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11 Subnational Tax Harmonization, Canada and the United States: Intent, Results, and Consequences

François Vaillancourt

The U.S. and Canadian tax systems are often compared, particularly in Canada. The comparison is usually made between the two federal tax systems, and little attention is paid to subnational–provincial/state and local—tax systems in that context. Yet subnational tax systems collect an important share—40 to 50%—of overall tax revenues in both countries and are, therefore, likely to have an impact on economic choices. Accordingly, this paper presents the subnational tax systems of the two countries and, in particular, examines the degree of harmonization within and between countries, for recent years. This project should be of interest, since there has been little, if any, comparative quantitative assessment of the degree of harmonization of subnational tax systems in Canada and the United States.

The paper is divided into five parts. In the first, we address some definitional and methodological issues. In the second, we present the key features and importance of subnational tax revenues in Canada and the United States. In the third, we examine for three major taxes—personal income, corporate income, and retail sales—the nominal tax rates, an important dimension of the intended degree of tax harmonization. In the fourth, we turn to the evidence on the effective tax burdens for these three taxes, as well as for the property tax and all taxes, and examine the resulting degree of tax harmonization. In the fifth, we reflect on the causes and consequences of the existing degree of harmonization.

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11.1 Subnational Tax Harmonization: Definitional and Methodological Issues

As indicated above, the issue of measuring quantitatively the degree of tax harmonization between two or more sets of subnational governments does not appear to have been addressed before. Thus, there is no standard definition of harmonization or measurement technique. In this paper, harmonization is measured using coefficients of variations of tax rates. The smaller the coefficient, the more harmonized through uniformization are the tax rates with zero (which implies zero variance in tax rates), the limiting case. Such an approach to tax harmonization has the benefit of being operational, but suffers from its simplicity. A more comprehensive and correct definition of tax harmonization would require that the treatment of taxpayers by the tax system in terms of deduction, credits, and other tax factors be examined. In that case, harmonization would mean that taxpayers in the same economic circumstances face the same tax circumstances across jurisdictions.

Having attempted to define measurement of tax harmonization, we are faced with two additional questions: How does tax harmonization interact with benefit harmonization? Should tax harmonization be measured for the overall tax burden or for each tax taken separately? With respect to the first question, one should note that in this paper we do not address the issue of the use of tax revenues. This is a common convention in tax papers, which implicitly avoids the issue of the role of government. It was particularly appropriate here, given the data available. Ideally, one would calculate the net (benefits minus taxes) incidence of government budgets for representative taxpayers for the appropriate set of governments, and calculate the variation in those amounts. These calculations should account for the economic incidence of taxes rather than for their legal incidence (such an accounting is not done here). With respect to the second question, the answer depends on how one expects taxpayers to behave. If they correctly calculate the overall tax burden they face and are not confused by the instrument substitution governments engage in, then we should examine the overall tax burden. But if there is some fiscal illusion, it is then appropriate for us to examine the harmonization of specific taxes, since it will affect individual behavior.

Finally, one should note that the degree of tax harmonization between subnational governments in a federal state will be influenced by the actions of the federal government. The amount of influence will vary between the countries, depending on the nature of fiscal arrangements such as tax collection arrangement, sharing of revenue sources, and tax/transfer mechanisms. As shown by Boadway and Bruce (ch. 1 in this volume), Canadian institutional arrangements are more conducive to harmonization than those in the United States.

11.2 Subnational Tax Systems in Canada and the United States: Key Features and Importance

In this section, we examine the key features and importance of the U.S. and Canada subnational tax systems for the year 1986. In the other sections of the paper, we also report results for 1976. The choice of these years reflects the availability, at the time that data collecting and analysis was initiated (1989), of data sets yielding comparable information for both countries for two years.

Table 11.1 presents evidence on the main structural characteristics of the subnational tax system in Canada and the United States. One can draw several conclusions from it:

1. Subnational governments in the United States and Canada make use of the same tax instruments, with differences resulting from different assignments of jurisdiction between federal and subnational governments (e.g., for unemployment insurance) or the nonexistence or smaller importance of government intervention (e.g., for public health insurance).
2. Canadian provinces are more likely all to make use of a given tax than U.S. states (e.g., personal or corporate income taxes).
3. Canadian provinces that make use of a given tax instrument are more likely all to make use of the same specific provision than U.S. states (e.g., capital gains and food-consumed-at-home taxation).

Thus, while the same taxes are commonly used in both countries by subnational governments, the degree of harmonization appears lower in the United States than in Canada. The importance of subnational taxes can be ascertained from various angles. In table 11.2, we report evidence on the importance of specific subnational taxes with respect to GDP and to all subnational taxes for 1986. In table 11.3, we examine for 1976 and 1986 the importance of subnational taxes with respect to all taxes, so as to ascertain the level of, and changes in, their importance for both governments. Finally, in table 11.4, we examine the share of four specific taxes—personal income, corporate income, retail sales, and property—in subnational government revenue for each of the sixty such governments, as well as for the nine U.S. regions commonly used for economic analysis.

Table 11.2 shows that subnational taxes are almost twice as high in Canada as in the United States, when their importance is measured as their share of GPD. This differential is highest when direct, indirect, and payroll taxes ("All Taxes II") are used for this measurement and smallest when property taxes are also used ("All Taxes III"). The disparity is thus greater at the state/provincial level. Table 11.2 also indicates that, while the three main sources of subnational government revenues are the same—personal income tax, retail sales tax, and property tax—their relative importance is not the same. In Canada the main source of revenue for both provinces and all subnational (including local) governments is the personal income tax, while in the United States the

main source for states is the retail sales tax and for all subnational governments it is the property tax.

Table 11.3 shows that the importance of subnational governments, measured by their share of subnational and federal taxes, is higher in Canada than in the United States. This also holds when provinces are compared to states. The importance particularly of states and provinces has increased from 1976 to 1986, but more so in Canada. Finally, these results indicate that part of the difference between the shares of GDP of Canadian and U.S. subnational governments is the result of their higher share of governmental activity in Canada.

The difference between Canada and the United States in the importance of subnational taxes is even more important than as shown in table 11.3, if one takes into account the deductibility of property and sales taxes (before the tax reforms of 1986) in calculating federal taxes in the United States, and the absence of such deductibility in Canada. As a result, the cost of one dollar of subnational taxes is higher in Canada than in the United States.

