vaillancourt's (1989) study

on compliance and administrative costs is an important contribution to our understanding of the administrative costs associated with personal income taxes and two payroll taxes (CPP/QPP and UI). The study included processing costs, administration and accommodation costs, and capital expenses. In addition, the study also captured costs incurred in other government departments that were related to taxation, for example, costs in the department of justice related to litigation.

Vaillancourt concluded that the total administrative cost that the federal government incurred for these three taxes in 1986-87 was \$642 million. The Quebec government incurred an additional \$237 million to collect its provincial income tax and QPP payroll tax. Vaillancourt's adjusted analysis indicates a total administrative cost in 1986-87 for these three taxes of \$771 million.²⁴ This represents roughly 1.0 percent of the gross revenues collected by these three tax sources (Vaillancourt, 1989, p. 84).

Like compliance costs, administrative costs incurred by government to collect taxes are ultimately paid for by citizens through higher taxes. These costs must also be taken into consideration when considering tax changes and the design of specific taxes. However, the evidence from previous studies does not indicate whether some taxes pose materially less administrative costs than others. This is an area for future research.

Conclusion

The costs associated with taxation extend far beyond the amount of tax collected. First, there are significant incentive-based costs, which are generally referred to as efficiency costs. These costs emerge because taxes alter relative prices and thus the incentives for productive behaviour and affect a wide range of decisions regarding

22 He calculated the total cost using costs to individuals, employers, financial institutions and governments.

23 Like compliance costs, the calculations for administrative costs are average estimates, and are markedly different from the efficiency cost estimates.

24 There is an adjustment to the Quebec figure to reflect overlap and duplication between the federal and Quebec governments with respect to the collection of CPP and QPP. The result of the adjustment is to reduce the dollar value of administrative costs to reflect this duplication.

savings, investment, effort, and entrepreneurship. These costs vary widely by type of tax. For example, studies in Canada and the United States have consistently found that consumption-based taxes such as sales taxes ²⁵ impose relatively small costs on society, while capital-based taxes, such as corporate income taxes, impose much higher costs on society.

In addition to the incentive-based costs, there are compliance and administrative costs associated with tax collection. Compliance costs are the resources that individuals and firms use to comply with tax regula-

tions. Administrative costs are those expenses that government incurs—ultimately paid for by citizens—to manage and enforce the tax collection system. Estimates of compliance and administrative costs, while varying across tax types, vary less than the efficiency costs discussed earlier.

Tax reform and tax relief measures should take into account the large differences in costs between different taxes. Canada and other countries have clear opportunities to benefit by shifting tax collection towards less costly taxes and away from the more costly taxes.

25 Some sales taxes, such as independent provincial sales taxes, apply to business inputs and are therefore partially capital-based taxes. The GST is an example of a sales tax that is restricted to final consumption.

2. Canada's Tax Mix: An International Perspective

The costs imposed on an economy by different tax mixes can have competitive implications. That is, a jurisdiction that chooses a more efficient mix of taxes can outperform its competitors. This section of the study builds on the research presented in the previous section by examining the reliance of the Canadian governments (federal, provincial, and local) on different taxes compared to the 29 other industrialized countries in the OECD. Note that the comparisons are not based on tax rates but rather the composition of total tax revenues.

The tax mix in 2004

Table 6 presents the tax mix across six major categories of government revenues²⁶ for the 30 OECD countries as well as an OECD average for 2004, the most recent year for which comparable data are available. Specifically, the analysis examines the composition of total tax revenues for OECD countries across the following categories: (1) income and profit taxes, (2) social security taxes,²⁷ (3) payroll taxes, (4) property taxes, (5) goods and services taxes (consumption), and (6) other taxes.

Canada has the fourth highest reliance on income and profit taxes among OECD countries. At 46.5 percent of total tax revenues, income and profit taxes constitute nearly half of all tax revenues for governments

in Canada (table 6). Canada's use of income and profit taxes is 35.2 percent higher than the OECD average of 34.4 percent. This is particularly important given the research presented in the first section of this study showing that taxes on profit and investment tend to impose higher economic costs than other, more efficient types of taxes.

On the other hand, sales tax, which is one of the most efficient types of tax, represents a much lower percentage of total tax revenues in Canada than in other industrialized countries. Specifically, Canada ranks 24th out of 30 OECD countries in terms of its reliance on taxes on goods and services. Only 25.9 percent of total tax revenues in Canada are collected from such taxes (table 6).²⁸ This compares with an OECD average of 32.3 percent.

Canada also ranks low (25th of 30 OECD countries) in its use of social security taxes. In Canada, social security taxes comprise 15.2 percent of total tax revenues compared to an OECD average of 25.9 percent (table 6).²⁹

Finally, in terms of property taxes, Canada ranks fourth with 10.2 percent of its total tax revenue coming from such taxes (table 6).³⁰ This is nearly the double the OECD average of 5.6 percent. Note that part of the property tax base is capital invested by businesses in

26 For a definition of the six categories, see "Annex A: The OECD Classification of Taxes and Interpretative Guide" in OECD (2006b), p. 281.

27 In many countries, social security taxes are payroll or wage taxes. For further details, see "Annex A," OECD (2006b).

28 An important aspect of this comparison is not readily observable: many personal income tax systems behave as consumption taxes. In Canada, for example, the personal income tax system is actually a hybrid consumption-income tax because it allows for savings to be sheltered in the form of registered savings plans, such as RRSPs and pensions. In other words, for many taxpayers in Canada, the personal income tax system does not tax savings. Readers should be cautious, therefore, in drawing any definitive conclusions about the extent of income taxes compared to consumption taxes in the OECD countries. See Poddar and English (1999) for additional information on Canada's mixed income tax system.

29 This result is somewhat mitigated by the use of payroll taxes in some Canadian provinces. Only 11 of the 30 OECD countries use a payroll tax under the OECD tax revenue definitions. Payroll taxes would behave as social security taxes, and thus impose similar costs on the economy.

