UNIVERSITY OF CALGARY

THE SCHOOL OF PUBLIC POLICY

SPP Research Papers

Volume 5 • Issue 13 • March 2012

TAXING CONSUMPTION OR INCOME: DU PAREIL AU MÊME?†

Sijbren Cnossen*

SUMMARY

Income and consumption comprise the two main tax bases in most countries, leaving many governments with the perennial dilemma of deciding which ought to be the focus of fiscal policy. However, in Canada the situation is much less ambiguous; the existing Canadian tax regime disproportionately favours direct, income-based taxation, deriving over two-thirds [this includes property tax revenue] of tax revenues from this stream. This paper argues that Canada's narrow focus on direct taxation leads governments to miss out on the revenue-stabilizing effects that a greater emphasis on consumption taxes would bring. Tilting the balance toward indirect consumption taxes like the GST would benefit public revenues because: i) demand fluctuates less than income; ii) consumption is largely local, reducing tax avoidance; and iii) the GST is less amenable to being co-opted for market-distorting political purposes. As income and consumption taxes are broadly similar in their effects, a shift from the former to the latter would have few consequences for Canadian employment, investment and saving. The author provides a summary of income and consumption tax structures in several Western countries with consumption-oriented tax structures to contend that it's time Canadian governments embraced meaningful tax reform.

* The author is an advisor, CPB Netherlands Bureau for Economic Policy Analysis and Professor of Economics at the University of Pretoria. This paper was prepared for the 2nd Symposium on Tax and Economic Growth: The GST at 20 — The Future of Consumption Taxes in Canada, The School of Public Policy, University of Calgary, 2-3 November 2011. The author is most grateful for the perceptive comments received from Jonathan Kesselman and Jack Mintz on an earlier version of the paper. Also, the paper has benefited from an earlier article co-authored with Lans Bovenberg (Cnossen and Bovenberg, 2011).

† This research was financially supported by the Government of Canada via a partnership with Western Economic Diversification.

UNIVERSITY OF CALGARY

THE SCHOOL OF PUBLIC POLICY
Documents de recherche de la SPP

Volume 5 • Numéro 13 • Mars 2012

IMPOSER LA CONSOMMATION OU LE REVENU: DU PAREIL AU MÊME?†

Sijbren Cnossen*

RÉSUMÉ

L'impôt sur le revenu et les taxes à la consommation constituent les deux principales assiettes fiscales dans la plupart des pays, si bien que de nombreux gouvernements sont confrontés en permanence au dilemme de déterminer sur laquelle de ces deux solutions concentrer leurs politiques fiscales. Toutefois, au Canada, la situation est beaucoup moins floue; le régime fiscal canadien favorise de façon disproportionnée l'impôt direct sur le revenu et tire de cette source plus des deux tiers de ses recettes fiscales (cela comprend les impôts fonciers). On soutient ici que le Canada fonde une trop grande part de ces recettes sur l'impôt direct et prive ainsi le pays des effets stabilisateurs sur le revenu que pourraient avoir des politiques davantage axées sur les taxes à la consommation. En faisant pencher la balance du côté des taxes indirectes à la consommation, par exemple la TPS, on produirait un effet bénéfique sur les recettes publiques parce que : i) la demande fluctue moins que le revenu; ii) la consommation est locale dans une large mesure et permet de réduire l'évitement fiscal; iii) la TPS est moins susceptible d'être instrumentalisée à des fins politiques, ce qui fausse le marché. Étant donné que l'impôt sur le revenu et les taxes à la consommation ont des effets largement similaires, le choix de cette deuxième option aurait peu de conséquences sur l'emploi, l'investissement et l'épargne au Canada. L'auteur propose une synthèse des deux structures d'imposition dans plusieurs pays occidentaux qui privilégient les taxes à la consommation, et soutient qu'il est temps pour les gouvernements canadiens d'opter pour une réforme fiscale substantielle.

* L'auteur est conseiller au CPB Netherlands Bureau for Economic Policy Analysis, et professeur à l'Université de Pretoria. Ce rapport a été préparé pour le 2e colloque sur la fiscalité et la croissance économique. Tax and Economic Growth – The GST at 20 — The Future of Consumption Taxes in Canada (la TPS a vingt ans – L'avenir des taxes à la consommation au Canada) à l'École de politiques publiques, Université de Calgary, 2 et 3 novembre 2011. L'auteur remercie chaleureusement Jonathan Kesselman et Jack Mintz pour leurs commentaires pertinents sur une version antérieure de ce rapport. De plus, l'auteur a puisé dans un article antérieur cosigné avec Lans Bovenberg (Cnossen et Bovenberg, 2011).

† Cette recherche a été soutenue financièrement en partie par le gouvernement du Canada via Diversification de l'économie de l'Ouest Canada.

1. INTRODUCTION

Income and consumption are the two main tax bases in most countries. Generally, income is comprehensively taxed at graduated rates that increase as income increases, although corporate profits are usually taxed at proportional rates. By contrast, consumption is taxed at flat rates on a transaction-by-transaction basis, although a lower or zero rate is sometimes applied to basic necessities. The choice between taxing income or consumption, or rather of effecting changes in the tax mix is often thought to have profound economic implications. Would a tax mix change from income to consumption promote labour market participation, because *prima facie* paid work would become cheaper relative to unpaid work and leisure? Would it stimulate saving since consumption would become relatively more expensive? Would it promote investment because the after-tax return on new capital outlays would increase?

This paper explores the implications of a change in the tax mix. It argues that, in practice, the income tax (IT), defined to include social security contributions and the corporate income tax, and the general consumption tax, called the Goods and Services Tax (GST),[1] are more alike than is often thought. Accordingly, the effects of a shift in the tax base from income to consumption on employment, saving and investment should be smaller than perhaps expected, although it would enhance revenue stability, because the GST is a more robust tax than the IT. In analyzing the tax mix change, the paper assumes that (i) total tax revenue should not be affected (revenue neutrality), and that (ii) the distribution of the tax burden over various income groups should remain the same (distributional neutrality).

The analysis is carried out in an international context. The second section broadly compares the Canadian tax system to the tax systems in other countries with similar socioeconomic settings. Next, the third section focuses in particular on the taxation of consumption, labour and capital, again on a comparative basis. Against this background, the fourth section dwells on the similarities and differences between consumption and income taxes in a closed and an open economy setting, respectively. It attempts to highlight the main considerations that enter into the analysis of a tax mix change.[2] A concluding section sums up the paper's main arguments and conclusions.

---

[1] The GST in Canada (as well as the Québec Sales Tax (QST) and the Harmonized Sales Tax (HST)) and some other countries is, in principle, identical to the Value-Added Tax (VAT) in the European Union (EU) and many other countries. Also, in theory, the GST and the VAT are identical to the Retail Sales Tax (RST), even regarding the timing of tax collections. For a thorough analysis of similarities and practical differences, see Cnossen (1987). Under the RST's suspension method, in particular, it is difficult to relieve businesses from the tax on purchases without significant tax avoidance with goods and services sold to consumers. For the equivalence of various consumption taxes, including the Flat Tax and a Personal Expenditure Tax, see Cnossen (2011).

[2] According to the conference's program, the author was asked to provide "a review of the economic analysis of consumption taxation in general and value added sales taxation in particular — including the role of the GST/HST in the overall tax mix, optimal mix and comparison to income taxes." For an analysis of the tax mix change in the Canadian policy context, see Dahlby (2003) and for a more comprehensive discussion of tax-mix issues, see Kesselman (1998).

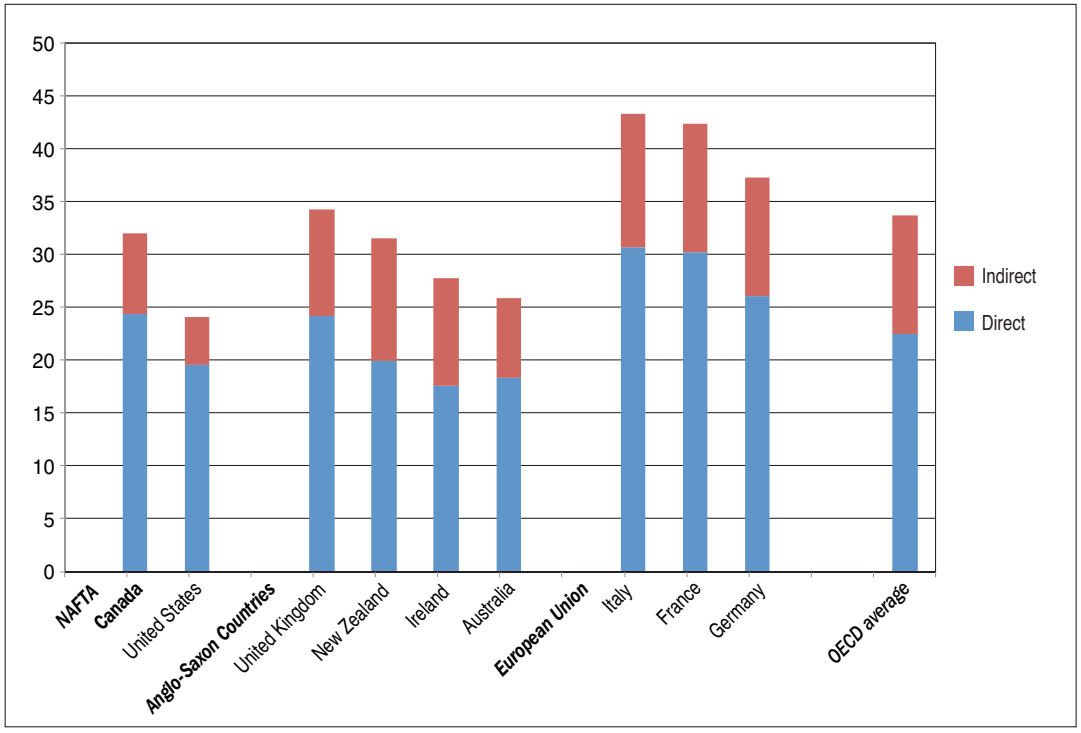
2. INTERNATIONAL COMPARISON

This section compares the Canadian tax system to the systems in the United States (US), other countries with Anglo-Saxon taxing traditions (United Kingdom, Australia, New Zealand, Ireland), and the largest continental European Union (EU) member states (Germany, France, Italy) that have a preference for a relatively large public sector.[3]