Table 11.4 presents data on the share of total tax revenues of four taxes by subnational government. The main finding is the high degree of variation among subnational governments in the relative importance of the four main taxes. More industrialized units (Michigan, Ontario, etc.) rely somewhat more on the corporate income tax. Differences in the share of total taxes may reflect, in part, the differences among the tax systems of subnational governments, which can be the result of choices as to the imposition, base, and rate of a given tax. This last point is examined in the next section.

11.3 Intended Harmonization: Statutory Tax Rates

In this section, we examine the statutory tax rates, in 1976 and 1986, of three taxes—personal income, corporate income, and retail sales. The absence of a statutory rate at the state/provincial level precludes the examination of the property tax. In the case of the personal income and corporate income taxes, both the first non-zero (minimum) and highest (maximum) rates are presented in tables 11.5 and 11.6, while the standard retail sales tax rate is presented in table 11.7. To facilitate the analysis, the coefficients of variation associated with these various sets of rates for a year, as well as the intertemporal correlation between 1976 and 1986, are presented in table 11.8.

Examining first the level of statutory tax rates found in tables 11.5, 11.6, and 11.7 for 1976 and 1986, one notes that the mean level is always higher in Canada than in the United States. Differences are larger for personal income tax rates (reflecting, in part, the use of tax points to effectuate federal–provincial revenue transfers), with the Canada-U.S. ratio of means ranging from 2.55 to 3.23, than for corporate income tax rates, with a ratio ranging from 1.65 to 2.21, or for retail sales tax rates (1.8 to 1.9). Mean personal income tax rates remained unchanged or declined from 1976 to 1986 in the United States, while they increased in Canada. Mean corporate income tax

rates and retail sales tax rates did not decrease, and often increased, from 1976 to 1986.

With respect to variations, an examination of table 11.8 shows the following:

1. In both 1976 and 1986, the variations in the minimum and maximum personal and corporate income tax rates are greater for subnational governments in the United States than in Canada, with the exception of the minimum personal income tax rate in 1976. In the case of retail sales taxes, they are of the same order of magnitude.
2. If one regroups U.S. subnational governments into nine regions, then the difference between the U.S. and Canada coefficients of variation for personal and corporate income taxes are greatly reduced, but these coefficients are still higher for the United States. In the case of minimum personal income tax rates and retail sales taxes, the U.S. coefficients are smaller than the Canadian ones.
3. The coefficients of variation for minimum tax rates are always larger than those for maximum tax rates, except for personal income tax rates in the United States in 1976, where they are equal or almost equal. This may reflect the higher mobility of high-income earners (than low-income earners) and of larger corporations.
4. The coefficients of variation from 1976 to 1986 have decreased (personal income tax, particularly in Canada), remained roughly unchanged (retail sales tax), or increased (corporate income tax, particularly in Canada). The main change is in the coefficient of variation for the minimum rate for corporate income taxes, due to an important change in Quebec (from 12% to 3%). Except for these tax rates, the intertemporal correlation between the various sets of tax rates is quite high, ranging from 0.80 to 0.98.

These differences in statutory tax rate do not necessarily imply, however, that the effective tax burden varies to the same degree, since other features of the tax code (e.g., tax exemptions, deductions, etc.) and differences in the incomes of economic agents affect this burden. This is examined in the next section.

11.4 Resulting Harmonization: Effective Tax Rates

In this section, we examine the effective tax rates for 1976 and 1986 of four specific taxes—personal income, corporate income, retail sales, and property—as well as of all taxes. One should note that, while effective tax rates are defined as the ratio of taxes paid divided by the tax base, in this paper we calculate effective tax rates both with respect to the relevant tax base, when possible, and with respect to GDP. Thus, we calculate the ratio of personal income and of retail sales taxes to personal income and the ratio of corporate income taxes to profits, as well as their ratio to GDP. In the case of property

taxes and all taxes we calculate ratios only with respect to GDP, since for property taxes we do not know the tax base by state, while for all taxes there is no tax base common to all taxes. One should also be aware that these are average and not marginal effective tax rates. Hence, they indicate what tax burden is faced, on average, by existing taxpayers, but not what the marginal tax burden of a new taxpayer is.

Tables 11.9–11.13 report the effective tax rates and their means for the four specific taxes and for all taxes, while coefficients of variations and of correlation for Canada and the United States are reported in table 11.14.

A study of the mean effective tax rates with respect to GDP, reported in tables 11.9–11.13, shows that, except for property taxes in 1976, mean effective tax rates are always higher in Canada than in the United States. Once more, differences are largest for personal income taxes, with the Canada-U.S. ratio of means equal to 2.67 in 1976 and 2.87 in 1986, while similar ratios are smaller for corporate income taxes (2.25, 2.0), retail sales taxes (1.88, 2.0), property taxes (0.87, 1.15) and all taxes (1.49, 1.51). Except for corporate income taxes, mean effective taxes increased from 1976 to 1986.

There are several conclusions to be drawn from table 11.14:

1. Coefficients of variations calculated using either GDP or specific tax bases for the four main taxes are higher in the United States than in Canada for every tax, in both 1976 and 1986. If one regroups U.S. states into regions, however, one observes a reduction in these coefficients. Effective retail sales taxes are now less dispersed in the United States than in Canada, while both personal and corporate income taxes remain more dispersed in the United States than in Canada.
2. Coefficients of variations, calculated using either GDP or specific tax bases for personal income and property taxes, decreased in both Canada and the United States from 1976 to 1986. In the case of retail sales taxes, they decreased in the United States and increased in Canada, while for corporate income taxes they increased in both countries. This last result could reflect increased tax competition.
3. Except for corporate income taxes in Canada, there is a strong intertemporal correlation between 1976 and 1986 effective rates calculated using either GDP or specific tax bases, with the correlation coefficient always above 0.66 and, in most cases, above 0.8.
4. Coefficients of variations of effective tax rates are lower than coefficients of variations calculated for the minimum statutory personal income tax rate, and higher than those calculated for the minimum and maximum corporate statutory income tax rates.
5. The coefficients of variations for all taxes are smaller than each tax-specific coefficient in 1976 and 1986, for both Canada and the United States. Thus, the overall tax burden is more uniform than specific tax burdens.