30 Property tax data include both residential and business source property taxes.

Table 6: Tax Revenue of Main Headings as Percentage of Total Taxation, 2004

	Income and Profits	Social Security	Payroll	Property	Goods and Services	Other
Australia	58.4	—	4.4	8.7	28.5	—
Austria	29.4	33.9	6.1	1.3	28.2	0.9
Belgium	38.6	31.3	—	3.9	25.0	0.0
Canada	46.5	15.2	2.0	10.2	25.9	0.3
Czech Republic	25.1	42.3	—	1.1	31.2	0.0
Denmark ¹	60.3	2.4	0.4	3.8	32.7	0.0
Finland	38.6	26.8	—	2.6	31.7	0.1
France ¹	23.3	37.1	2.6	7.6	25.6	3.6
Germany	27.3	40.7	—	2.5	29.2	0.0
Greece	23.5	34.7	—	4.4	37.1	—
Hungary	23.6	30.1	2.3	2.3	40.8	0.8
Iceland	44.0	8.3	—	6.3	41.1	0.2
Ireland	39.3	15.0	0.6	6.9	37.8	—
Italy	31.4	30.3	—	6.1	26.4	5.5
Japan	32.0	37.7	—	10.0	20.0	0.3
Korea	27.9	20.7	0.2	11.3	36.3	3.5
Luxembourg	33.2	28.3	—	7.8	30.4	0.2
Mexico	24.6	16.5	1.2	1.6	55.5	0.6
Netherlands	24.6	36.9	—	5.3	32.0	0.4
New Zealand	61.1	—	—	5.0	33.8	—
Norway ¹	46.2	21.6	—	2.6	29.7	—
Poland	17.9	40.9	0.7	3.8	36.0	—
Portugal	24.2	31.8	—	4.6	38.6	0.5
Slovak Republic ¹	18.8	39.4	—	1.8	39.8	—
Spain ¹	28.2	34.8	—	8.1	28.0	0.4
Sweden	37.7	28.4	4.7	3.1	25.8	0.1
Switzerland	43.4	24.4	—	8.5	23.7	—
Turkey	22.1	23.9	—	3.1	47.7	3.2
United Kingdom	36.8	18.8	—	12.0	32.0	—
United States	43.4	26.3	—	12.0	18.3	—
Unweighted average						
OECD total	34.4	25.9	0.9	5.6	32.3	0.7

Note

¹The total tax revenues have been reduced by the amount of capital transfer. The capital transfer has been allocated between tax headings in proportion to the report tax revenue.

Source: OECD Revenue Statistics, 2006, table 7, p.73.

Table 7: Comparative Tax Revenues for Canada and the OECD, 1965-2004

Tax Category	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004
1. Taxes on personal income as percentage of total taxation										
Canada	22.6	32.4	32.8	34.1	35.2	40.8	37.5	36.8	34.8	35.1
OECD average	26.2	27.9	29.8	31.3	29.7	29.7	27.1	26.0	25.0	24.6
2. Taxes on corporate income as percentage of total taxation										
Canada	14.9	11.3	13.6	11.6	8.2	7.0	8.2	12.2	9.5	10.3
OECD average	8.8	8.8	7.6	7.6	8.0	8.0	8.1	10.1	9.3	9.6
3. Taxes on goods and services as percentage of total taxation										
Canada	40.5	31.7	32.0	32.6	31.8	25.8	25.4	24.2	26.3	25.9
OECD average	38.2	36.0	32.7	32.4	33.7	31.9	32.4	31.6	32.1	32.3
4. Social security contributions as percentage of total taxation										
Canada	5.6	9.7	10.0	10.5	13.5	12.1	14.0	13.6	15.7	15.2
OECD average	17.7	19.1	22.0	22.1	22.2	22.3	24.7	24.5	26.1	25.9
5. Taxes on payroll and workforce as percentage of total taxation										
Canada	—	—	—	—	—	2.3	2.2	2.1	2.1	2.0
OECD average	1.0	1.1	1.3	1.3	1.1	1.0	0.9	0.9	0.9	0.8
6. Taxes on property as a percentage of total taxation										
Canada	14.3	12.8	9.5	9.1	9.3	10.0	10.7	9.5	10.2	10.2
OECD average	7.9	7.1	6.3	5.3	5.2	5.7	5.5	5.5	5.6	5.6

Source: OECD Revenue Statistics, 2006, tables 11, 13, 15, 21, 23, and 25.

structures (plants) as well as investments in housing by households.

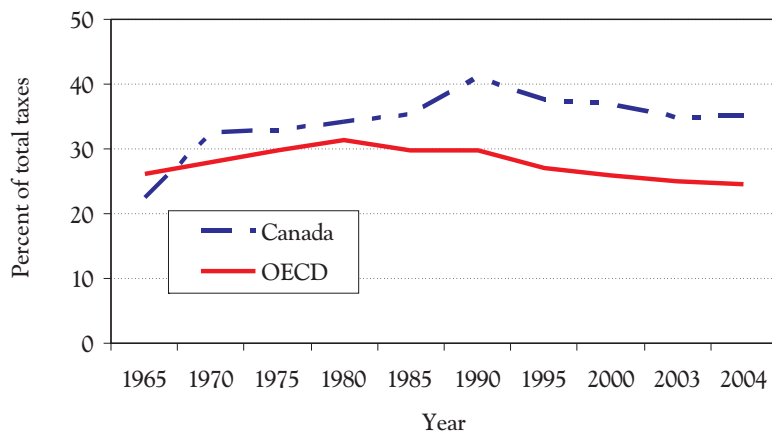
An analysis of the composition of Canada's tax mix in table 6 indicates that this country relies too heavily on high-cost taxes such as those on investment income and profit, and relies too little on less distortionary taxes such as those on goods and services. There is some room for ambiguity here because our personal income tax system has elements of consumption taxation in it, given the tax treatment of RRSPs, pensions, and the non-taxation of the return on owner-occupied housing. To the extent that our tax system over-relies on high-cost sources of tax revenue, the Canadian economy grows at a lower rate than might be possible with a more efficient tax system.

Trends

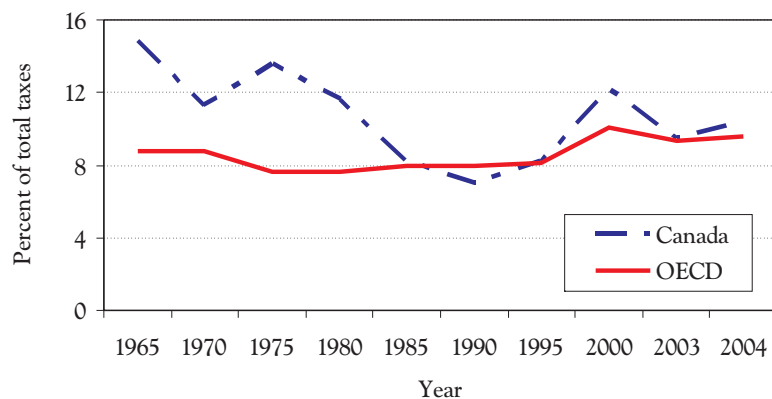
The following section briefly discusses trends in the composition of Canada's tax mix from 1965 to 2004, the period covered by the OECD (2006b). Table 7 contains summary data for Canada and the OECD average for five of the six major categories of tax revenue covered by the OECD for the period 1965 to 2004.³¹ More detailed data, including data for all 30 OECD countries, are included in the appendices.