a. Total tax level

The latest revenue statistics published by the OECD (2011) show that Canada's total tax ratio, i.e., tax revenues collected by the federal, provincial and local governments expressed as a percentage of Gross Domestic Product (GDP), was approximately 32 percent in 2009.[4] This was much higher than the tax burden in the US (24 percent), roughly similar to the tax ratio in three out of four other Anglo-Saxon countries (Australia being the exception), but much lower than the burden in three major continental EU member states. Canada's tax ratio was almost two percentage points lower than the unweighted OECD average of nearly 34 percent. Diagram 1 compares the various countries.

DIAGRAM 1. TOTAL TAX BURDEN IN CANADA AND SOME OTHER COUNTRIES IN 2009



Source: Appendix A.

[3] Mexico (a member of NAFTA, like Canada) and Japan have not been included in the analysis, because their tax systems are difficult to compare with Canada's system.

[4] The tax ratio broadly connotes a country's preference for doing things through the public rather than the private sector. Tax shares, i.e., revenues from individual taxes expressed as a percentage of total tax revenues, denote a country's preference for one tax over another tax.

The diagram makes a distinction between direct taxes and indirect taxes. As shown in Appendix A, direct taxes comprise taxes on labour (personal income taxes on wages and salaries, including the labour income component of the profits arising in proprietorships and partnerships; social security contributions; and payroll taxes) and on capital (personal income taxes on dividends, interest, rents, capital gains, and the return on the equity invested in proprietorships and partnerships; corporate income taxes; and taxes on property). Indirect taxes consist of taxes on general consumption, specific goods and services, and on the use of goods and services.

As shown in Diagram 1, Canada appears to have a preference for direct taxes (76 percent of total tax revenue) over indirect taxes (24 percent). This preference is even stronger in the U.S. (81 percent vs. 19 percent, respectively), but all other countries rely relatively more heavily on indirect taxes than Canada does. If property tax revenue is left out, Canada derives over two-thirds of its total tax revenue from income-based taxes.

Economically, the distinction between direct and indirect taxes is not very meaningful; certainly, it says nothing about the incidence of the various taxes. Perhaps the significance of the direct-indirect tax distinction is mainly political. Countries with a large share of direct taxes in total tax revenue seem to prefer the tax system for redressing differences in the income distribution as determined by the market, whereas countries with a lower share (and a higher tax ratio) tend to favour the expenditure system.[5] In this respect, Canada, along with other Anglo-Saxon countries, appears to occupy the middle ground between the US and most EU countries.

b. Composition of tax revenues

Diagram 2 shows the composition of the tax burden in Canada and some other countries. As regards direct taxes, Canada appears to have a relatively high preference for taxes on personal income and property over social security contributions. Admittedly, this picture is somewhat skewed, because some countries, e.g., New Zealand and Australia, pay social security benefits out of general revenue, and because some other countries do not levy income tax on social benefits, permitting them to levy lower contribution rates to finance the same level of net benefits.[6] But, generally, labour is taxed higher when compared with other Anglo-Saxon countries, although EU countries tax labour higher still.[7]

---

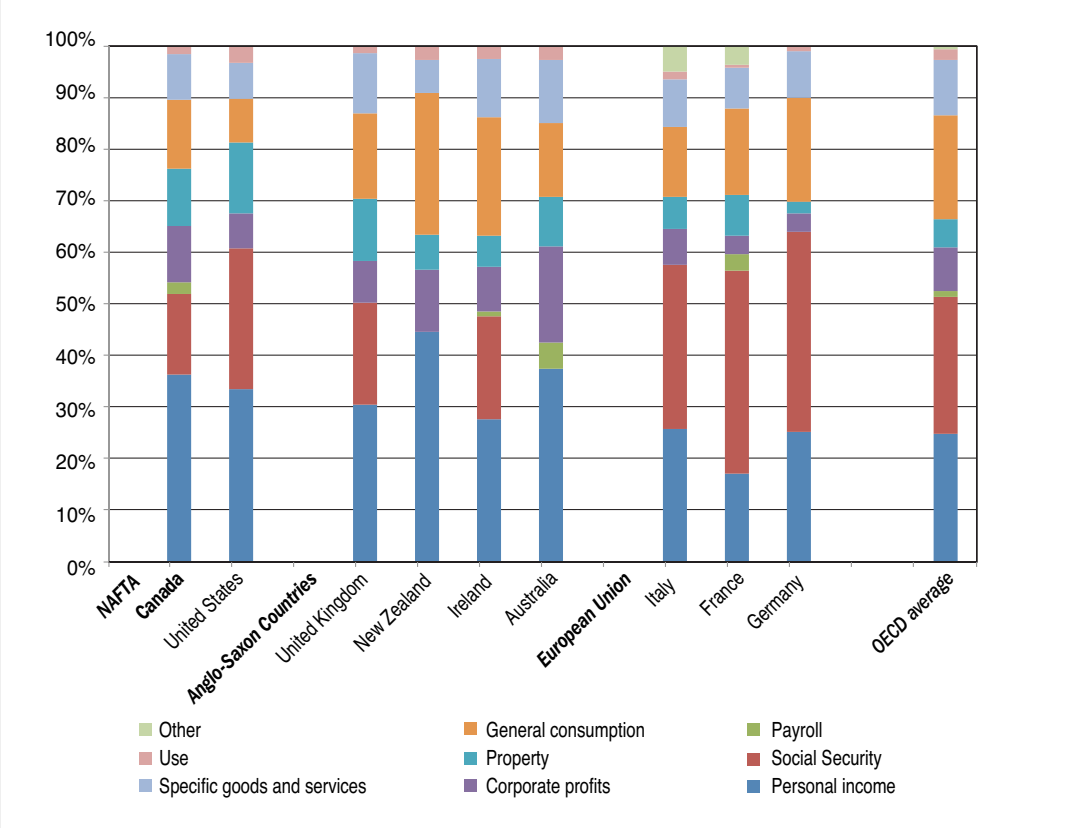
[5] For a highly interesting, still relevant, account of the political economy of taxation, see Wildavsky and Webber (1986).

[6] For an analysis, see Adama and Ladaique (2009), who show that accounting for the effect of the tax system (and private social expenditure) on public social expenditure leads to a greater similarity in overall social expenditure-to-GDP ratios across countries and to a reassessment of the magnitude of welfare states.

[7] In Appendix A, Personal income under the heading Labour includes the capital income of sole proprietorships and partnerships, as well as rental, interest and dividend income. EU statistics split personal income into a labour income component and a capital income component (see the PM figures in the Appendix). However, data for Canada, the US, Australia, and New Zealand are not available. In most countries, more than 90 percent of personal income consists of labour income, including the labour income of sole proprietors and partners.

As regards indirect taxes, general consumption appears to be taxed much lower in Canada than in most other countries. While Canada collects 13 percent of total tax revenue from its general consumption taxes (GST, QST, HST, RST), the share in other Anglo-Saxon countries is on average 20 percent. Germany's reliance on the VAT is around 20 percent, too. The share of Canada's general consumption taxes in total tax revenue is merely two-thirds of the OECD's average. On the other hand, the share of taxes on specific goods and services (among others, excise duties) and taxes on the use of goods (e.g., motor vehicle license taxes) are broadly in line with those of most other countries.

DIAGRAM 2. COMPOSITION OF THE TAX BURDEN IN CANADA AND SOME OTHER COUNTRIES IN 2009



Source: Appendix A.

Generally, the comparison indicates that Canada would not be out of step with other countries if it lowered taxes on labour and made up for the revenue shortfall by increasing consumption taxes.