We will now examine three specific questions: (1) Do proximate states and provinces have more similar tax policies than all states and provinces? (2) Are

effective tax burdens correlated together? (3) Are nominal and effective tax rates correlated together?

The results presented in table 11.15 allow us to examine the degree of variation between state and provincial effective tax rates for the six north-south regions that we created. Looking first at the combined sixty subnational governments, one finds that the degree of tax harmonization is lower than at the national level (shown in table 11.14). Thus, pressure for harmonization between subnational governments appears to be stronger within countries than between countries. The main result that emerges from regional calculations is that the coefficients of variation for the Ontario/Middle Atlantic-East North Central region are always smaller (16 of 16) than those of all states and provinces. This degree of intraregional harmonization contrasts strongly, for example, with the relative lack of harmonization in the Foothills and British Columbia/Pacific regions, for which respectively 12 out of 16 and 10 out of 16 coefficients of variations are larger than those for all states and provinces. This may reflect the fact that Ontario is the most important recipient of American investment in Canada, and thus is in more direct competition with U.S. states. A second interesting result is that, for most specific taxes (with respect to GDP), there is a fair amount of intraregional variation, with the notable exception of property taxes, where the regional coefficients of variations (11 out of 12) are almost always smaller than all the state and province coefficients. This may perhaps reflect a greater sensitivity of individuals and businesses to this tax. Finally, the overall tax burden varies much less within regions than specific taxes, indicating that there are compensatory differences in tax burdens.

The results presented in table 11.16 allow us to assess the interrelation between the various effective tax burdens measured with respect to GDP. The main result from table 11.16 is that the degree of correlation between the effective tax rates for the four main tax rates is not very high either in Canada or the United States for 1976 or 1986, but that there are some compensating differences in tax burdens. In the United States, the most striking finding is the recurring negative correlation between the retail sales tax and the three other taxes, indicating perhaps that it is a substitute for these three taxes. One also notes the positive correlation between personal income and corporate income taxes and between these two taxes and all taxes. In Canada, there is substitution between personal income taxes and corporate income taxes.

Finally, table 11.17 indicates that there is a correlation between statutory and effective tax rates in both the United States and Canada. It is a fairly strong (> 0.5) correlation in most cases, the exceptions being observed in Canada in the case of the personal income tax/maximum statutory rate correlation and in the case of the corporate income tax correlations.

11.5 Tax Harmonization: Causes and Consequences

The results presented in the preceding two sections can be examined from two perspectives. One examines what factors explain the dissimilarities be-

tween tax burdens, both within each country and between them. The second examines the impact of these dissimilarities on the behavior of economic agents and the appropriateness of these dissimilarities.

11.5.1 The Causes of Dissimilarities

Given the importance of the dissimilarities in state and provincial tax structures, we can only agree with Elder and Misiolek (1988, p. 1) that "there has been surprisingly little research directed towards explaining the wide differences which exist among the tax structures of state governments in the United States"; with Hunter and Nelson (1989, p. 41) that "there has been very little research on the political determinants of the structure of tax systems"; and with Inman (1989, p. 454) that "in contrast to our understanding of local government spending, however, we know surprisingly little about how cities and states set taxes." Indeed, these three papers appear to be the only body of recent empirical work on the specific issue of tax structures in the U.S. states. No comparable study appears to have been carried out for Canadian provinces.

The main findings of these studies are that tax structures are influenced both by interest groups, who shift taxes away from themselves (Hunter and Nelson 1989; Inman 1989), and by the structure of the economy (Elder and Misiolek 1988). Presumably, these factors also explain the differences between U.S. states reported here.

As to the differences between Canada and the United States in the coefficients of variations, the key factor in explaining them is the larger number of subnational governments in the United States. As a perusal of table 11.14 shows, calculations made using nine regions yield substantially smaller coefficients of variations, indeed, sometimes smaller than their equivalent Canadian coefficients of variations.

11.5.2 The Consequences of Dissimilarities

As Oates and Schwab (1988, pp. 333–34) stated, "The literature on local public finance contains two sharply contrasting themes. The first views interjurisdictional competition as a beneficent force . . . . however, a second body of literature contends that interjurisdictional competition is a source of distortion in public choices." As a result, it is difficult to assess whether the degree of variation in tax burdens among subnational governments is, in some sense, optimal. What can be said is that these differences in taxes probably affect, to some degree, the locational decisions of economic agents, given the recent findings of Newman and Sullivan (1988) and assuming that there is a relationship between effective average tax rates and effective marginal tax rates. Such a result, if it reflects the preferences of local residents, is an appropriate one.

11.6 Conclusion

The purpose of this paper is to draw attention to the subnational level of government in the ongoing debate on tax harmonization between Canada and the United States. This topic is of interest, since these governments account for an important and slightly growing share of taxation revenues in both countries. As a result, differences in their tax systems have an effect on locational decisions and thus on the efficiency of the national economy as a whole. The empirical findings of tables 11.8 and 11.14 show that there was a greater level of harmonization in Canada than in the United States on a tax-by-tax basis, using either statutory or effective tax rates, but that the effective overall tax burden (in table 11.14) was more harmonized in the United States than in Canada, indicating a greater degree of instrument substitution in the United States. Thus, a complete harmonization of Canadian and U.S. federal tax systems, something which is neither considered nor advocated here, would not lead to a complete harmonization of the overall tax burden in both countries. As a result, locational decisions would still be influenced by tax considerations. Indeed, one result of the 1986 U.S. tax reform, which eliminated sales tax deductions and made deductions for income and property taxes less valuable, due to lower marginal tax rates, will be to make subnational taxes more salient in individual choices (Courant and Rubinfeld 1987). Hence, we believe that more attention should be devoted both to the determinants (perhaps making use of the approach put forward by Hettich and Winer 1988) and the consequences of tax differentials at the subnational level—in both Canada and the United States, taken separately, as well as in a second step, jointly.