In the period from 1965 to 2004, Canada's taxes on personal income have become an increasing percentage of total tax revenues. Specifically, the country's reliance on personal income taxes has increased from 22.6 percent of the total tax take in 1965 to 35.1 per-

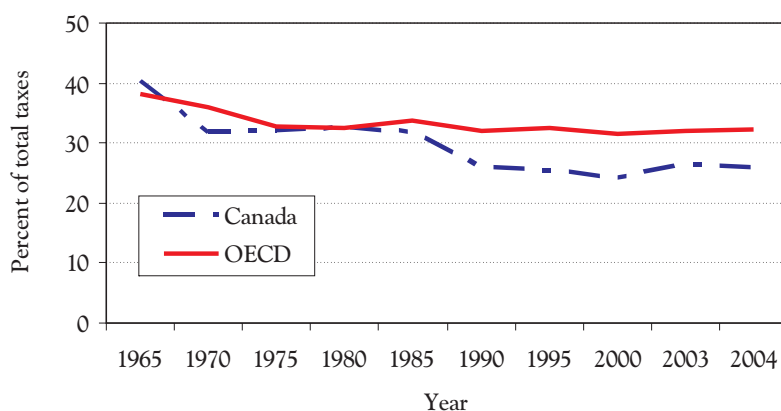
31 The discussion is restricted to five tax categories because the use of payroll taxes is quite limited. Canada's reliance on such taxes amounts to only 2.0 percent of total tax revenue for 2004 and the OECD average is a mere 0.8 percent.

Figure 2: Personal Income Taxes

Source: OECD Revenue Statistics (2006), table 11, p. 75.

Figure 3: Corporate Income Taxes

Source: OECD Revenue Statistics (2006), table 13, p. 76.

Figure 4: Goods and Services Tax

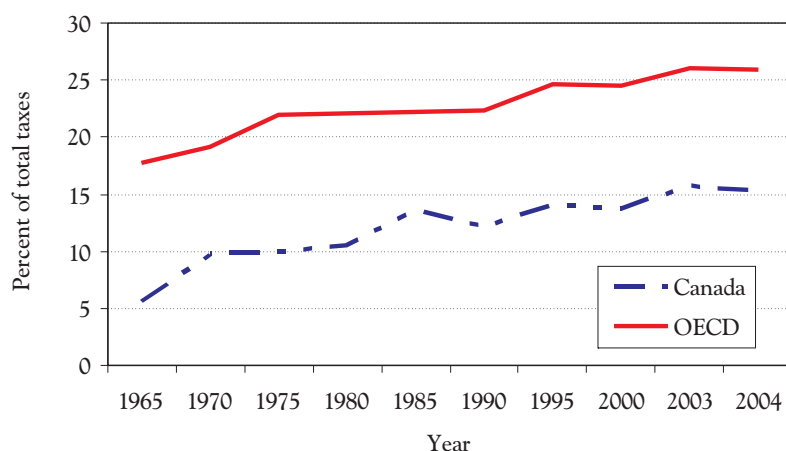
Source: OECD Revenue Statistics (2006), table 25, p. 82.

cent in 2004 (table 7, figure 2, and appendix A). However, this level (35.1%) is down from its peak in 1990 when personal income taxes reached 40.8 percent of total tax revenues. This trend of increasingly relying on personal income taxes contrasts starkly with the overall OECD average, which saw a slight decline in such taxes: 26.2 percent of total taxes in 1965 versus 24.6 percent in 2004 (figure 2 and appendix A).

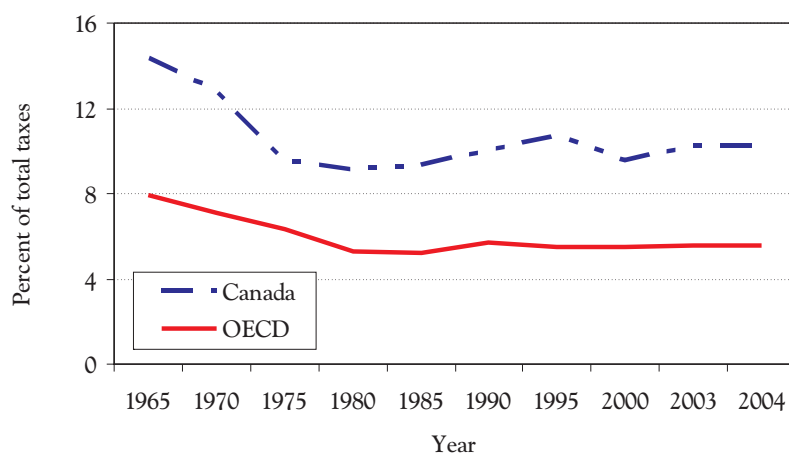
Canada's reliance on corporate income as a source of tax revenue actually declined between 1965 and 2004. As a share of total tax revenues, corporate income tax dropped from 14.9 percent in 1965 to 10.3 percent in 2004 (table 7, figure 3, and appendix B). Meanwhile, the OECD average increased slightly from 8.8 percent in 1965 to 9.6 percent in 2004.

The dramatic increase in Canada's reliance on personal income taxes is matched by a nearly equal decline in its reliance on taxes on goods and services (consumption). The proportion of taxes raised from goods and services declined from 40.5 percent in 1965 to 25.9 percent in 2004 (table 7, figure 4, and appendix C). While the OECD average for taxes on goods and services as a share of total tax revenue also declined over the same period, from 38.2 percent to 32.3 percent, the decline was much smaller than in Canada.

Interestingly, the most dramatic change is in social security contributions. In Canada, this tax category increased from 5.6 percent of total tax revenue in 1965 to 15.2 percent in 2004, representing a 171.4 percent increase (table 7, figure 5, and appendix D). The

Figure 5: Social Security Contributions

Source: OECD Revenue Statistics (2006), table 15, p. 77.

Figure 6: Property Taxes

Source: OECD Revenue Statistics (2006), table 23, p. 81.

increase for the OECD average was notable, but less stark: from 17.7 percent in 1965 to 25.9 percent in 2004—a 46.3 percent increase.

In both Canada and the OECD generally, the use of property taxes has been declining. Canada's reliance on property taxes has declined from 14.3 percent of total tax revenues in 1965 to 10.2 percent in 2004 (table 7, figure 6, and appendix E). Similarly, the OECD property tax average has decreased from 7.9 percent of total tax revenues to 5.6 percent over the same period. An important note, however, is that Canada still uses nearly double the level of property taxes as a share of total tax revenue as the OECD average.

Conclusion

Within the OECD, Canada's tax mix is unique. Canada relies on income and profit taxes to a far greater extent than other countries, and relies far less on taxes on goods and services than others do. Canada ranks fourth in its use of income and profit taxes (46.5 percent of total tax revenues) and 24th for its reliance on taxes on goods and services (consumption) at 25.9 percent of total tax revenues.

3. Conclusions and Recommendations

The costs of government taxation extend far beyond the amount of taxes collected. There are significant incentive-based costs (referred to as efficiency costs) that emerge from the tax structure because taxes change the incentives for savings, investment, diligence, risk-taking, and entrepreneurship. These costs vary widely by tax. Research in both Canada and the United States has confirmed that consumption-based taxes impose relatively low costs on society while capital-based taxes impose much higher costs. Canada, therefore, can realize a considerable economic gain by switching from high-cost taxes (capital-based) to lower-cost taxes (such as consumption taxes).

In addition to the incentive-based costs, compliance and administrative costs also exist. These costs pertain to the expenses individuals and businesses incur to comply with tax regulations (compliance costs) and the costs governments incur to manage and maintain the tax collection system (administration costs).