3. TAXATION OF CONSUMPTION, LABOUR, AND CAPITAL

In analyzing the shift in taxation from labour to consumption, it is necessary to take a closer look at the GST, and the taxation of employment income and capital.

a. A closer look at the GST

Canada's GST is better designed than the EU's VAT, but not as well as the GSTs of New Zealand and Australia. As shown in Table 1, the differences centre mainly on exemptions and rate differentiations. Under a best-practice GST there is no place for exemptions, except for purely administrative reasons, e.g., to exempt small businesses from the obligation to register and pay tax. Exemptions (i.e., no GST on output and no credit for GST on inputs) violate the logic and functionality of the GST because they imply that the GST on exempt goods and services depends on the share of taxable inputs in output, a nonsensical and highly inefficient basis for taxation.[8] Moreover, as shown in several studies, the dollar savings of lower-than-standard rates on food, including domestic zero rates, accrues mainly to the well-to-do.[9] More generally, differentiated rates are difficult to justify in countries with sophisticated income tax and targeted social benefit systems.

TABLE 1. CHARACTERISTICS OF GST/VAT/RST SYSTEMS IN VARIOUS COUNTRIES

Country	Name	Rate coverage			Exemptions (major items)*	Collection-efficiency
		Main rate	Lower rates (major items)	Domestic zero rate (major items)		
NAFTA						
Canada						
FEDERAL	GST	5 (13)	New low-cost housing	Basic groceries, selected agricultural and fishing products, medicines and medical devices	Standard exemptions (except lotteries and gambling, commercial land and buildings, postal services); legal aid; ferry, road and bridge tolls	0.50
PROVINCIAL						
Quebec	QST	8.5	Same as federal GST	Same as federal GST	Same as federal GST	
NF & L	HST	8				
Nova Scotia	HST	8				
New Brunswick	HST	8				
Ontario	HST	8				
Manitoba	RST	7	None	None	Food, most services	
Saskatchewan	RST	5				
British Columbia	RST	7				
United States						
FEDERAL	None					
STATES (45+DC)	RST	6-8	Not applicable	None	Food, agricultural machinery, services	

[8] For a concise discussion of the pernicious economic and administrative effects of exemptions, see chapter 8 in Ebrill, et al (2001). For more on the Canadian situation, see Smart (2012).

[9] Three examples to support this finding are the following. A New Zealand study (Australian Society of CPAs, 1998) indicates that 85 percent of the dollar savings of a hypothetical zero rate on food would go to households with the highest 80 percent of income. In the same vein, calculations by the US Congressional Budget Office (1992) show that a zero rate on food would reduce the regressivity of a hypothetical VAT by only 18 percent. Perhaps more telling, a study in Sweden (Skall Matmomsen Slopas? 1983) finds that a zero rate on groceries would mainly benefit cohabiting yuppies — single people with high incomes. Of course, this ignores the perceptual and political arguments for exempting some necessities, such as basic groceries.

TABLE 1. CHARACTERISTICS OF GST/VAT/RST SYSTEMS IN VARIOUS COUNTRIES (cont'd)

Country	Name	Rate coverage			Exemptions (major items)*	Collection-efficiency
		Main rate	Lower rates (major items)	Domestic zero rate (major items)		
Anglo-Saxon countries						
UK	VAT	17.5	5: Certain pharmaceutical products, fuel and power, energy saving materials, children's car seats	Food, prescribed drugs, medicines, new housing, passenger transport, books, newspapers, water, sewage	Standard exemptions, sports competition, burials and cremations, works of art	0.44
New Zealand	GST	12.5	None	None	Financial services, residential rents and premises	0.93
Ireland	VAT	21	4.8; 13.5: Newspapers, electricity, gas, fuel for certain purposes, holiday accommodation, building services, immovable property, concrete, repair services, culture, sports, short-term car and boat hire, agricultural services	Food, oral medicine, books, children's clothing and footwear, medical equipment, seeds, fertilizer	Standard exemptions (except supply of land and buildings, recreational and sporting services), passenger transport, broadcasting, water, sports admissions, funeral undertakings, travel agents	0.61
Australia	GST	10	None	Food and beverages (except prepared), health and medical care, water sewage, farm land, cars for disabled, religious services, health insurance	Financial services, residential rents and premises, school canteens operated by non-profit bodies	0.57
European Union						
Italy	VAT	20	4, 10: Food, medicines, housing, books newspapers, gas, transport, urban waste, shows	None	Standard exemptions (except medical care if not earmarked for elderly or poor, commercial land and buildings), taxis, burials	0.40
France	VAT	19.6	2.1, 5.5: Food and beverages (on and off premise), pharmaceutical products, medicines, gas, electricity, newspapers, books, hotels, entertainment, passenger transport, sewage, refuse collection, work on dwellings	None	Standard exemptions (except letting of immovable property, sports, theatres, concerts, cinemas), work on monuments, graves and cemeteries	0.48
Germany	VAT	19	7: Food, books, newspapers, transport, plants, flowers, devices for the disabled, museums, zoos, circuses, cultural events	None	Standard exemptions	0.42

Sources: OECD (2011a) and IMF (2010).

Note

* *Standard exemptions include postal services; transport of sick/injured persons; hospital and medical care; human blood, tissues and organs; dental care; charitable work; education; non-commercial activities of non-profit organizations; sporting services; cultural services (except radio and television broadcasting); insurance and reinsurance; letting of immovable property; financial services; betting, lotteries and gambling; supply of land and buildings; certain fund-raising events.*

Unfortunately, the EU's exemptions of health care, education, cultural and sporting services, financial services and insurance, immovable property, lotteries and gambling have entered the GST/VAT jargon as "standard exemptions" (OECD, 2011a). This is an utter misnomer, since 'standard' connotes "something established by authority, custom, or general consent as a model or example".[10] Surely, this connotation does not apply to the GST/VAT exemptions in the EU, which are anything but a model or example to emulate, although many countries have done so. Even if nearly everyone has a cold in winter, it should still not be considered normal to be sneezing all over.

Although full taxation of the exempt services should be the aim, Canada has chosen a second-best option for most of them (financial services and insurance being an important exception). It largely neutralizes the anomalous treatment by nearly fully refunding the GST on purchases by entities represented by the MASH (municipal-academic-schools-hospitals) sector (Gendron, 2012). New Zealand does better still, however, by taxing these activities in full, eliminating any possibility that the services might compete unfairly with similar fully taxed services provided by the private sector.[11] New Zealand also does not have a misguided zero rate on basic groceries (a double dip in combination with a GST rebate scheme for lower-income groups). The zero rate distorts consumption patterns, harms competition, and reduces welfare. As shown in Table 1, the domestic zero rate for so-called necessities is also found in other Anglo-Saxon countries (but rarely elsewhere). It is another example of trying to redress market-determined incomes through the tax system, rather than the better-targeted expenditure system.

The effects of the exemptions and zero rates are reflected in lower collection efficiency ratios, defined as the actual GST/VAT base (generally ascertained by dividing tax collections by the standard rate) as a percentage of consumption expenditures found in national accounts.[12] As the last column of Table 1 indicates, Canada's GST taxes half of all consumption expenditure compared with 93 percent in New Zealand. (Admittedly, Canada's ratio should be corrected for the sizable rebates of the MASH sector (Bird, 2009 and Smart, 2012) which artificially lower collection efficiency.)[13]

---

[10] Dictionary and Thesaurus – Merriam-Webster Online.

[11] The worst option, found in the EU and many other countries with VAT, is to leave the exemptions dangling. Admittedly, some EU countries have refund schemes for provinces and municipalities, but their selective nature brings its own problems in train. See Wassenaar and Gradus (2004). For an excellent, general review of the legal complexities of the exemptions under the EU VAT, see De la Feria (2007). Of course, taxing the public sector and public-sector-related activities (and then increasing budgetary allocations to ensure the same net level of public expenditures) implies an artificial increase in the total tax ratio, which might not find grace in the eyes of some politicians.

[12] This assumes that administrative efficacy is the same across the countries under review — plausible, except perhaps with respect to Italy.

[13] The collection-efficiency ratios in this paper are from IMF (2010). Smart (2012) cites a much higher ratio of 0.66 for Canada computed by the OECD (2011a). He rightly points out that the OECD's figure is too high, because all revenues from the GST, QST and the HSTs are divided by the standard GST rate without taking account of provincial tax rates. After correcting for this mistake, Smart calculates Canada's VAT collection-efficiency ratio at 0.48, approximately the same as the IMF figure shown in Table 1 of this paper.

To conclude this very brief and possibly inadequate analysis of the shortcomings of the GST on a positive note: Canada offers a useful example of how other federations and common markets should coordinate federal and provincial claims on the shared consumption tax base through a federal GST, an independently administered QST (Québec), piggybacked HSTs (three Atlantic provinces and Ontario), non-coordinated RSTs (three provinces), or no consumption tax at all (Alberta). The lesson, which should not be lost on the EU, is that GST or VAT coordination should not be effected through complicated design changes, but through overarching audit controls (Bird and Gendron, 2010; and Cnossen, 2010).

b. Taxation of labour income

In view of this paper's topic, it is also necessary to examine the taxation of labour income. Here, this is done on the basis of the average and marginal tax burden (personal income tax plus employee and employer contributions) of individual households, for example, a married, two-earner family with two children in which the primary earner earns the wage of an average production worker (APW), as defined by the OECD (2011b), and the spouse two-thirds of the APW's wage.[14] As Table 2 indicates, a Canadian household of this type pays more income tax and social security contributions than similar households in most other Anglo-Saxon countries, including the US. On the other hand, the marginal effective income tax rate differs less compared with other Anglo-Saxon countries. Both the average and the marginal tax rates are much higher in the EU member states, where everyone and everything is taxed higher than elsewhere.[15]

[14] Accordingly, the calculations are not necessarily informative about the overall progressivity of the respective countries' tax systems. For a review of the methodology and the limitations of 'taxing wages,' see Heady (2003).