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Table 11.1 **Main Structural Characteristics of the State and Provincial Tax Systems, Canada and the United States, 1986**

Tax/Characteristic	Fraction of Total Jurisdictions	
	Canada	U.S.
Personal Income Tax:		
Existence in	10/10	40/50
Use of federal income base or income tax for calculation of liabilities in	9/10[a]	34/40
Inclusion of interest income in	10/10	40/40, but some have exclusions
Inclusion of capital gains in	10/10	40/40, but various bases are used
Corporation Income Tax:		
Existence in	10/10	45/50
Sales Tax:		
Existence in	9/10	45/50
Food consumed in the home taxed in	0/9	17/45
Specific Public Health Insurance Premiums or Payroll Tax	4/10	0/50
Unemployment Insurance Payroll Tax	0/10[b]	50/50
Public Worker Compensation Financed by Payroll Tax	10/10	21/50[c]

Sources: Canada: Canadian Tax Foundation, *Provincial and Municipal Finances, 1987.* U.S.: Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism, 1987.*

[a]Quebec has its own income tax code, which is similar but not identical to the federal one.

[b]A federal responsibility in Canada.

[c]States with some or only public coverage are included in the 21 states. Other states require private insurance. See *Social Security Bulletin,* January 1986, p. 29.

Table 11.2 Subnational Government Taxes, Amounts, Percentage of GDP, and Percentage of All Taxes, Canada and the United States, 1986

Taxes	Amounts (thousands of $)		% of GDP		% of State/Provincial Taxes Collected[a]					
					Canada			U.S.		
	Canada (C$)	U.S. ($)	Canada	U.S.	I	II	III	I	II	III
(1) Personal/Individual Income Tax	24,456,200	67,469,000	4.8	1.6	46.4	40.8	31.9	29.6	26.6	18.5
(2) Corporation Income Tax	3,924,000	18,462,000	0.8	0.4	7.4	6.6	5.1	8.1	7.3	5.1
(3) Retail/General Sales Tax	12,916,000	74,927,000	2.6	1.8	24.5	21.6	16.8	32.7	29.5	20.5
(4) Motor Fuels Tax	3,290,300	14,101,000	0.7	0.3	6.3	5.6	4.3	6.2	5.6	3.9
(5) Alcohol and Tobacco Tax	1,996,800	7,511,000	0.4	0.2	3.8	3.3	2.6	3.3	3.0	2.1
(6) Other Sales and Excises Taxes	726,600	15,814,000	0.1	0.4	1.4	1.2	0.9	6.9	6.2	4.3
(7) Motor Vehicles Tax	509,000	8,372,000	0.1	0.2	1.0	0.8	0.7	3.7	3.3	2.3
(8) Other Tax Revenue	4,819,300	21,639,000	1.0	0.5	9.2	8.0	6.3	9.5	8.5	5.9
(9) Unemployment/Worker's Compensation/Health Insurance Payroll Taxes	7,295,600	25,258,000	1.4	0.6	—	12.2	9.5	—	10.0	6.9
(10) Property Taxes	16,840,400	111,711,000	3.3	2.7	—	—	21.9	—	—	30.5
(11) All Taxes I[b]	52,638,200	228,295,000	10.4	5.4	100.0	—	—	100.0	—	—
(12) All Taxes II[c]	59,933,800	253,553,000	11.8	6.0	—	100.0	—	—	100.0	—
(13) All Taxes III[d]	76,774,200	365,264,000	15.2	8.7	—	—	100.0	—	—	100.0
(14) GDP	506,103,000	4,191,705,000	—	—	—	—	—	—	—	—

Sources: Canada: (1)–(4), (8)–(9)—CANSIM MATRIX series D460885, D460886, D460887, D460888, D460891 and D460894, D460889 and D460890; (5)–(6)—CANSIM D467535, D467536; (7),(14)—Statistics Canada, *Provincial Economic Accounts: Annual Estimates, 1976–1987* (13–213), tables 10 and 1; (10)—Statistics Canada, *Consolidated Government Finances* (68–202). U.S.: Bureau of the Census, *Statistical Abstract of the United States, 1989*. (1)–(8)—table 441 ((6) equals [total sales and gross receipts] minus [general sales and gross receipts + motor fuels + alcoholic beverages and tobacco products]; (8) equals total minus [sales and gross receipts + individual income + corporation net income + motor vehicle and operator's license]); (9)—table 453 (insurance trust revenue minus employee's retirement); (10)—table 457; (14)—table 697.

[a]Calculated using line (11), (12), or (13).

[b]Sum of lines (1)–(8).

[c]Sum of lines (1)–(9).

[d]Sum of lines (1)–(10).

Table 11.3 **Subnational and Federal Taxes, Amounts and Shares of All Taxes, Canada and the United States, 1976 and 1986**

	Canada				United States			
	1976		1986		1976		1986	
Taxes	C$[a]	%[b]	C$[a]	%[b]	US$[a]	%[b]	US$[a]	%[b]
Subnational Taxes:								
(1) Province/State	21.7	35.0	64.4	39.4	89.3	24.9	228	27.0
(2) Province/State + Local	28.5	45.1	81.1	49.8	156.8	43.8	373	44.1
Federal Taxes	32.3	—	81.8	—	201.4	—	472	—

Sources: Canada: Statistics Canada, *National Income and Expenditure Accounts* (13-201), tables 45, 46, and 47, pp. 50–53. U.S.: 1976 Bureau of the Census, *Statistical Abstract of the United States, 1977*, table 477, p. 293; *1978*, table 484, p. 299; 1986—*1989*, tables 446, 457, and 461.

[a]Billions of current dollars.

[b]Percentages are calculated as: subnational tax (line (1) or (2)) /line (2) + federal taxes.