For tax reform and tax relief to be effective, it is critical that the large differences in costs among different taxes be taken into consideration. A clear opportunity exists for countries, including Canada, to become more efficient and reap the benefits from moving towards less costly taxes, away from more costly ones.

Within the OECD, Canada's tax mix is distinctive, though similar to that of the United States. Canada tends to depend on income and profit taxes (high cost taxes) to a far greater extent than other countries, while relying far less on taxes on goods and services (low cost taxes). Out of the 30 OECD countries, Canada ranks fourth in its use of income and profit taxes (46.5 percent of total tax revenues) and 24th for its reliance on consumption taxes, including those on goods and services (25.9 percent of total tax revenues).

Recommendations

The main recommendation of this study is that Canadian governments should reduce their reliance on capital-based taxes, while increasing their use of consumption-based taxes, such as the GST. Such a shift in Canada's tax mix would have two beneficial effects: it would reduce this country's reliance on high-cost taxes by replacing them with taxes that cost the economy less, and it would make Canada's tax mix more similar to those of our main industrial competitors, other countries in the OECD.

Specifically, Canadian governments should reduce two broad categories of taxes:

- **Business taxes.** Two key taxes in this category should be reduced or eliminated: corporate income taxes (reduced) and capital taxes (eliminated). Capital taxes largely exist at the provincial level, although the federal government still maintains a capital tax for financial institutions.
- **Personal income taxes.** Personal income tax rate reductions will decrease the tax rate on labour income (wages and salaries). In addition, taxes on savings, investment, and capital gains income (all capital-based taxes) will be reduced because the underlying applicable rate is based on personal income tax rates.

As well, governments should implement the following changes:

- **Harmonize provincial sales taxes with the federal GST.** This change would materially reduce the marginal effective tax rates³² on capital for five provinces: British Columbia, Saskatchewan, Manitoba, Ontario, and PEI. These provinces maintain independent provincial sales taxes and apply those taxes to business inputs and capital goods. Harmonization would also reduce government costs for

Table 8: Estimates of Revenue Implications of Tax Changes

	As a Percent of Total Tax Revenues	Tax Revenues (2004) (in \$ millions)	Percentage- Point Difference	Revenue Implication (in \$ millions)
Taxes on Personal Income				
Canada	35.1	153,825	10.5	-46,016
OECD average	24.6			
Taxes on Corporate Income				
Canada	10.3	45,077	0.7	-3,063
OECD average	9.6			
Taxes on Goods and Services (Consumption)				
Canada	25.9	113,390	-6.4	28,019
OECD average	32.3			
Taxes on Social Security				
Canada	15.2	66,520	-10.7	46,827
OECD average	25.9			
Taxes on Payroll and Workforce				
Canada	2.0	8,933	1.2	-5,360
OECD average	0.8			
Taxes on Property				
Canada	10.2	44,695	4.6	-20,157
OECD average	5.6			

Source: OECD Revenue Statistics, 2006, tables 11, 13, 15, 21, 23, 25, and 45; calculations by the authors.

collecting and enforcing the tax, as well as the costs to individuals and businesses that must collect and remit the tax.³³

- Encourage savings. The federal government should eliminate, or at least substantially increase, the limits for contributions to tax-sheltered savings accounts, such as RRSPs and pensions, and create new, prepaid tax savings accounts (for more information, see Kesselman and Poschmann, 2001a; and 2001b). This would increase the proportion of the personal income tax system that behaves as a consumption tax.
- Offset immediate revenue losses. Canadian governments could offset the immediate revenue losses by increasing consumption-based taxes such as the GST (for more information, see Clemens, Veldhuis, and Palacios 2006).

Table 8 provides rough estimates of the potential revenue changes for Canadian governments were they to alter their tax mix to make the various tax categories more similar than they now are to the OECD averages.³⁴ For example, were Canada to cut its reliance on personal and corporate income taxes to the OECD average, its governments would lose \$49.1 billion (in

32 Marginal effective tax rates are a comprehensive measure of the impact of the tax system on incremental or new investment. For further information, see Chen, 2000; Department of Finance, 2005; Chen and Mintz, 2006; and Department of Finance, 2006a and 2006b.

33 For a detailed explanation of each, see Veldhuis and Clemens, 2006; and Department of Finance (Canada), 2006a.

2004 dollars). However, were Canadian governments to increase their use of taxes on goods and services to the OECD average, they would see an increase of \$28.0 billion (in 2004 dollars). Canadian governments also tend to under-rely on less costly taxes in the broad category of social security taxes, including payroll-type taxes. If Canadian governments were to increase their use of such taxes to the OECD average, they would raise an additional \$46.8 billion.

The overall objective for Canadian policy should be to reduce reliance on more damaging taxes, such as taxes on income and profits, and replace the lost revenues with less costly taxes, such as consumption taxes.

Importantly, this recommendation does not conflict with Canada's overall need for a reduction in the taxation level. (For a discussion of the research on the optimal size of government and the need for tax relief, see Harris and Manning, 2006, ch. 3 and 4.) Rather, these recommendations for a re-balanced tax mix can and should be implemented beside an overall reduction

in tax that focuses particularly on reducing those taxes that are most harmful to Canada's economies.

There is a further, broad recommendation based on this study's review of research regarding compliance and administrative costs: the federal and provincial governments must be more vigilant and transparent in ensuring that these costs are minimized. One area where gains are available is the harmonization of provincial sales taxes with the federal GST. Such a change would dramatically reduce compliance costs, and likely overall administrative costs as well.

Canada is currently enjoying a prolonged period of economic success. The country has an opportunity to re-balance and improve its tax system by bringing that system more in line with those of our chief competitors, and by enhancing the incentives for savings, investment, diligence, and entrepreneurship. Such changes in tax policy are a major component of a revitalized and renewed vision of economic prosperity for Canada.

34 These figures are presented for illustrative purposes only and do not reflect true expected revenue losses since they ignore changes to incentives and the expected changes in economic performance based on improved incentives for savings, investment, work effort, risk-taking, and entrepreneurship. For example, a recent paper by Mankiw and Weinzierl (2006) estimated that reductions in capital taxes were 13 percent self-financing in the first year and 50 percent self-financing over the longer term—rate reductions lead to increased revenues because of increased economic activity and improved incentives.