[15] But see above at footnote 6 for the caveat.

TABEL 2. EFFECTIVE AVERAGE AND MARGINAL TAX RATES ON WAGE INCOME (AS % OF LABOUR COSTS) IN 2009

Countries	Effective income tax rates		Effective tax rates on goods and services	Total effective tax rates		Progressivity
	Average	Marginal	Average = Marginal	Average	Marginal	
NAFTA						
Canada	**26.7**	**44.4**	**15.5**	**36.5**	**51.9**	**0.76**
United States	24.7	34.4	6.8	29.5	38.6	0.87
Anglo-Saxon Countries						
United Kingdom	28.3	44.7	18.9	39.7	53.5	0.77
Australia	19.9	63.8	15.5	30.6	68.7	0.45
New Zealand	14.0	41.0	24.5	30.9	52.6	0.69
Ireland	20.0	35.9	25.6	36.3	49.0	0.80
European Union						
Germany	43.1	60.4	23.7	54.0	68.0	0.70
France	43.9	52.0	22.5	54.2	60.8	0.86
Italy	42.0	54.1	21.6	52.3	62.3	0.79
OECD (unweighted average)	29.7	44.7	24.9	43.7	55.7	0.79

Source: OECD (2011b), tables 1.12 and 1.17, column 7. The income tax plus employee and employer contributions less cash benefits have been calculated for a married, two-earner family with two children in which the primary earner earns the wage of an average production worker (APW) and the spouse two-thirds of the APW's wage. The effective GST/VAT/RST plus excise/use tax rates were calculated by Leon Bettendorf of CPB Netherlands Bureau for Economic Policy Analysis as the ratio of total revenues from these taxes as a percentage of household consumption expenditures shown in national accounts. The total effective average tax rates have been calculated on the basis of the formula (a+b)/(1+b) in which a *is the average effective income tax and* b *the average effective GST/VAT/RST + excise/use tax rate. The total effective marginal tax rates have been similarly calculated. The progressivity parameter has been calculated on the basis of the formula (1-c)/(1-d) in which* c *is the total effective marginal tax rate and* d *the total effective average tax rates.*

This picture changes, however, when taxes on goods and services are pencilled in.[16] These taxes tend to be distributed proportionally over a significant part of the income range; hence, the marginal tax rate is assumed to be the same as the average rate.[17] Generally, the effective tax rates on consumption tend to reduce the differences between the various total effective tax rates. Since these tax rates are comparatively much lower in Canada than in most other countries, the effect is that the total average and marginal effective tax rates do not rise as much as in other countries.

[16] It should be emphasized that the tax rates for goods and services shown in the table are total average effective tax rates unrelated to the type of household for which the effective income tax rates have been calculated. For an attempt to compute average consumption tax wedges by type of household on the basis of household budget surveys, see Picos-Sánchez (2009). Unfortunately, the countries covered in this author's paper differ from the countries dealt with in this study.

[17] Based on a review of distributional impact studies, Warren (2008) argues that consumption taxes have a regressive impact on the distribution of household disposable income, particularly at the lower (and higher) end of the income distribution.

The average tax rates are an indication of the income and revenue effects of taxation (including social security contributions), while the allocative effects are influenced by the marginal tax rates. Also, to some extent, the average tax rate should affect the place of residence of employees.[18] That the marginal rates in Canada are relatively low is also evident from the progressivity parameters in the last column of Table 2, which shows the elasticities of disposable incomes with respect to gross incomes. The figure of 0.76 for Canada means that the disposable income (after tax and social security contributions) of an average production worker increases by 0.76 percent for every increase of the gross wage with one percent. A lower value of the parameter therefore implies a higher degree of progressivity. Most tax systems in the sample are less progressive than Canada's system, with the exception of the systems in Australia, Germany and New Zealand.

c. How is capital income taxed?

As elsewhere, the nominal taxation of capital income in Canada is easy to grasp, but it is difficult to get a grip on the actual or effective taxation. Table 3 indicates that the nominal tax rates on corporate income and on capital income subject to the personal income tax compare favourably with those of other countries. The federal government taxes corporate income at 16.5 percent[19] and the provinces at rates ranging from 5 percent in Newfoundland to 16 percent in Nova Scotia and Prince Edward Island. The most common rate is 10 percent, so that the combined rate is 26.5 percent. Double taxation of distributed profits is mitigated at the federal level through an imputation system under which dividends are grossed-up by 41 percent corporate tax and a tax credit of 16.44 percent of the grossed-up dividend is subsequently provided against the federal income tax liability. Similar arrangements exist at the provincial level. Further, the double tax on retained profits is mitigated by exempting half of the capital gain realized at the time corporate shares are disposed off. Apart from the deferral benefit, this means that capital gains are taxed at half of the marginal tax rates applicable to other income.

[18] While the IT, including the corporation tax, is a major determinant of the place at which business is carried on.

[19] The federal corporate income tax rate began decreasing in 2008 and will continue to decrease until it reaches a target rate of 15 percent as of January 1, 2012. Mintz (2007) recommends a combined federal/provincial rate of 20 percent, uniformly applied to large and small businesses, to minimize distortions.

TABLE 3. TAXES ON CAPITAL INCOME IN 2011

Countries	Corporate taxes (CT)				Personal income taxes (PT)	
	CT-rate	PT treatment of dividends	PT-rate on capital gains		Lowest bracket	Highest bracket
			Ordinary shares	Substantial holdings		
NAFTA **Canada**	**Federal: 16.5%; Provincial: 5% to 16% (additive; most common 10%)**	**Federal: tax credit of 16.44% of gross-up; Provincial: 6.4% to 15.08%**	**Federal and Provincial: 50% of gain exempt**	**Federal and Provincial: 50% of gain exempt**	**Federal: 15% ($41,544); Provincial: 4% to 11%**	**Federal: 29% ($128,800+); Provincial: 11.16% to 21%**
United States	Federal: 35% States: 0% to 10% (deductible from federal)	Taxed at 5% or 15%	Long-term: 15% Short-term: 35%	Long-term: 15% Short-term: 35%	Federal: 10% (up to $8,500) States: varying	Federal: 35% ($379,151+) States: varying but maximum 11%
Anglo-Saxon Countries United Kingdom	28%	Tax credit of 1/9th of grossed-up dividend	18%	18%	20% (up to £35,000)	50% (£150,000+)
Australia	30%	Tax credit of 30% of grossed-up dividend	50% of gain exempt	50% of gain exempt	15% ($6001-$37,000)	45% ($180,000+)
New Zealand	30%	Tax credit of 30% of grossed-up dividend	Taxed to some extent	Taxed to some extent	12,54% (up to $14,000)	35,05% ($70,000+)
Ireland	12.5%	Taxed at marginal rates	25%	25%	20% (€65,600; two-earner couple)	41% (balance)
European Union Germany	Federal: 15.825%; Local: 14.35% to 17.5%	Flat PT of 26.83%	26.375%	14.77%-47.47%	14% (€8005-€52,881)	45% (€250,731+)
France	34.43%	2/5 of net dividend exempt	19%	19%	5.5% (€5,964-€11,896)	41% (€70,830+)
Italy	31.4%	Flat PT of 12.5%	12.5	49.72 % of gain	20,3% (up to €10,329)	47.3% (€69,721+)

Source: Various sources on the internet, accessed 19 December 2011, and Cnossen (2010).

Elsewhere, the UK, Australia and New Zealand have an imputation system, too. The US, Germany and Italy, on the other hand, tax dividend income at a flat rate lower than the highest income tax rate, while France subjects 60 percent of dividend income to tax.[20] Ireland fully taxes dividends twice, at the corporate level and again at the individual level. Similar to Canada, Australia exempts half of realized capital gains, but most other countries apply lower flat rates. Germany and Italy distinguish between gains on ordinary shares and on shares in closely held corporations (which are taxed higher because the gains often represent labour income sheltered in corporate form). Most other capital income, such as interest, is nominally taxed at ordinary income tax rates (if at all).

[20] For a full review of the corporate income tax systems in the European Union, see Cnossen (2010a).

Of course, the question for this paper is how much capital income is effectively taxed, and, more pertinently, to what extent the normal return to capital is taxed. After all, the taxation of the normal return distinguishes the income tax from a broad-based consumption tax. The answer is difficult to give without further empirical research. What is known, however, is that corporations employ a variety of methods to shift their taxable profits into non-taxed or lower taxed entities or countries, such as transfer pricing (charging lower/higher prices for products sold to/bought from related lower-taxed entities), thin capitalization (substituting equity by debt, the interest on which is deductible and possibly not taxable in the hands of the recipient), or royalty payments (payments on patents and know-how located in low-tax countries). While Canada and other countries have adopted aggressive policies and practices to counter these forms of tax evasion and avoidance, their persistent occurrence provides *prima facie* evidence that full success is not being achieved.