Table 11.4 **Share of Four Main Taxes in Total Tax Revenues, United States and Canada, 1986**

	Total Tax Revenue					Total Tax Revenue			
	PIT[i] (%)	CIT[ii] (%)	RST[iii] (%)	PT[iv] (%)		PIT[i] (%)	CIT[ii] (%)	RST[iii] (%)	PT[iv] (%)
U.S. STATES:					North Carolina	28.5	6.6	17.9	21.6
Maine	20.3	3.1	23.1	33.8	South Carolina	23.6	3.9	28.9	22.9
New Hampshire	2.0	7.9	0.0	60.7	Georgia	24.9	5.3	21.0	25.7
Vermont	20.0	3.9	12.3	37.5	Florida	0.0	3.3	33.8	32.2
Massachusetts	32.1	9.5	15.3	31.1	Kentucky	19.9	5.7	21.4	17.6
Rhode Island	19.2	4.6	19.5	40.8	Tennessee	1.3	5.2	36.1	21.9
Connecticut	4.8	9.9	26.2	37.5	Alabama	18.3	3.8	20.2	11.6
New York	25.7	4.2	10.5	29.5	Mississippi	10.8	3.8	40.7	22.9
New Jersey	14.4	6.7	18.4	40.5	Arkansas	21.3	4.7	29.1	18.0
Pennsylvania	15.3	5.6	18.7	26.6	Louisiana	8.1	4.7	20.1	15.1
Ohio	18.3	3.1	20.9	27.9	Oklahoma	16.2	2.5	15.5	18.2
Indiana	19.6	2.7	32.0	32.1	Texas	0.0	0.0	20.1	40.0
Illinois	14.8	4.8	18.8	34.8	Montana	15.3	5.2	0.0	47.3
Michigan	20.9	9.3	17.2	38.2	Idaho	24.2	4.1	23.7	28.4
Wisconsin	27.0	4.9	18.6	34.7	Wyoming	0.0	0.0	13.8	44.7
Minnesota	27.0	5.1	18.8	30.8	Colorado	19.7	2.4	15.2	35.1
Iowa	21.4	3.4	19.0	38.4	New Mexico	5.6	3.9	34.1	11.5
Missouri	19.1	3.0	26.2	21.1	Arizona	14.3	3.5	29.8	28.6
North Dakota	8.4	6.4	20.3	28.3	Utah	21.0	3.1	26.0	28.4
South Dakota	0.0	3.0	24.6	41.8	Nevada	0.0	0.0	34.6	21.8
Nebraska	16.5	2.6	16.4	43.3	Washington	0.0	0.0	43.9	27.8
Kansas	17.0	4.5	16.4	38.2	Oregon	30.8	4.2	0.0	45.3
Delaware	37.4	8.5	0.0	13.4	California	24.4	8.2	22.3	26.1
Maryland	24.8	3.2	15.3	25.1	Alaska	0.0	7.4	0.0	24.2
Virginia	26.8	3.5	12.6	28.2	Hawaii	24.7	2.3	39.4	17.6
West Virginia	20.6	3.8	34.8	16.7	Mean:	18.1	4.9	20.1	29.9

(*continued*)

Table 11.4 (continued)

	Total Tax Revenue					Total Tax Revenue			
	PIT[i] (%)	CIT[ii] (%)	RST[iii] (%)	PT[iv] (%)		PIT[i] (%)	CIT[ii] (%)	RST[iii] (%)	PT[iv] (%)
U.S. REGIONS:					CANADIAN PROVINCES:				
New England[a]	20.8	8.5	18.2	35.5	Newfoundland	27.3	5.6	42.3	9.9
Middle Atlantic[b]	21.2	5.0	13.8	30.9	Prince Edward Island	29.5	6.0	41.1	15.5
East North Central[c]	19.2	5.3	20.3	33.7	Nova Scotia	36.0	5.8	30.2	17.9
West North Central[d]	20.3	4.0	20.3	32.2	New Brunswick	31.3	5.9	36.0	16.1
South Atlantic[e]	18.7	4.2	22.8	26.4	Quebec	45.5	2.1	22.2	18.8
East South Central[f]	12.0	4.7	28.9	18.3	Ontario	30.4	8.3	22.1	27.2
West South Central[g]	4.9	1.4	20.1	31.6	Manitoba	22.3	6.4	21.5	29.8
Mountain[h]	14.1	2.8	23.1	30.3	Saskatchewan	29.6	5.5	16.3	30.0
Pacific[i]	2.1	6.8	23.1	27.2	Alberta	37.1	14.5	2.6	41.4
Mean:	18.1	4.9	20.1	29.9	British Columbia	29.8	6.7	23.5	27.4
					Mean:	34.8	6.4	21.7	25.2

Sources: U.S.: Bureau of the Census, *Statistical Abstract of the United States, 1988,* table 445; *1989,* table 457. Canada: Statistics Canada, *Provincial Economic Accounts, Annual Estimates, 1976–1987* (13-213), tables 5, 6, 9, 10.

[i]Personal income tax.

[ii]Corporate income tax.

[iii]Retail sales tax.

[iv]Property tax.

[a]Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.

[b]New York, New Jersey, and Pennsylvania.

[c]Ohio, Indiana, Illinois, Michigan, and Wisconsin.

[d]Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

[e]Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida.

[f]Kentucky, Tennessee, Alabama, and Mississippi.

[g]Arkansas, Louisiana, Oklahoma, and Texas.

[h]Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.

[i]Washington, Oregon, California, Alaska, and Hawaii.

Table 11.5 **Statutory Personal Income Tax Rates, United States and Canada, 1976 and 1986**