Appendices

Appendix A: Taxes on Personal Income as Percentage of Total Taxation

	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004
Australia	34.4	37.3	43.6	44.0	45.2	43.0	40.6	37.8	39.8	40.2
Austria	20.0	20.7	21.6	23.2	22.9	21.0	21.0	22.2	23.0	22.7
Belgium	20.5	25.1	32.6	36.3	35.6	31.9	32.6	31.2	31.3	30.6
Canada	22.6	32.4	32.8	34.1	35.2	40.8	37.5	36.8	34.8	35.1
Czech Republic							12.8	12.9	13.1	12.7
Denmark ¹	41.4	48.6	55.9	52.0	50.5	53.2	53.7	51.8	53.1	50.7
Finland	33.3	39.2	38.5	35.7	37.4	34.7	31.1	30.6	31.0	30.5
France ¹	10.6	10.7	10.6	11.6	11.5	10.7	11.4	18.0	17.5	17.0
Germany	26.0	26.7	30.0	29.6	28.7	27.6	27.5	25.3	23.9	22.8
Greece	6.8	9.7	8.9	14.9	13.9	14.1	12.0	14.7	13.3	13.8
Hungary							16.1	18.6	18.9	17.8
Iceland	19.5	19.9	20.2	23.1	19.5	26.9	31.1	34.6	38.1	36.9
Ireland	16.7	18.3	25.2	32.0	31.3	31.9	30.7	29.9	26.5	27.4
Italy	10.9	10.9	15.2	23.1	26.7	26.3	26.0	24.8	25.1	25.4
Japan	21.7	21.5	23.9	24.3	24.7	27.8	22.4	21.1	17.5	17.8
Korea			8.5	11.5	13.4	21.1	19.2	14.6	12.7	13.6
Luxembourg	24.9	23.9	27.5	27.0	25.5	23.5	21.7	18.3	17.2	17.8
Mexico										
Netherlands	27.7	26.8	27.1	26.3	19.4	24.7	18.9	15.1	17.9	16.4
New Zealand	39.4	42.7	54.3	61.6	60.5	48.0	45.0	43.1	41.9	41.0
Norway ¹	39.6	35.2	31.5	28.5	22.5	26.2	25.9	23.9	24.7	23.5
Poland							22.9	23.0	12.5	12.0
Portugal						15.9	18.0	16.7	15.9	15.9*
Slovak Republic ¹								10.1	10.6	9.3
Spain ¹	14.3	11.5	14.5	20.4	19.7	21.7	23.6	18.6	18.6	17.7
Sweden	48.7	49.8	46.1	41.0	38.7	38.5	33.5	32.7	31.3	31.4
Switzerland	33.4	35.7	39.2	38.9	39.2	38.8	36.3	34.9	34.3	34.8
Turkey	24.8	27.0	32.9	43.5	27.5	26.8	21.6	22.2	15.7	14.9
United Kingdom	33.1	31.5	40.0	29.4	26.0	29.3	28.6	29.3	28.8	28.7
United States	31.7	36.6	34.6	39.1	37.8	37.1	35.8	41.9	35.2	34.7
Unweighted average										
OECD total	26.2	27.9	29.8	31.3	29.7	29.7	27.1	26.0	25.0	24.6

Note

¹The total tax revenues have been reduced by the amount of capital transfer. The capital transfer has been allocated between tax headings in proportion to the report tax revenue.

*Estimated.

Source: OECD Revenue Statistics (2006b), table 11, p. 75.

Appendix B: Taxes on Corporate Income as Percentage of Total Taxation

	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004
Australia	16.3	17.0	12.4	12.2	9.4	14.1	14.8	20.2	16.7	18.2
Austria	5.4	4.4	4.3	3.5	3.5	3.6	3.5	4.8	5.1	5.4
Belgium	6.2	7.2	7.4	5.1	5.5	5.6	6.2	8.0	7.5	8.0
Canada	14.9	11.3	13.6	11.6	8.2	7.0	8.2	12.2	9.5	10.3
Czech Republic							12.2	9.8	12.3	12.4
Denmark ¹	4.5	2.6	3.1	3.2	4.8	3.7	4.8	6.6	6.0	6.5
Finland	8.1	5.3	4.7	3.4	3.4	4.5	5.0	12.5	7.7	8.1
France ¹	5.3	6.3	5.2	5.1	4.5	5.3	4.9	6.9	5.7	6.3
Germany	7.8	5.7	4.4	5.5	6.1	4.8	2.8	4.8	3.5	4.5
Greece	1.8	1.6	3.4	3.8	2.7	5.5	6.3	12.1	8.9	9.4
Hungary							4.5	5.7	5.8	5.8
Iceland	1.8	2.0	2.6	2.5	3.1	2.8	3.0	3.7	3.9	3.3
Ireland	9.1	8.8	4.8	4.5	3.2	5.0	8.5	11.7	12.9	11.9
Italy	6.9	6.5	6.3	7.8	9.2	10.0	8.7	6.9	6.6	6.9
Japan	22.2	26.3	20.6	21.8	21.0	22.4	15.9	13.8	13.0	14.2
Korea			8.9	11.0	11.4	13.5	12.3	14.1	15.3	14.3
Luxembourg	11.0	19.3	15.6	16.2	17.7	15.8	17.7	17.8	19.3	15.3
Mexico										
Netherlands	8.1	6.7	7.7	6.6	7.0	7.5	7.5	10.1	7.6	8.2
New Zealand	20.7	17.8	11.8	7.8	8.3	6.5	11.9	12.4	13.6	15.5
Norway ¹	3.8	3.3	2.9	13.3	17.2	9.0	9.2	20.8	18.7	22.6
Poland							7.7	7.6	5.3	5.8
Portugal						8.0	7.5	11.4	8.3	8.3*
Slovak Republic ¹								8.3	8.9	8.1
Spain ¹	9.2	8.2	6.9	5.1	5.2	8.8	5.4	8.9	9.0	9.8
Sweden	6.1	4.4	4.3	2.5	3.5	3.1	5.8	7.5	5.0	6.3
Switzerland	7.7	8.2	8.5	6.4	6.8	7.6	6.6	9.0	8.5	8.6
Turkey	4.8	6.4	5.1	4.1	9.5	6.7	6.7	7.3	8.0	7.3
United Kingdom	4.4	8.7	6.2	8.4	12.6	9.9	8.0	9.8	7.9	8.1
United States	16.4	13.2	11.4	10.8	7.5	8.9	10.3	8.7	7.9	8.7
Unweighted average										
OECD Total	8.8	8.8	7.6	7.6	8.0	8.0	8.1	10.1	9.3	9.6

Note

¹The total tax revenues have been reduced by the amount of capital transfer. The capital transfer has been allocated between tax headings in proportion to the report tax revenue.

*Estimated.

Source: OECD Revenue Statistics (2006b), table 13, p. 76.