In the field of personal income tax, much capital income escapes taxation through the use of deferred savings accounts, or by converting the income into capital gains that are either exempt or whose taxation is deferred until realization. The existence of positive capital income figures in the statistics (at most some 10 percent of total income assessed) published by Canada Revenue Agency does not necessarily indicate that capital income is (adequately) taxed, because the combination of tax-preferred savings accounts (and/or accelerated deprecation) and interest deductibility may even imply that capital is subsidized through the tax system. In an early article, Poddar and English (1999) estimate that only some 25 percent of investment income is subject to the personal income tax in Canada.[21] The incomplete taxation of capital income suggests that the normal return on capital (at most one to two percent anyway), and perhaps part of the above-normal return, may not be taxed under the income tax.

4. SIMILARITIES BETWEEN GST AND IT

The previous section showed that Canada appears to impose broad-based taxes on consumption, labour and capital without significant excise tax-type features. Accordingly, a shift from income to consumption taxation seems an appropriate topic for discussion. In comparing the GST with the IT, this section dwells first on various conceptual characteristics of both taxes in a closed and an open economy setting, respectively. The discussion indicates that the two taxes differ little. Subsequently, various differential effects are noted, which suggests a preference of the GST over the IT.

[21] In a more recent study for the US, Slemrod (2007) estimates that "the amount of revenue collected [from taxes on capital income] is fairly small and that the tax rate at the margin on new saving and investment [which he estimates at 14 percent] is well below the corporate statutory rate or the top personal income tax rate."

a. Closed economy

In a closed economy, the IT is a tax on labour and capital income. Labour income consists of wages and salaries (including the value of labour services performed by the owner in his or her business), fringe benefits, pension income and social benefits. Also, the managerial risk premium is included in labour income. Capital income consists of business profits (representing the return on equity, corrected for the labour income of proprietors and partners), dividends, capital gains, interest, rental income and rental values. Capital income can also be said to comprise the normal return (equal to, say, the interest on medium-term government bonds in Canada) on equity and debt, and 'rents,' also called above-normal returns, which cannot be attributed to the use of a specific type of labour or capital.

The GST is a tax on consumer expenditure. The size of the consumption base equals the algebraic sum of all values added in the production-distribution process. In each production and distribution stage, value added is determined as the difference between sales (output) and purchases (inputs), including investment goods. This difference is equal to the sum of wages and rents (also called business cash flow), calculated on a cash-flow basis. The GST can be characterized, therefore, as a cash flow tax on labour income and rents.[22]

As discussed in Box 1, the most important difference between the IT and the GST concerns the treatment of the normal return on capital, which is taxable under the IT but not under the GST. This difference is largely eliminated if contributions to old-age pensions and annuities (future consumption) are deductible under the IT (or, equivalently, not included in taxable income) and if investments are written off immediately.[23] As a result, the IT, too, becomes a tax on labour income and rents. The effect of immediate expensing of investment goods can also be achieved by permitting a deduction for the normal return on capital, debt and equity at the business level, while exempting the return at the level of the recipient.[24] Obviously, some combination of accelerated depreciation and exemption of the normal return would have the same effect. In practice, of course, the IT would be more progressive than the GST, because it is better able to take ability-to-pay factors into account. The condition of income neutrality, a prerequisite for the analysis in this paper, nullifies this difference, however, so that there is substantial overlap between the IT and the GST.[25]

---

[22] Taxation on a cash-flow basis means that receipts and expenditures are attributed to the year in which they occur, in contrast to taxation on the basis of the matching principle under which gains and costs are attributed to the year to which they relate. Both cash-flow accounting and accounting on the basis of the matching principle are forms of accrual accounting, that is, receivables and payables are accounted for in the period in which the claim or liability arises, not in the period in which they are settled, which would be called cash basis accounting.

[23] For a useful discussion, see Bradford (1996).

[24] A deduction for the normal return on equity (interest is already deductible) is known as the Allowance for Corporate Equity (ACE), pioneered by the Institute for Fiscal Studies (1992) and applied in Belgium (Cnossen, 2010a).

[25] For a rigorous formal analysis, which shows that it is possible to convert an income tax into a progressive consumption tax (i.e., an expenditure tax), see Bond and Myles (2007).

BOX 1. THE NATURE OF GST

The nature of the GST can be best explained by reference to a simple equation showing the accounting identity between the sources (wages and capital income) and the uses of income (consumption and savings) which forms the basis for a country's national accounts (or a simple household budget). The following identity shows the relationship between the two sides of the accounts for a closed economy and abstracting from government operations.

$$Y \equiv W + R \equiv C + S \; (\equiv I) \qquad (1)$$

or

$$C \equiv Y - S \equiv W + [R - I] \qquad (2)$$

Y is total income composed of labour income **W** and capital income **R**, **C** is consumption, and **S** is savings (which equals **I**, that is, investment). **R** is the sum of the risk-free or normal return on capital (in other words, its opportunity cost, comparable to the interest on medium-term government bonds), entrepreneurial rewards for risk-taking (which can also be considered labour income), and economic rents. In short, **R** represents business profits, conventionally computed (and other capital income, which is left out of consideration). The opportunity cost of capital is also called the hurdle rate of return. A business will go on investing up to the point at which the expected rate of return on the project just equals the discount rate, which equals the opportunity cost of capital.

Each of the three terms in identity (2) can serve as the base for a particular consumption tax. Basically, the retail sales tax (RST) has **C** as its base (individual consumption expenditures at the retail level). Similarly, the personal expenditure tax can be identified with a tax on **Y** – **S** levied at the individual level. This tax resembles the present wage tax under which pension contributions (savings) are left out of the income tax base and disposable income is consumed completely, as are later pension payouts (along with the accrued capital income).

The term **W** + [**R** – **I**], representing value added, forms the base for the GST. At the business level this value added is equivalent to the difference between sales and purchases in the P&L account, but calculated on a cash flow basis. Investments (including inventories) are expensed immediately or, to use GST terminology, the full input tax credit can be deducted immediately from the output tax. This contrasts with the income tax's matching principle under which the cost of investments is expensed over their economic life, which implies that the normal return on capital is taxed.

In addition to wages **W**, business cash flow [**R** - **I**] is also taxed under the GST. The taxation of business cash flow distinguishes a consumption tax from a wage tax, which taxes **W** only. These two taxes are equal if **R** - **I** is zero, which is the case in a fully competitive market in which no economic rents are earned. Furthermore, investment **I** may be taken to represent the present value of the services rendered by new business assets discounted at the normal rate of return on capital. Therefore, **R** - **I** represents the inframarginal return on old business assets. On the introduction (increase) of a consumption tax, this tax is capitalized in the form of a lower value of the old assets, a loss that is suffered by the owners. For this reason, economists refer to the GST as a tax on wages plus old capital.

This discussion shows that the only difference between a consumption tax and an income tax concerns the tax treatment of the normal risk-free, inflation-adjusted return on capital, which is exempt under a consumption tax but taxed under an income tax. It follows that a GST can be converted into an income tax by disallowing an immediate credit for the tax on investment goods against the tax on sales, but permitting this credit to be spread over the economic life of investment goods. By the same token, an income tax can be converted into a GST by taxing wages plus business profits after permitting an immediate write-off for investment goods and clawing back any deduction for interest. Note that economic rents (and entrepreneurial rewards for risk taking) can be taxed without harming investment (and work effort).

Finally, in an open economy, imports (foreign wages and business cash-flow) would be taxed. Offsetting exchange-rate adjustments or compensating domestic price movements would tend to preserve the initial situation, but real effects would occur to the extent that old foreign assets would be taxed. This would benefit government saving if a country is a net creditor to the rest of the world.

Source: For fuller treatments, see Auerbach (2006) and Slemrod (1997).

b. Open economy

Does this conclusion have to be modified in an open economy? Less than seems to be the case at first sight. Labour and capital income can now be taxed under the source or the residence principle. Under the source principle, only income earned in the taxing jurisdiction is taxed; under the residence principle income earned abroad is also included in the tax base. In practice, the source principle applies to labour income, which is taxed where the labour is performed. The same holds for the normal return on equity and business cash flow; in fact, the corporation or business income tax is a source-based tax. The gains on foreign direct investments (controlling stakes) are mostly exempt from tax in Canada (and in most other countries).[26] Only portfolio income, including interest on debt, is in principle taxable in the country of the shareholder or the bond holder. However, if deductible interest is not taxed in Canada and elsewhere and other gains on portfolio investments are not taxable (because they consist of capital gains on shares, for example) then the IT largely retains its character of a cash-flow tax on labour income and business cash flow.