	Statutory PIT Rate			
	1976		1986	
	Min.[a]	Max.	Min.[a]	Max.
U.S. STATES:				
Maine	1.0	8.0	1.0	10.0
New Hampshire	0.0	0.0	0.0	0.0
Vermont	3.5	17.5	2.9	13.2
Massachusetts	5.0	9.0	5.0	10.0
Rhode Island	2.4	11.9	2.4	11.1
Connecticut	0.0	0.0	0.0	0.0
New York	2.0	15.0	2.0	13.5
New Jersey	2.0	2.5	2.0	3.5
Pennsylvania	2.0	2.0	2.16	2.16
Ohio	0.5	3.5	0.855	8.55
Indiana	2.0	2.0	3.0	3.0
Illinois	2.5	2.5	2.5	2.5
Michigan	4.6	4.6	4.6	4.6
Wisconsin	3.1	11.4	5.0	7.9
Minnesota	1.6	15.0	1.0	9.9
Iowa	0.5	13.0	0.5	13.0
Missouri	1.5	6.0	1.5	6.0
North Dakota	1.0	10.0	2.0	9.0
South Dakota	0.0	0.0	0.0	0.0
Nebraska	2.1	10.5	2.1	9.5
Kansas	2.0	6.5	2.0	9.0
Delaware	1.6	19.8	1.2	9.7
Maryland	2.0	5.0	2.0	5.0
Virginia	2.0	5.75	2.0	5.75
West Virginia	2.1	9.6	2.1	13.0
North Carolina	3.0	7.0	3.0	7.0
South Carolina	2.0	7.0	2.0	7.0
Georgia	1.0	6.0	1.0	6.0
Florida	0.0	0.0	0.0	0.0
Kentucky	2.0	6.0	2.0	6.0
Tennessee	0.0	0.0	0.0	0.0
Alabama	1.5	5.0	2.0	5.0
Mississippi	3.0	4.0	3.0	5.0
Arkansas	1.0	7.0	1.0	7.0
Louisiana	2.0	6.0	2.0	6.0
Oklahoma	0.5	6.0	0.5	6.0
Texas	0.0	0.0	0.0	0.0
Montana	2.0	11.0	2.0	11.0
Idaho	2.0	7.5	2.0	7.5
Wyoming	0.0	0.0	0.0	0.0
Colorado	3.0	8.0	3.0	8.0
New Mexico	0.9	9.0	1.8	8.5
Arizona	2.0	8.0	2.0	8.0
Utah	2.75	7.75	2.25	7.75
Nevada	0.0	0.0	0.0	0.0
Washington	0.0	0.0	0.0	0.0
Oregon	4.0	10.0	4.0	10.0
California	1.0	11.0	1.0	11.0
Alaska	3.0	14.5	0.0	0.0
Hawaii	2.25	11.0	2.25	11.0
Mean:	1.7	6.9	1.7	6.4

(*continued*)

Table 11.5 (continued)

	Statutory PIT Rate					Statutory PIT Rate			
	1976		1986			1976		1986	
	Min.[a]	Max.	Min.[a]	Max.		Min.[a]	Max.	Min.[a]	Max.
U.S. REGIONS:[b]					CANADIAN PROVINCES:				
New England	2.0	7.7	1.9	7.4	Newfoundland	2.5	19.3	3.6	20.4
Middle Atlantic	2.0	6.5	2.1	6.4	Prince Edward Island	2.2	16.9	3.1	17.8
East North Central	2.5	4.8	3.2	5.3	Nova Scotia	2.3	18.1	3.4	19.2
West North Central	1.2	8.7	1.3	8.1	New Brunswick	2.4	19.1	3.5	19.7
South Atlantic	1.7	7.5	1.7	6.7	Quebec	11.44	16.72	11.62	21.6
East South Central	1.6	3.8	1.8	4.0	Ontario	5.8	14.3	8.0	17.5
West South Central	0.9	4.7	0.9	4.7	Manitoba	2.5	24.0	3.2	22.0
Mountain	1.6	6.4	1.6	6.3	Saskatchewan	7.6	20.7	8.5	19.0
Pacific	2.0	9.3	1.4	6.4	Alberta	4.9	12.2	7.4	14.8
Mean:	1.7	6.6	1.8	6.1	British Columbia	1.9	14.8	2.8	17.8
					Mean:	4.6	17.6	5.5	19.0

Sources: U.S.:1976—Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism, 1976,* tables 64, 106, and 113; 1986—*1987,* table 51. Canada: 1976—Canadian Tax Foundation, *The National Finances, 1976–1977,* table 4.8; 1986—*1986–1987,* table 7.9.

Notes: The means are simple unweighted means of the data in the subtables. Rates of zeero indicate the absence of a tax; these rates are included in the calculation of the means and of the results reported in table 11.8.

[a]The first non-zero rate where income is broadly taxed. For Canadian provinces other than Quebec, it was calculated by multiplying the minimum federal rate by the provincial rate, which is a percentage of federal taxes. Quebec's rate is adjusted downward to account for the 16.5% federal personal income tax abatement available only in that province.

[b]As defined in table 11.4.

Table 11.6 **Statutory Corporation Income Tax Rates, United States and Canada, 1976 and 1986**

	Statutory CIT Rate					Statutory CIT Rate			
	1976		1986			1976		1986	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
U.S. STATES:					North Carolina	6.0	6.0	6.0	6.0
Maine	5.0	7.0	3.5	8.93	South Carolina	6.0	6.0	6.0	6.0
New Hampshire	7.0	7.0	8.25	8.25	Georgia	6.0	6.0	6.0	6.0
Vermont	5.0	7.5	6.0	9.0	Florida	5.0	5.0	5.5	5.5
Massachusetts	8.33	8.33	8.33	8.33	Kentucky	4.0	5.8	3.0	7.25
Rhode Island	8.0	8.0	8.0	8.0	Tennessee	6.0	6.0	6.0	6.0
Connecticut	10.0	10.0	11.5	11.5	Alabama	5.0	5.0	5.0	5.0
New York	10.0	10.0	10.0	10.0	Mississippi	3.0	4.0	3.0	5.0
New Jersey	7.5	7.5	9.0	9.0	Arkansas	1.0	6.0	1.0	6.0
Pennsylvania	9.5	9.5	9.5	9.5	Louisiana	4.0	4.0	4.0	8.0
Ohio	4.0	8.0	5.1	9.2	Oklahoma	4.0	4.0	5.0	5.0
Indiana	3.0	3.0	3.0	3.0	Texas	0.0	0.0	0.0	0.0
Illinois	4.0	4.0	4.0	4.0	Montana	6.75	6.75	6.75	6.75
Michigan	7.8	7.8	2.35	2.35	Idaho	6.5	6.5	7.7	7.7
Wisconsin	2.3	7.9	7.9	7.9	Wyoming	0.0	0.0	0.0	0.0
Minnesota	12.0	12.0	6.0	12.0	Colorado	5.0	5.0	6.0	6.0
Iowa	6.0	10.0	6.0	12.0	New Mexico	5.0	5.0	4.8	7.6
Missouri	5.0	5.0	5.0	5.0	Arizona	2.5	10.5	2.5	10.5
North Dakota	3.0	6.0	3.0	10.5	Utah	6.0	6.0	5.0	5.0
South Dakota	0.0	0.0	0.0	0.0	Nevada	0.0	0.0	0.0	0.0
Nebraska	3.75	4.125	4.75	6.65	Washington	0.0	0.0	0.0	0.0
Kansas	4.5	4.5	4.5	4.5	Oregon	6.0	6.0	7.5	7.5
Delaware	7.2	7.2	8.7	8.7	California	9.0	9.0	9.6	9.6
Maryland	7.0	7.0	7.0	7.0	Alaska	5.4	5.4	1.0	9.4
Virginia	6.0	6.0	6.0	6.0	Hawaii	5.85	6.435	5.85	6.435
West Virginia	6.0	6.0	6.0	7.0	Mean:	5.2	6.0	5.2	6.6