Appendix C: Taxes on Goods and Services as Percentage of Total Taxation

	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004
Australia	34.7	32.0	29.3	31.1	32.8	27.8	29.0	28.7	29.6	28.5
Austria	37.4	37.4	34.5	31.5	32.6	31.5	28.0	28.2	28.2	28.2
Belgium	37.2	35.8	27.4	27.2	25.4	26.5	25.7	25.3	24.5	25.0
Canada	40.5	31.7	32.0	32.6	31.8	25.8	25.4	24.2	26.3	25.9
Czech Republic							32.2	31.6	29.6	31.2
Denmark ¹	40.6	38.8	33.6	37.4	34.2	33.0	32.1	32.1	33.0	32.7
Finland	42.5	39.6	31.9	35.3	33.9	32.5	30.2	29.0	32.0	31.7
France ¹	38.4	38.1	33.3	30.4	29.7	28.4	27.3	25.7	25.5	25.6
Germany	33.0	31.8	26.9	27.1	25.7	26.7	28.0	28.1	29.4	29.2
Greece	48.8	48.2	46.8	41.2	42.7	44.5	41.3	35.3	36.8	37.1
Hungary							40.6	40.5	39.4	40.8
Iceland	62.7	61.3	63.0	59.9	61.1	51.3	48.7	44.8	40.2	41.1
Ireland	52.6	52.4	46.5	43.7	44.4	42.3	40.7	38.6	38.4	37.8
Italy	39.5	38.7	29.4	26.5	25.4	28.0	27.3	27.9	25.7	26.4
Japan	26.2	22.4	17.3	16.3	14.0	13.7	15.8	19.3	20.3	20.0
Korea			61.1	62.7	59.5	46.7	43.1	38.3	37.1	36.3
Luxembourg	24.7	20.5	20.9	21.5	24.3	24.8	26.7	27.2	27.5	30.4
Mexico				51.2	64.8	55.3	53.9	53.0	52.5	55.5
Netherlands	28.6	27.8	24.2	25.2	25.6	26.4	27.2	29.1	31.8	32.0
New Zealand	27.9	27.2	24.2	22.3	23.1	33.6	33.4	34.7	35.3	33.8
Norway ¹	41.1	42.8	37.6	35.3	37.5	35.5	38.6	32.1	31.1	29.7
Poland							35.2	36.3	36.2	36.0
Portugal	44.2	44.6	40.7	44.9	42.8	43.8	39.5	36.1	38.6	38.6*
Slovak Republic ¹								36.1	35.5	39.8
Spain ¹	40.8	35.9	24.2	20.7	28.7	28.4	28.6	29.6	28.3	28.0
Sweden	31.2	28.2	24.3	24.0	26.6	25.0	27.8	24.2	26.3	25.8
Switzerland	34.2	30.2	22.4	23.0	21.9	21.2	21.9	22.5	23.3	23.7
Turkey	53.9	49.4	41.3	25.6	36.0	27.9	37.6	42.0	49.4	47.7
United Kingdom	33.1	28.8	25.0	29.2	31.5	31.0	35.3	31.9	32.8	32.0
United States	22.8	20.0	19.5	17.6	18.8	17.4	18.0	16.1	18.4	18.3
Unweighted average										
OECD total	38.2	36.0	32.7	32.4	33.7	31.9	32.4	31.6	32.1	32.3

Note

¹The total tax revenues have been reduced by the amount of capital transfer. The capital transfer has been allocated between tax headings in proportion to the report tax revenue.

*Estimated.

Source: OECD Revenue Statistics (2006b), table 25, p. 82.

Appendix D: Social Security Contributions as Percentage of Total Taxation

	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004
Australia	—	—	—	—	—	—	—	—	—	—
Austria	24.9	25.4	27.6	30.9	31.8	32.9	36.0	34.2	33.7	33.9
Belgium	31.4	28.8	30.2	28.9	31.6	33.2	32.9	31.0	32.2	31.3
Canada	5.6	9.7	10.0	10.5	13.5	12.1	14.0	13.6	15.7	15.2
Czech Republic							41.3	44.2	43.6	42.3
Denmark ¹	5.4	4.0	1.3	1.8	3.7	2.0	2.2	3.6	2.5	2.4
Finland	6.8	8.9	20.4	23.3	21.9	25.6	30.8	25.2	26.7	26.8
France ¹	34.2	36.3	40.6	42.7	43.3	44.1	42.9	36.0	37.7	37.1
Germany	26.8	30.3	34.0	34.3	36.5	37.5	39.0	39.0	40.5	40.7
Greece	31.6	30.0	29.5	32.9	35.6	30.2	32.4	30.8	35.8	34.7
Hungary							35.6	29.3	30.5	30.1
Iceland	8.1	8.3	2.7	2.2	2.4	3.1	8.1	7.8	8.7	8.3
Ireland	6.5	8.2	13.8	14.3	14.8	14.8	14.4	13.2	14.8	15.0
Italy	34.2	37.8	45.9	38.0	34.7	32.9	31.5	28.6	29.6	30.3
Japan	21.8	22.3	29.0	29.1	30.3	26.4	33.5	35.1	38.5	37.7
Korea			0.9	1.1	1.5	5.1	7.0	16.7	19.5	20.7
Luxembourg	32.3	28.7	29.4	28.7	26.2	27.0	26.4	25.7	28.2	28.3
Mexico				14.1	11.3	13.4	16.6	16.5	16.9	16.5
Netherlands	30.8	35.1	38.4	38.1	44.3	37.4	41.9	38.9	36.3	36.9
New Zealand	—	—	—	—	—	—	—	—	—	—
Norway ¹	11.9	16.1	24.8	21.1	20.8	26.3	23.5	20.8	22.9	21.6
Poland							30.4	29.2	41.5	40.9
Portugal	21.9	23.9	34.6	29.5	25.9	27.2	30.1	30.3	31.8	31.8*
Slovak Republic ¹								40.0	40.8	39.4
Spain ¹	28.3	37.4	47.5	48.6	41.3	35.4	36.2	34.9	35.3	34.8
Sweden	12.1	14.9	19.5	28.8	25.0	27.2	27.6	27.5	29.1	28.4
Switzerland	14.9	16.0	22.0	23.4	22.7	23.4	27.0	24.3	25.5	24.4
Turkey	5.9	6.3	9.5	14.0	14.3	19.7	12.1	18.7	20.8	23.9
United Kingdom	15.4	13.9	17.5	16.7	17.8	16.9	17.7	17.0	18.3	18.8
United States	13.3	16.1	20.5	21.9	25.2	25.1	24.8	23.2	26.5	26.3
Unweighted average										
OECD total	17.7	19.1	22.0	22.1	22.2	22.3	24.7	24.5	26.1	25.9

Note

¹The total tax revenues have been reduced by the amount of capital transfer. The capital transfer has been allocated between tax headings in proportion to the report tax revenue.

*Estimated.

Source: OECD Revenue Statistics (2006b), table 15, p. 77.