The GST can be levied according to the destination or the origin principle. Under the destination principle, goods and services leave the country free of GST and imports are included in the domestic consumption tax base. Domestic labour income and business cash flow therefore are not taxed, but foreign labour income and business cash flow are taxed. Under the origin principle exports are subject to GST, but imports are not.[27] An origin-based GST is equivalent therefore to a source-based IT on labour income and rents. Also, a destination-based GST is equivalent to an origin-based GST, because compensating adjustments of the exchange rate and/or domestic prices imply that the level of real trade and investment is unaffected.[28] In short, a tax on exports may be said to be equivalent to a tax on imports, because imports are exchanged for exports and the same tax is imposed on the exchange, irrespective of whether the nominal tax is placed on exports or on imports. Again, we see that the IT and the GST do not differ fundamentally in an open economy.[29]

The above analysis probably is a fairly accurate description of the Canadian situation. Pension and retirement annuity contributions are not included in gross income and are not taxed until the moment of consumption. Investment cannot be dispensed immediately, but much deductible interest is probably not taxed, either in Canada or abroad. The normal return on equity is in principle taxable, but substitution of debt for equity enables investors to avoid the tax (subject to thin capitalization rules). Whether or not foreign portfolio income is taxed in Canada is an open question. But by and large, the Canadian IT resembles a cash-flow source tax on labour income and rents. As shown above, this is also the nature of an origin GST, which is in turn equivalent to a destination GST.

---

[26] This can be inferred from the Advisory Panel on Canada's System of Taxation (2008), which includes a recommendation to "[B]roaden the existing exemption system to cover all foreign active business income earned by foreign affiliates."

[27] This (correct) definition of the origin principle should not be confused with the (less correct) use of the concept by the European Commission which defines 'origin' as the country of the initial VAT imposition, even though the receipts are transferred to the member state of consumption (so that the destination principle is applied).

[28] For the equivalence conditions (uniform taxation, balanced trade flows, no intergenerational wealth effects), see the lucid treatment in chapter 17 of Ebrill, et al (2001).

[29] But it should be noted that in an open economy, as mentioned in Box 1, the GST would be imposed on foreign business cash flow with salutary effects on the importing country's government savings if a country is a net creditor to the rest of the world.

c. Differences between IT and GST

Although the GST and IT are broadly similar cash-flow taxes on labour income and rents, nonetheless there are differences that should be taken into consideration. Thus, not all savings or interest are deductible under the IT[30] and it will not always be possible to eliminate the tax on the normal return by substituting debt, whose return is not taxed, for equity. This should distort the level and composition of saving and investment. This effect does not occur under a (non-anticipated) GST increase (Auerbach and Kotlikoff, 1987).

The GST base is more stable...

An argument in favour of a tax mix change from IT to GST is that the base of the GST is more stable than the base of the IT, because consumption fluctuates less than income does.[31] The IT's offsetting advantage is that its greater cyclical variability improves the tax system's automatic stabilizing properties over the business cycle. On the other hand, though, a temporary increase of the GST would probably dampen domestic demand more than a temporary increase of the IT, which consists mainly of labour income. After all, households would be inclined to postpone their purchases of durable consumer goods. The greater yield stability of the GST should reduce the sensitivity of the budget deficit to the business cycle, which should make it easier to keep the deficit within acceptable bounds in a recession.

and also more robust...

More importantly, the GST base is more robust than the IT base. The possibilities of avoiding the tax are probably significantly greater under the IT than the GST.[32] In Canada, the IT can be avoided through, among other methods, profit retention, the incorporation of proprietorships, the financing of business assets with debt while the return is not or only partially taxed, and by contributions to old age and annuity schemes whose proceeds are taxed at a later date and at lower rates.

Further, as noted above, border-crossing tax avoidance and evasion can be practised through transfer pricing, thin capitalization and royalty transfers. The increased capital mobility and interwovenness of the international business community make it increasingly difficult — without further international coordination — to effectively tax the capital income component of the IT. By substituting capital income for labour income, the labour income component of the IT is also exposed to erosion.

---

[30] In Canada, in particular, the provisions for allowable savings are capped so that high-income earners must do their incremental savings in taxable forms. Accordingly, marginal sources of income may be taxed.

[31] The IT base would be just as stable as the GST base if an immediate write-off were allowed for investments instead of allowing a deduction for interest.

[32] Tax avoidance means that in principle, higher-taxed income or consumption is converted into de facto lower or untaxed income or consumption; this phenomenon is also called tax arbitrage.

Under the GST, domestic avoidance will generally be limited to exempt sectors such as hospitals, which gain from the in-house performance of food, cleaning and administrative services in order to save the GST on the labour component of the service. In Canada, this form of tax avoidance is not very profitable because most of the GST on inputs is rebated. Further, the product-specific nature of the rate structure should limit the arbitrage between the normal and the zero rate. The main form of evasion is shadow economy fraud, e.g., the GST-free provision of services like plumbing, carpeting, painting, gardening, catering, hairdressing, car repairs and similar activities.[33] In support of this observation, Spiro (1993) found that the GST's introduction in Canada led to greater tax evasion, since it could be bargained away between vendor and purchaser via cash transactions. But it should be realized that this form of VAT evasion invariably is accompanied by IT evasion for the same activities (with greater revenue loss), in Canada or elsewhere, before or after the introduction of the GST.

...while cross-border shopping hardly increases following a GST increase

Also, the magnitude of international tax arbitrage, in the form of cross-border shopping, is small under a GST. Although most Canadians live within a one or two hours drive from a US town, doing one's shopping across the border is not an attractive option for most Canadian households, not only because men hate to shop while women hate to drive, but also due to increased border checks following 9/11. Studies for the EU indicate that the magnitude of cross-border shopping decreases rapidly with the distance that has to be covered to be able to shop cheaper elsewhere. Although cross-border shopping may not be insignificant in border areas, it tends to be small when put in a national context. Further, the GST on big-ticket items, such as cars and yachts, and on distance selling can be secured by prescribing that the tax should be paid in the jurisdiction of registration or destination. The emergence of the Internet should promote GST avoidance, but probably mainly with respect to services (e.g., amusement) which are rendered directly to consumers.[34] Nearly everywhere, cross-border shopping has to do with differences in excise duties (high taxes on relatively expensive but small volume goods).

Somewhat old empirical research (based on interviews with 2000 households) investigated the distance that Irish buyers were prepared to travel in order to buy cheaper in the UK (Fitz Gerald, Johnston, and Williams, 1995). The authors found that Irish consumers were only prepared to travel more than 50 kilometers for a VAT-induced price differential of 10 percent or more at an expenditure level of €300 or more. As a rule, the Irish did not cross borders for expenditures of €100 or less. Not surprisingly, the study concluded that substantial differences in GST rates are feasible in a common market (or a federation, such as Canada, with differences in provincial tax rates) without an appreciable dent in a country's (or province's) GST yield. Again, the study also showed that excise tax differences dominate cross-border shopping behaviour.

---

[33] In Germany and the UK, the revenue lost on account of this form of VAT evasion has been estimated at more than five percent of VAT receipts or half of all VAT lost (see Cnossen, 2010). Other forms of VAT evasion are suppression fraud (understatement of sales and overstatement of tax credits), contrived insolvency fraud (passing on high tax credits without paying the underlying tax), and, to a lesser extent, carousel fraud (the cross-border counterpart of insolvency fraud).

[34] The GST on cross-border services rendered to businesses is either prevented through reverse-charging provisions or undone because there is no GST credit when the services are incorporated in other goods or services.

Further, the GST is politically less vulnerable...

There is another reason why the GST offers a more stable tax base than the IT. In contrast to the IT, the GST is more difficult to use for 'tax expenditures' purposes, that is, the subsidization of politically worthy goals through the tax system (except upon introduction, as the Canadian experience testifies). The GST is less suitable for the tax-induced promotion of saving, investment, employment, greening, charitable giving and other goals than the IT. A shift from the taxation of income to consumption, moreover, should lessen the political inclination for tax expenditures, since the gains for the beneficiaries would be correspondingly smaller following a decrease of the IT.

...but note the progressivity of the IT vs. the GST

Although the IT is sensitive to rent-seeking behaviour, it is equipped to take personal circumstances into account, such as the nature of the taxable household. Also, the burden distribution can be made progressive through the introduction of basic allowances and graduated rates that increase as income increases. This is not possible under an *in rem* tax, such as the GST. Various studies show that the burden distribution of the GST is largely proportional with respect to income and consumption, except at the lower and upper end of the income distribution. The zero rate on basic groceries — a baffling anomaly of Canada's GST — hardly mitigates the burden distribution. In absolute terms, the benefit accrues mainly to higher-income groups.[35] Whatever the burden distribution of the GST or IT for that matter, there is the overriding consideration that redistributive policy objectives should be pursued through government expenditures rather than taxes because government expenditures are more cost-effective (Dahlby, 2003).

Tax-mix shifting should also affect wealth distribution. An increase in the GST implies a one-off tax on owners of consumption goods-producing assets. This loss will be shared with owners of nominal assets if the increase is accompanied by an (unanticipated) increase of the price level. This implies that the government's debt as a percentage of national income will decline. A decrease of the IT on the other hand, implies a higher after-tax return for asset holders if and to the extent this return is taxed lower. Whether or not these effects compensate each other depends on the consumption path of stakeholders. Wealth-owning elderly, who consume currently, would be hit hardest. Thus, a tax burden shift would also imply an intergenerational redistribution of wealth (and income), whether intended or not.[36]

---

[35] For an early examination of the Canadian scene, see Cnossen (1989).