(*continued*)

Table 11.6 (continued)

	Statutory CIT Rate					Statutory CIT Rate			
	1976		1986			1976		1986	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
U.S. REGIONS:[a]					CANADIAN PROVINCES:				
New England	7.2	8.0	7.6	9.0	Newfoundland	14.0	14.0	10.0	16.0
Middle Atlantic	9.0	9.0	9.5	9.5	Prince Edward Island	10.0	10.0	10.0	10.0
East North Central	4.2	6.1	4.5	5.3	Nova Scotia	12.0	12.0	10.0	15.0
West North Central	4.9	5.9	4.2	7.2	New Brunswick	9.0	12.0	9.5	15.0
South Atlantic	6.1	6.1	6.4	6.5	Quebec	12.0	12.0	3.2	13.63
East South Central	4.5	5.2	4.2	5.8	Ontario	9.0	12.0	10.0	15.5
West South Central	2.2	3.5	2.5	4.7	Manitoba	13.0	15.0	10.0	17.0
Mountain	4.0	5.0	4.1	5.4	Saskatchewan	12.0	14.0	10.0	17.0
Pacific	5.2	5.4	4.8	6.6	Alberta	11.0	11.0	5.0	11.0
Mean:	5.3	6.0	5.3	6.7	British Columbia	12.0	15.0	8.0	16.0
					Mean:	11.4	12.7	8.6	14.6

Sources: U.S.: 1976—Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism, 1976*, table 113; 1986—*1987*, table 57. Canada: Canadian Tax Foundation, *Provincial and Municipal Finances, 1987*, tables 5.6 and 10.8.

Notes: The means are simple unweighted means of the data in the subtables. Rates of zero indicate the absence of a tax; these rates are included in the calculation of the means and of the results reported in table 11.8.

[a]As defined in table 11.4.

Table 11.7 **Statutory Retail Sales Tax Rates, United States and Canada, 1976 and 1986**

	Statutory RST Rate			Statutory RST Rate	
	1976	1986		1976	1986
U.S. STATES:			North Carolina	3.0	3.0
Maine	5.0	5.0	South Carolina	4.0	5.0
New Hampshire	0.0	0.0	Georgia	3.0	3.0
Vermont	3.0	4.0	Florida	4.0	5.0
Massachusetts	5.0	5.0	Kentucky	5.0	5.0
Rhode Island	5.0	6.0	Tennessee (July 1)	3.0	5.5
Connecticut	7.0	7.5	Alabama	4.0	4.0
New York	4.0	4.0	Mississippi	5.0	6.0
New Jersey	5.0	6.0	Arkansas	3.0	4.0
Pennsylvania	6.0	6.0	Louisiana	3.0	4.0
Ohio	4.0	5.0	Oklahoma	2.0	3.25
Indiana	4.0	5.0	Texas	4.0	5.25
Illinois	4.0	5.0	Montana	0.0	0.0
Michigan	4.0	4.0	Idaho	3.0	5.0
Wisconsin	4.0	5.0	Wyoming	3.0	3.0
Minnesota	4.0	6.0	Colorado	3.0	3.0
Iowa	3.0	4.0	New Mexico	4.0	4.75
Missouri	3.0	4.225	Arizona	4.0	5.0
North Dakota	4.0	5.0	Utah	4.0	4.5938
South Dakota	4.0	4.0	Nevada	2.0	5.75
Nebraska	2.5	4.0	Washington	5.0	6.5
Kansas	3.0	4.0	Oregon	0.0	0.0
Delaware	0.0	0.0	California	4.75	4.75
Maryland	4.0	5.0	Alaska	0.0	0.0
Virginia	3.0	3.5	Hawaii	4.0	4.0
West Virginia	3.0	5.0	Mean:	3.5	4.2

(*continued*)

Table 11.7 (continued)

	Statutory RST Rate			Statutory RST Rate	
	1976	1986		1976	1986
U.S. REGIONS:[a]			CANADIAN PROVINCES:		
New England	4.2	4.6	Newfoundland	10.0	12.0
Middle Atlantic	5.0	5.3	Prince Edward Island	8.0	10.0
East North Central	4.0	4.8	Nova Scotia	8.0	10.0
West North Central	3.4	4.5	New Brunswick	8.0	11.0
South Atlantic	3.0	3.7	Quebec	8.0	9.0
East South Central	4.2	5.1	Ontario	7.0	7.0
West South Central	3.0	4.1	Manitoba	5.0	6.0
Mountain	2.9	3.9	Saskatchewan	5.0	5.0
Pacific	2.8	3.0	Alberta	0.0	0.0
Mean:	3.6	4.3	British Columbia	7.0	7.0
			Mean:	6.6	7.7

Sources: U.S.: 1976—Advisory Commission on Intergovernmental Relations, *Significant Features of Fiscal Federalism, 1976,* tables 96, 106, and 113; 1986—*1987,* tables 51, 57, 58, and 61. Canada: 1976—Canadian Tax Foundation, *Provincial and Municipal Finances, 1977,* table 5.6; 1986—*1987,* table 10.3.

Notes: The means are simple unweighted means of the data in the subtables. Rates of zero indicate the absence of a tax; these rates are included in the calculation of the means and of the results reported in table 11.8.

[a]As defined in table 11.4.