Appendix E: Taxes on Property as Percentage of Total Taxation

	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004
Australia	11.4	11.0	8.8	7.8	7.8	9.0	8.8	8.8	9.5	8.7
Austria	4.0	3.7	3.1	2.9	2.4	2.7	1.5	1.3	1.3	1.3
Belgium	3.7	3.1	2.3	2.4	1.8	2.7	2.5	3.4	3.3	3.9
Canada	14.3	12.8	9.5	9.1	9.3	10.0	10.7	9.5	10.2	10.2
Czech Republic							1.4	1.4	1.4	1.1
Denmark ¹	8.0	6.0	5.9	5.5	4.2	4.2	3.5	3.2	3.8	3.8
Finland	4.0	2.2	1.9	1.9	2.7	2.4	2.2	2.4	2.3	2.6
France ¹	4.3	4.8	5.1	4.8	5.8	6.3	6.7	7.0	7.3	7.6
Germany	5.8	4.9	3.9	3.3	3.0	3.4	2.8	2.3	2.4	2.5
Greece	9.7	9.3	9.7	4.6	2.7	4.6	4.1	6.2	4.5	4.4
Hungary							1.2	1.7	2.2	2.3
Iceland	4.0	4.5	5.1	6.3	7.3	8.4	9.1	6.9	6.0	6.3
Ireland	15.1	12.2	9.7	5.3	4.0	4.7	4.5	5.5	6.5	6.9
Italy	7.2	6.0	3.3	3.7	2.5	2.3	5.6	4.6	7.8	6.1
Japan	8.1	7.6	9.1	8.2	9.7	9.4	12.2	10.5	10.3	10.0
Korea			9.7	8.0	9.1	12.4	14.8	12.4	11.8	11.3
Luxembourg	6.2	6.7	5.2	5.7	5.6	8.3	7.0	10.6	7.5	7.8
Mexico				1.9	0.5	1.5	1.8	1.4	1.6	1.6
Netherlands	4.4	3.3	2.4	3.6	3.5	3.7	4.1	5.3	5.2	5.3
New Zealand	11.5	10.4	9.2	7.9	7.4	6.8	5.4	5.3	5.1	5.0
Norway ¹	3.1	2.4	2.3	1.7	1.9	2.9	2.8	2.3	2.5	2.6
Poland							2.8	3.2	3.9	3.8
Portugal	5.1	4.2	2.5	1.4	1.9	2.7	3.7	4.6	4.6	4.6*
Slovak Republic ¹								1.8	1.8	1.8
Spain ¹	6.4	6.5	6.3	4.6	3.5	5.5	5.5	6.4	7.4	8.1
Sweden	1.8	1.5	1.1	0.9	2.3	3.5	2.7	3.4	3.1	3.1
Switzerland	9.9	9.9	8.0	8.3	9.3	8.9	8.2	9.3	8.3	8.5
Turkey	10.5	10.8	6.9	5.4	4.6	2.3	3.0	3.2	3.2	3.1
United Kingdom	14.5	12.5	12.7	12.0	12.0	8.5	10.4	11.5	11.9	12.0
United States	15.9	14.2	13.9	10.7	10.7	11.5	11.1	10.1	12.0	12.0
Unweighted average										
OECD Total	7.9	7.1	6.3	5.3	5.2	5.7	5.5	5.5	5.6	5.6

Note

¹The total tax revenues have been reduced by the amount of capital transfer. The capital transfer has been allocated between tax headings in proportion to the report tax revenue.

*Estimated.

Source: OECD Revenue Statistics (2006b), table 23, p. 81.

Appendix F: Taxes on Payroll and Workforce as Percentage of Total Taxation

	1965	1970	1975	1980	1985	1990	1995	2000	2003	2004
Australia	3.1	2.8	5.8	5.0	4.7	6.1	6.8	4.5	4.4	4.4
Austria	7.6	7.7	8.0	7.0	5.7	6.0	6.7	6.2	6.2	6.1
Belgium	—	—	—	—	—	—	—	—	—	—
Canada	—	—	—	—	—	2.3	2.2	2.1	2.1	2.0
Czech Republic								—	—	—
Denmark ¹	—	—	—	—	0.7	0.6	0.5	0.4	0.4	0.4
Finland	5.2	4.5	2.3	0.2	0.5	—	—	—	—	—
France ¹	4.6	1.2	1.9	2.2	2.1	1.9	2.5	2.3	2.5	2.6
Germany	0.6	0.6	0.8	0.2	—	—	—	—	—	—
Greece	0.8	0.7	0.8	1.8	1.5	0.7	—	—	—	—
Hungary							0.3	3.6	2.5	2.3
Iceland	0.9	1.5	4.2	3.8	3.6	3.5	—	—	—	—
Ireland	—	—	—	0.2	2.3	1.3	1.2	0.5	0.6	0.6
Italy	—	—	—	0.6	0.6	0.3	0.3	0.0	0.0	0.0
Japan	—	—	—	—	—	—	—	—	—	—
Korea	—	—	—	0.5	0.5	0.4	0.3	0.2	0.2	0.2
Luxembourg	0.9	1.0	1.0	0.6	0.5	—	—	—	—	—
Mexico				1.0	0.8	1.4	1.0	1.1	1.8	1.2
Netherlands	—	—	—	—	—	—	—	—	—	—
New Zealand	—	1.3	—	—	—	—	—	—	—	—
Norway ¹	—	—	—	—	—	—	—	—	—	—
Poland							0.8	0.6	0.6	0.7
Portugal	0.9	1.0	2.5	2.6	2.5	—	—	—	—	—
Slovak Republic ¹							—	—	—	—
Spain ¹	—	—	—	—	—	—	—	—	—	—
Sweden	0.0	1.1	4.3	2.6	3.7	2.5	2.1	4.2	4.9	4.7
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	4.5	0.0	4.3	0.1	—	—	—	—	—
United States	—	—	—	—	—	—	—	—	—	—
Unweighted average										
OECD Total	1.0	1.1	1.3	1.3	1.1	1.0	0.9	0.9	0.9	0.8

Note

¹The total tax revenues have been reduced by the amount of capital transfer. The capital transfer has been allocated between tax headings in proportion to the report tax revenue.

Source: OECD Revenue Statistics (2006b), table 21, p. 80.