[36] As Jonathan Kesselman has pointed out to me, in addition to this general effect, there will be different effects across individuals depending on their assets or savings relative to their income and/or different age/cohort at the time of the tax mix shift. To illustrate, take two individuals both at the point of retirement from the labour force. The tax mix change will decrease IT rates and increase GST rates. For the individual who has undertaken savings via tax-deferred vehicles (Registered Pension Plans and Registered Retirement Savings Plans), the decrease in the IT rate will be favourable while the GST increase will be unfavourable, thus providing some offset. For the individual who has undertaken savings via tax-prepaid vehicles (tax-free savings accounts and home equity), the IT rate cut will have no favourable effect, while the GST increase will be unfavourable, thus netting out as an unambiguously unfavourable impact.

5. CONCLUSION: GST HIGHER, IT LOWER

The previous discussion yields a number of conclusions.

- First, the average and marginal IT burdens for a married two-earner household with two children differs little between various countries. The GST/excise burden on the other hand generally is lower in Canada than in most other countries. A move towards a higher GST and a lower IT does not imply, therefore, that Canada would move out of step with other countries.
- Secondly, IT and GST exhibit large practical similarities. If the normal return on capital is not taxed under the IT (and that appears to be largely the case), then both taxes can be characterized as cash-flow taxes on labour income and rents. The practical similarity also suggests that the transitional effects of a tax-base shift should be minimal.
- Thirdly, various differential effects do not change this picture in important ways, although it should be emphasized that an IT can take ability-to-pay factors into account. This is hardly possible under the GST (although the GST refund for poor families helps); the zero rate does not effect a meaningful reduction of the tax burden for the less well-off.
- Fourthly, the GST is more robust than the IT. Domestic and cross-border arbitrage affects the GST less than the IT. Significant rate differences with the US and between provinces are feasible.

Finally, it should be noted that differences in the incidence between the IT and the GST, in view of their practical equivalence, are so small that a shift in the tax base should not or hardly affect employment or, for that matter, saving and investment. For this to happen, it would be necessary to drop the condition of distributional neutrality: the IT reduction for people actually employed should be larger than their GST increase. People outside the labour force can then only be compensated for the GST increase if the condition of revenue neutrality is dropped.

APPENDIX A.

LEVEL AND COMPOSITION OF THE TAX BURDEN IN CANADA AND SOME OTHER COUNTRIES IN 2009

Countries	Total tax burden			Composition of total tax burden as % of total tax revenue									
				Direct taxes						Indirect taxes			
	As % of GDP	Composition as % of total tax revenue		Labour			Capital			General consumption	Specific goods and services	Use	Other
				Personal income	Social security	Payroll	PM: Personal income	Corporate profits	Property				
OECD heading		Direct	Indirect	(1100)	(2000)	(3000)	(1100)	(1200)	(4000)	(5110)	(5120)	(5200)	(6000)
NAFTA													
Canada	**32.0**	**76.2**	**23.8**	**36.4**	**15.6**	**2.2**		**10.9**	**11.1**	**13.4**	**8.8**	**1.6**	**-**
United States	24.1	81.4	18.6	33.6	27.2	-		6.9	13.7	8.4	7.0	3.2	-
Anglo-Saxon Countries													
United Kingdom	34.3	70.5	29.5	30.5	19.7	-	(4.9)	8.1	12.2	16.6	11.5	1.4	-
New Zealand	31.5	63.4	36.6	44.7	-	-		12.0	6.7	27.6	6.4	2.6	-
Ireland	27.8	63.2	36.8	27.6	20.1	0.8	(3.1)	8.8	5.9	23.0	11.4	2.4	-
Australia	25.9	70.9	29.1	37.4	-	5.2		18.7	9.6	14.3	12.2	2.6	-
European Union													
Italy	43.4	70.8	29.1	25.8	31.7	-	(3.3)	7.1	6.2	13.5	9.2	1.6	4.8
France	42.4	71.2	28.8	17.2	39.3	3.2	(2.4)	3.5	8.0	16.8	7.8	0.7	3.5
Germany	37.3	69.9	30.1	25.3	38.7	-	(1.7)	3.6	2.3	20.1	9.0	1.0	-
OECD average	33.8	66.7	33.1	24.7	26.6	1.1		8.4	5.5	20.0	10.6	2.1	0.6

Source: OECD, Revenue Statistics 1965-2010 *(Paris, 2011), Part II and individual country tables in Part III. Totals may not add because of rounding. For Canada, Italy, New Zealand and Spain: unallocable receipts from income and profits taxes have been added to personal and corporate tax revenues in proportion to their shares in total tax revenues. The same has been done for Italy with respect to unallocable receipts from VATs + excise duties, and from use taxes. For all EU member states, customs duties collected for the EU have been added to revenues from specific goods and services. Data for personal capital income are not available for non-EU countries; hence, personal labour income includes this item for all countries and the data in the PM column Personal income under the heading Capital are memorandum items. For the EU data, see European Commission (2011, table 62).*

REFERENCES

Adama, W., and M. Ladaique (2009), "How Expensive is the Welfare State? Gross and Net Indicators in the OECD Social Expenditure Database (SOCX)," OECD S*ocial, Employment and Migration Working Papers*, No. 92. Paris: OECD Publishing.

Advisory Panel on Canada's System of International Taxation (2008), *Enhancing Canada's International Tax Advantage*, Final Report (December).

Auerbach, A.J. (2006), "The Choice Between Income and Consumption Taxes: A Primer," *Working Paper* 12307, Cambridge, MA: National Bureau of Economic Research.

Auerbach, A., and L.J. Kotlikoff (1987), *Dynamic Fiscal Policy*. Cambridge, UK: Cambridge University Press.

Australian Society of CPAs (1998), "Tax Reform in New Zealand – The Shape of Things to Come in Australia?" *Discussion Paper* (May).

Bird, R.M. (2009), "The GST in Canada: Plus Ça Change, Plus C'est La Même Chose?," *Bulletin for International Fiscal Documentation* (August/September), 414-423.

Bird, R.M., and P-P. Gendron (2010), "Sales Taxes in Canada: The GST-HST-QST-RST 'System'", in New York University School of Law, *Tax Law Review* 63 (3), 517-582.

Bond, S., and G.D. Myles (2007), "Income and Consumption Taxation: An Equivalence Result," available on the Internet.

Bradford, D.F. (1996), "Consumption Taxes: Some Fundamental Transition Issues," chapter 8 in M. Boskin, ed., *Frontiers of Tax Reform*. Stanford, CA: Stanford University Press.

Cnossen, S. (1987), "VAT and RST: A Comparison," 35 *Canadian Tax Journa*l 3 (May-June), 559-615; reprinted as "The Technical Superiority of VAT over RST," in 4 *Australian Tax Forum* 4 (1987), 419-464, and in J. G. Head, ed., *Australian Tax Reform in Retrospect and Prospect*. Sydney: Australian Tax Research Foundation (1989), 325-359.

Cnossen, S. (1989), "What Rate Structure for a Goods and Services Tax? The European Experience," *Canadian Tax Journal* 37/5 (September-October), 209-213.

Cnossen, S. (2010), "VAT Coordination in Common Markets and Federations: Lessons from European Experience," New York University School of Law, *Tax Law Review*, 63 (3), 583-622.

Cnossen, S. (2010a), "Corporation Taxes in the European Union: Design, Practice, and Reform," in D.A. Albregtse and P. Kavelaars, eds., *Naar een Europese Winstbelasting?* Deventer, Netherlands: Kluwer.

Cnossen, S. (2011), "A VAT Primer for Lawyers, Economists, and Accountants," *The VAT Reader: What a Federal Consumption Tax Would Mean for America.* Tax Analysts, 23-51.

Cnossen, S., and A.L. Bovenberg (2011), "Lastenverschuiving heeft nauwelijks effect," *Economisch Statistische Berichten* 96 (27 May), 346-348.

Dahlby, B. (2003), "Restructuring the Canadian Tax System by Changing the Mix of Direct and Indirect Taxes," in H. Grubel, ed., *Tax Reform in Canada: Our Path to Greater Prosperity*. Vancouver: Fraser Institute, 77-108.

De la Feria, R. (2009), "The EU VAT Treatment of Public Sector Bodies: Slowly Moving in the Wrong Direction," 37 *Intertax* 3, 148-165.

Ebrill, L., M. Keen, J-P. Bodin, and V. Summers (2001), *The Modern VAT*. Washington DC: International Monetary Fund.

European Commission (2011), *Taxation trends in the European Union: Data for the EU Member States, Iceland and Norway*. Eurostat.

Fitz Gerald, J., J. Johnston, and J. Williams (1995), *Indirect Tax Distortions in a Europe of Shopkeepers*. Dublin: The Economic and Social Research Institute.

Gendron, P-P. (2010), "How Should the United States Treat Government Entities, Nonprofit Organizations, and Other Tax-Exempt Bodies Under a VAT?" New York University School of Law, T*ax Law Review* 63 (3), 477-508.