References

- Ballard, Charles L., John B. Shoven, and John Whalley (1985). General Equilibrium Computations of the Marginal Welfare Costs of Taxes in the United States. *The American Economic Review* 75 (1): 128-138.
- Bator, Francis (1957). The Simple Analytics of Welfare Maximization. *The American Economic Review* 47 (1): 22-44.
- Baumol, William J. (1972). On Taxation and the Control of Externalities. *The American Economic Review* 62 (3): 307-322.
- Baylor, Maximilian and Louise Beausejour (2004). Taxation and Economic Efficiency: Results from General Equilibrium Model. Department of Finance, Government of Canada.
- Boadway, Robin and Michael Keen (2000). *Redistribution: Handbook of income distribution*. Elsevier Science, North-Holland. Volume 1: 677-789.
- Browning, Edgar K. (1976). The Marginal Cost of Public Funds. *Journal of Political Economy* 84 (2): 283-298.
- Browning, Edgar K. (1987). On the Marginal Welfare Cost of Taxation. *The American Economic Review* 77 (1): 11-23.
- Chen, Duanjie (2000). *The Marginal Effective Tax Rate: The Only Tax Rate That Matters in Capital Allocation*. CD Howe Institute. Background (August 22).
- Chen, Duanjie and Jack Mintz (2006). Federal/Provincial Combined Marginal Effective Tax Rates on Capital 1997-2006, 2010. Toronto, ON: CD Howe Institute.
- Clemens, Jason, and Niels Veldhuis (2003). Who Pays Business Taxes? A Different View. *Fraser Forum* (October): 30-31.
- Clemens, Jason, Joel Emes, and Rodger Scott (2002). *The Corporate Capital Tax: Canada's Most Damaging Tax*. The Fraser Institute. Public Policy Sources, No. 56.
- Clemens, Jason, Joel Emes, and Rodger Scott (2003). The flat tax—a model for reform of personal and business taxes. In H. Grubel (ed.) *Tax Reform in Canada: Our Path to Greater Prosperity*. The Fraser Institute.
- Clemens, Jason, N. Veldhuis, A. Karabegovic, and K. Godin (2004). Do Tax Rates Matter? *Fraser Forum* (July): 13-16.
- Clemens, Jason, N. Veldhuis, and M. Palacios (2006). *Fiscal Balance, the GST, and Decentralization: An Opportunity for Reform*. The Fraser Institute. Fraser Institute Digital Publication. (October): <<http://www.fraserinstitute.ca/admin/books/files/FiscalBalanceGST.pdf>>.
- Dahlby, Beverly (1998). Progressive Taxation and the Social Marginal Cost of Public Funds. *Journal of Public Economics* 67 (1): 105-122.
- Canada, Department of Finance (2005). *Tax Expenditures and Evaluations*. Government of Canada.
- Canada, Department of Finance (2006a). *Economic and Fiscal Update 2006*. Government of Canada.
- Canada, Department of Finance (2006b). *Advantage Canada: Building a Strong Economy for Canadians*. Government of Canada.
- Canada, Department of Finance (2006 Forthcoming). *Tax Expenditures and Evaluations*. Government of Canada.
- Diamond, Peter, and James Mirrlees. (1971). Optimal Taxation and Public Production. *The American Economic Review* 61 (1): 8-27; 261-278.
- Diewert, W. Erwin, and Denis A. Lawrence (1996). The Deadweight Costs of Taxation in New Zealand. *Canadian Journal of Economics* 29 Special Issue, Part 2 (April): S658-S673.
- Emes, Joel and Jason Clemens (2001). *Flat Tax: Principles and Issues*. The Fraser Institute. Critical Issues Bulletin.
- Erard, Brian (1997a). The Income Tax Compliance Burden on Canadian Big Business. Working Paper 97-2. Technical Committee on Business Taxation. (April).
- Erard, Brian (1997b). The Income Tax Compliance Burden on Small and Medium-sized Canadian Business. Working Paper 97-12. Technical Committee on Business Taxation. (October).
- Harris, Mike and Preston Manning (2006). *Building Prosperity in a Canada Strong and Free*. The Fraser Institute and the Montreal Economic Institute. A Canada Strong and Free/Pour un Canada fort et prospère, Vol. IV.
- Hines, James R. Jr. (2006). *Taxing Consumption and Other Sins*. National Bureau of Economic Research. Paper no. 12730.
- Jorgensen, Dale W., and Kun-Young Yun (1991). The Excess Burden of Taxation in the United States. *Journal of Accounting and Finance* 6 (4): 487-508.

- Kesselman, Jonathan R. (2004). Tax Design for a Northern Tiger. Institute for Research on Public Policy. Choices, Economic Policy and Growth, 10 (1).
- Kesselman, Jonathan R. and Finn Poschmann (2001a). *A New Option for Retirement Savings: Tax Prepaid Savings Plans*. C.D. Howe Institute. Commentary. The Pension Papers 149 (February).
- Kesselman, Jonathan R. and Finn Poschmann (2001b). Expanding the Recognition of Personal savings in the Canadian Tax System. *Canadian Tax Journal*. 49 (1): 40-101.
- Mankiw, N. Gregory (2004). Principles of Microeconomics. 3rd ed. Thomson/South-Western.
- Mankiw, Gregory and Matthew Weinzierl (2006). Dynamic Scoring: A Back of the Envelope Guide. *Journal of Public Economics* 90 (8-9): 1415-1433.
- Ministere des Finances du Quebec (2006). *2005-06 Budget: Budget Plan*. Gouvernement du Québec.
- Mirrlees, James (1971). An exploration into the theory of optimal income taxation. *Review of Economic Studies* 38 (2): 175-208.
- Mirrlees, James (1972). The Optimum Town. *Swedish Journal of Economics* 74 (1): 114-135.
- (1997). *OECD Economic Survey: Canada*. Organization for Economic Co-operation and Development.
- (2006a). *Economic Survey of Canada*. Organization for Economic Cooperation and Development.
- (2006b). *Revenue Statistics, 1965-2005*. Organization for Economic Cooperation and Development.
- Ott, Attiat F. and Sheila B. (2003). *Atlantic Economic Journal* 31 (3): 266-82.
- Pigou, A.C. (1920). *The Economics of Welfare*. Macmillan Publishing.
- Plamondon, Robert E. (1993). GST Compliance Costs for Small Business in Canada. A study for the Department of Finance, Tax Policy. Department of Finance, Government of Canada.
- Plamondon, Robert E. (1995). Do the Right Thing—A submission on a national sales tax. Canadian Institute of Chartered Accountants. (December).
- Plamondon, Robert E. (1997a). Business Compliance Costs for Federal and Provincial Payroll taxes. Ottawa, ON: Revenue Canada. (March).
- Plamondon, Robert E. (1997b). Cutting the Costs of Tax Collection Down to Size: Estimating the Magnitude of Compliance and Administrative Costs of Canada's Tax System—and the Impact of Single Administration. A report prepared for Revenue Canada. Public Policy Forum. (December).
- Plamondon, Robert E. and David Zussman (1998). The Compliance Costs of Canada's Major Tax Systems and the Impact of Single Administration. *Canadian Tax Journal* 46 (4): 761-785.
- Poddar, Satyar, and Morley English (1999). Canadian Taxation of Personal Investment Income. *Canadian Tax Journal* 47 (5): 1270-1304.
- Salanie, Bernard (2003). *The Economics of Taxation*. MIT Press.
- Samuelson, Paul A. (1955). Diagrammatic Exposition of a Theory of Public Expenditure. *The Review of Economics and Statistics* 37 (4): 350-356.
- Slemrod, Joel, ed. (1994). *Tax progressivity and income inequality*. Cambridge University Press.
- Stuart, Charles (1984). Welfare Costs per Dollar of Additional Tax Revenue in the United States. *The American Economic Review* 74 (3): 352-362.
- Tuomala, Matti (1990). *Optimal income tax and redistribution*. Oxford University Press and Clarendon Press.
- United States of America, General Accountability Office (2005). *Tax Policy: Summary of Estimates of the Costs of the Federal Tax System*. GAO-05-878. Government of the United States of America.
- Vaillancourt, François (1989). *The Administrative and Compliance Costs of the Personal Income Tax and Payroll Tax System in Canada*. Canadian Tax Foundation. Canadian Tax Paper, No. 86.
- Veldhuis, Niels (2006). Presentation to the British Columbia Provincial Sales Tax Review Panel, January 19, 2006. The Fraser Institute. Available upon request.
- Veldhuis, Niels and Jason Clemens (2006). *Productivity, Prosperity, and Business Taxes*. The Fraser Institute. Studies in Economic Prosperity, No. 3.

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