Heady, C. (2003), "The 'Taxing Wages' Approach to Measuring the Tax Burden on Labour," *CESifo Working Paper* No. 967.

IMF (2010), "VAT Revenue Productivity for Selected Fund Member Countries." Washington, DC: Fiscal Affairs Department, Tax Policy Division.

Institute for Fiscal Studies, Capital Taxes Group (1991), *Equity for Companies: A Corporation Tax for the 1990s*, Commentary 26. London: Institute for Fiscal Studies.

Kesselman, J.R. (1986), "Role of the Tax Mix in Tax Reform," in J.G. head, ed., *Changing the Tax Mix*, Sydney: Australian Tax Research Foundation.

Mintz, J. M. (2007), "2007 Tax Competitiveness Report: A Call for Comprehensive Tax Reform," *Commentary*, C.D. Howe Institute (September), No 254.

OECD (2011), *Revenue Statistics* 1965-2010. Paris: OECD Publishing.

OECD (2011a), *Consumption Tax Trends 2010: VAT/GST and Excise Rates, Trends and Administration Issues*. Paris: OECD Publishing.

OECD (2011b), *Taxing Wages 2009/2010*. Paris: OECD Publishing.

Picos-Sánchez, F. (2009), "Special Feature: Consumption Taxation as an Additional Burden on Labour," in *Taxing Wages 2007/2008*. Paris: OECD Publishing, 23-37.

Poddar, S., and M.D. English (1999), "Canadian Taxation of Personal Investment Income," 47 *Canadian Tax Journal* 5, 1270-1304.

Skall Matmomsen Slopas? (1983). Stockholm, SOU 54.

Slemrod, J. (1997), "Deconstructing the Income Tax," *AEA papers and Proceedings* (May), 151-155.

Slemrod, J. (2007), "Does the United States Tax Capital Income?," chapter 1 in H.J. Aaron, L.E. Burman, and C. E. Steuerle, eds., *Taxing Capital Income*. Washington, DC: Urban Institute Press.

Smart, M. (2012), "Departures from neutrality in Canada's Goods and Services Tax" (forthcoming).

Spiro, P.S. (1993), "Evidence of a Post-GST Increase in the Underground Economy," 41 *Canadian Tax Journal* 2, 247-258.

U.S. Congressional Budget Office (1992), *Effects of Adopting a Value Added Tax*. Washington, DC.

Warren, N. (2008), "A Review of Studies on the Distributional Impact of Consumption Taxes in OECD Countries," *OECD Social, Employment and Migration Working Papers*, No. 64. Paris: OECD Publishing.

Wassenaar, M.C., and R.H.J.M. Gradus (2004), "Contracting Out: The Importance of a Solution for the VAT Distortion," *CESifo Economic Studies*, 50(2), 377-396.

Wildavsky, A., and C. Webber (1986), *A History of Taxation and Expenditure in the Western World*. New York: Simon and Schuster.

About the Author

Sijbren Cnossen is an advisor for CPB Netherlands Bureau for Economic Policy Analysis and a Professor of Economics at the University of Pretoria. He is professor emeritus of Erasmus University Rotterdam and the University of Maastricht where he taught tax law and economics. He has also held appointments at the Law Schools of Harvard University, New York University, and the University of Florida. Previously, he served with the International Monetary Fund and the Dutch Tax Service. Professor Cnossen has advised various countries on the design of their tax systems and published numerous books and articles on the economics of taxation. He wrote his PhD under the supervision of Professor Richard Bird.

ABOUT THIS PUBLICATION

The School of Public Policy Research Papers provide in-depth, evidence-based assessments and recommendations on a range of public policy issues. Research Papers are put through a stringent peer review process prior to being made available to academics, policy makers, the media and the public at large. Views expressed in The School of Public Policy Research Papers are the opinions of the author(s) and do not necessarily represent the view of *The School of Public Policy*.

OUR MANDATE

The University of Calgary is home to scholars in 16 faculties (offering more than 80 academic programs) and 36 Research Institutes and Centres including *The School of Public Policy.* Under the direction of Jack Mintz, Palmer Chair in Public Policy, and supported by more than 100 academics and researchers, the work of The School of Public Policy and its students contributes to a more meaningful and informed public debate on fiscal, social, energy, environmental and international issues to improve Canada's and Alberta's economic and social performance.

The School of Public Policy achieves its objectives through fostering ongoing partnerships with federal, provincial, state and municipal governments, industry associations, NGOs, and leading academic institutions internationally. Foreign Investment Advisory Committee of the World Bank, International Monetary Fund, Finance Canada, Department of Foreign Affairs and International Trade Canada, and Government of Alberta, are just some of the partners already engaged with the School's activities.

For those in government, *The School of Public Policy* helps to build capacity and assists in the training of public servants through degree and non-degree programs that are critical for an effective public service in Canada. For those outside of the public sector, its programs enhance the effectiveness of public policy, providing a better understanding of the objectives and limitations faced by governments in the application of legislation.

DISTRIBUTION

Our publications are available online at www.policyschool.ca.

ISSN

1919-112x SPP Research Papers (Print)
1919-1138 SPP Research Papers (Online)

DATE OF ISSUE

March 2012

MEDIA INQUIRIES AND INFORMATION

For media inquiries, please contact Morten Paulsen at 403-453-0062.

Our web site, www.policyschool.ca, contains more information about The School's events, publications, and staff.

DEVELOPMENT

For information about contributing to The School of Public Policy, please contact Courtney Murphy by telephone at 403-210-7201 or by e-mail at cmurphy@ucalgary.ca.

EDITOR

Timothy Giannuzzi

RECENT PUBLICATIONS BY *THE SCHOOL OF PUBLIC POLICY*

SOME OBSERVATIONS ON THE CONCEPT AND MEASUREMENT OF INCOME INEQUALITY
http://policyschool.ucalgary.ca/sites/default/files/research/richardson-comm2.pdf
Stephen R. Richardson | February 2012

A REVIEW AND ASSESSMENT OF PRIVATIZATON IN CANADA
http://policyschool.ucalgary.ca/sites/default/files/research/boardman-vining-privatization.pdf
Anthony E. Boardman and Aidan R. Vining | January 2012

THE INTERNATIONAL EXPERIENCE WITH PRIVATIZATION: ITS RAPID RISE, PARTIAL FALL AND UNCERTAIN FUTURE
http://policyschool.ucalgary.ca/sites/default/files/research/nellis-privatization.pdf
John Nellis | January 2012

HOUSING SUBSIDIES AND HOMELESSNESS: A SIMPLE IDEA
http://policyschool.ucalgary.ca/sites/default/files/research/oflaherty-housing-subsidy.pdf
Brendan O'Flaherty | January 2012

PUBLIC SECTOR WAGE GROWTH IN ALBERTA
http://policyschool.ucalgary.ca/sites/default/files/research/boesenkool-public-wage-growth.pdf
Ken Boessenkool and Ben Eisen | January 2012

CATCHING THE BRASS RING: OIL MARKET DIVERSIFICATION POTENTIAL FOR CANADA
http://policyschool.ucalgary.ca/sites/default/files/research/mmoore-oilmarket.pdf
M.C. Moore, S. Flaim, D. Hackett, S. Grissom, D. Crisan and A. Honarvar | December 2011

THE CONSTITUTIONALITY OF FEDERAL CLIMATE CHANGE LEGISLATION
http://policyschool.ucalgary.ca/?q=content/constitutionality-federal-climate-change-legislation
Alastair Lucas and Jenette Yearsley | December 2011

THE MYTHS AND FACTS OF FOSSIL FUEL SUBSIDIES: A CRITIQUE OF EXISTING STUDIES
http://policyschool.ucalgary.ca/files/publicpolicy/MCKENZIE%20MINTZ%20online.pdf
Kenneth J. McKenzie and Jack M. Mintz | October 2011

HOMELESSNESS IN ALBERTA: THE DEMAND FOR SPACES IN ALBERTA'S HOMELESS SHELTERS
http://policyschool.ucalgary.ca/files/publicpolicy/homelessness%20in%20alberta.pdf
Ronald Kneebone, J.C. Herbert Emery and Oksana Grynishak | September 2011

THE NEW SECURITY PERIMETER WITH THE UNITED STATES
http://policyschool.ucalgary.ca/files/publicpolicy/flemming%20sept011.pdf
Brian Flemming | September 2011

INCOME SUPPORT FOR PERSONS WITH DISABILITIES
http://policyschool.ucalgary.ca/files/publicpolicy/Kneebone_Disability_Study.pdf
Ronald Kneebone and Oksana Grynishak | September 2011

INVESTMENT REVIEW IN CANADA – WE CAN DO BETTER
http://policyschool.ucalgary.ca/files/publicpolicy/Herman%20Invest%20Canada%20online.pdf
Lawrence L. Herman | September 2011

PLUCKING THE GOLDEN GOOSE: HIGHER ROYALTY RATES ON THE OIL SANDS GENERATE SIGNIFICANT INCREASES IN GOVERNMENT REVENUE
http://policyschool.ucalgary.ca/files/publicpolicy/KMckenzie%20comm%20sept11.pdf
Kenneth J. McKenzie | September 2011