Table 11.8 **Variations of Statutory Tax Rates, United States and Canada, 1976 and 1986**

	PIT		CIT		RST
	Min.	Max.	Min.	Max.	
	U.S.—50 States				
Coefficients of Variation:					
1976	0.72	0.72	0.53	0.46	0.43
1986	0.75	0.65	0.55	0.47	0.40
Correlation: 1976–1986	0.89	0.81	0.82	0.88	0.89
	U.S.—9 Regions[a]				
Coefficients of Variation:					
1976	0.28	0.29	0.37	0.27	0.21
1986	0.36	0.21	0.40	0.25	0.17
Correlation: 1976–1986	0.86	0.87	0.98	0.92	0.89
	Canada—10 Provinces				
Coefficients of Variation:					
1976	0.72	0.19	0.14	0.13	0.42
1986	0.56	0.11	0.29	0.16	0.46
Correlation: 1976–1986	0.98	0.80	−0.06	0.86	0.97

[a]As defined in table 11.4.

Table 11.9 **Effective Tax Rates: Personal Income Taxes as a Percentage of Personal Income and GDP, United States and Canada, 1976 and 1986**

	PIT					PIT			
	% of Personal Income		% of GDP			% of Personal Income		% of GDP	
	1976	1986	1976	1986		1976	1986	1976	1986
Maine	0.9	2.2	0.8	1.9	North Carolina	2.0	2.8	1.5	2.2
New Hampshire	0.1	0.15	0.1	0.14	South Carolina	1.7	2.4	1.4	2.0
Vermont	2.3	2.2	1.9	1.9	Georgia	1.5	2.4	1.2	1.9
Massachusetts	3.2	3.5	2.8	3.1	Florida	0.0	0.0	0.0	0.0
Rhode Island	1.6	2.0	1.5	1.9	Kentucky	1.6	2.0	1.2	1.5
Connecticut	0.2	0.5	0.2	0.4	Tennessee	0.1	0.1	0.1	0.9
New York	3.1	3.8	2.5	3.2	Alabama	1.2	1.6	1.0	1.4
New Jersey	0.2	1.4	0.2	11.3	Mississippi	1.0	1.1	0.8	8.6
Pennsylvania	1.4	1.6	1.2	1.4	Arkansas	1.4	1.9	1.1	1.6
Ohio	0.7	1.9	0.6	1.6	Louisiana	0.6	0.9	0.3	0.6
Indiana	1.2	1.8	1.0	1.6	Oklahoma	1.3	1.7	1.0	1.4
Illinois	1.5	1.5	1.2	1.3	Texas	0.0	0.0	0.0	0.0
Michigan	1.8	2.4	1.5	2.1	Montana	2.3	1.8	1.7	1.4
Wisconsin	3.3	3.4	2.7	2.9	Idaho	2.1	2.3	1.6	1.9
Minnesota	3.5	3.1	2.7	2.6	Wyoming	0.0	0.0	0.0	0.0
Iowa	2.1	2.3	1.6	2.0	Colorado	1.9	1.9	1.5	1.6
Missouri	1.2	1.6	1.0	1.3	New Mexico	1.0	0.6	0.7	0.4
North Dakota	1.7	0.9	1.1	0.7	Arizona	1.2	1.6	1.0	1.3
South Dakota	0.0	0.0	0.0	0.0	Utah	2.1	2.5	1.6	1.9
Nebraska	1.1	1.6	0.8	1.3	Nevada	0.0	0.0	0.0	0.0
Kansas	1.3	1.6	1.0	1.4	Washington	0.0	0.0	0.0	0.0
Delaware	3.4	4.1	2.7	3.4	Oregon	3.2	3.3	2.5	2.9
Maryland	2.7	2.6	2.5	2.5	California	1.9	2.5	1.5	2.1
Virginia	1.9	2.4	1.6	2.1	Alaska	3.7	0.0	1.9	0.0
West Virginia	1.4	2.4	1.1	2.0	Hawaii	3.0	3.0	2.2	2.4
					Mean:	1.5	1.7	1.2	1.5

U.S. REGIONS:					CANADIAN PROVINCES:				
New England	1.8	2.1	1.6	1.9	Newfoundland	3.6	4.2	3.6	4.1
Middle Atlantic	2.0	2.6	1.7	2.3	Prince Edward Island	3.0	3.9	3.0	4.0
East North Central	1.5	2.0	1.2	1.7	Nova Scotia	3.5	5.1	3.4	4.9
West North Central	1.9	2.0	1.5	1.7	New Brunswick	3.7	4.7	3.5	4.3
South Atlantic	1.5	1.8	1.2	1.6	Quebec	7.1	8.2	6.0	7.1
East South Central	0.9	1.1	0.7	0.9	Ontario	2.6	4.8	2.1	4.1
West South Central	0.4	0.5	0.3	0.4	Manitoba	3.5	3.6	2.8	3.2
Mountain	1.5	1.5	1.1	1.2	Saskatchewan	4.0	4.4	3.1	4.0
Pacific	1.9	2.2	1.4	1.9	Alberta	2.7	3.7	1.6	2.6
Mean:	1.5	1.7	1.2	1.5	British Columbia	3.3	4.5	2.7	3.8
					Mean:	3.7	4.7	3.2	4.3

Sources: U.S.: Bureau of the Census, *Statistical Abstract of the United States, 1988* (for 1986 taxes), p. 270; *1977* (for 1976 taxes), p. 295; *1988* (for 1986 revenues), p. 416; *1977* (for 1976 revenues), p. 436; Bureau of Economic Analysis, *Survey of Current Business* (for GDP), May 1988, table 1. Canada: Statistics Canada, *Provincial Economic Accounts, Annual Estimates, 1976–1987* (13-213), (for personal income), table 9, line 6; (for personal income tax), table 16, line 9; Statistics Canada, *Canadian Economic Observer, 1987* (11-210), (for GDP), table 12-1.

Notes: In calculating personal income taxes for Quebec, we subtracted from reported personal income taxes an amount equivalent to the 16.5% Quebec abatement, as follows: 1976—opting-out option, $252,603,000, from Canadian Tax Foundation, *The National Finances, 1976–1977,* table 10-1, p. 144; 1986—contracting-out tax transfers, $1,431,200,000, from *The National Finances, 1986–1987,* table 16-3, pp. 16.24, 16.25.

[a]As defined in table 11.4.

Table 11.10 **Effective Tax Rates: Corporation Income Taxes as a Percentage of Profits and GDP, United States and Canada, 1976 and 1986**

	CIT			
	% of Profits		% of GDP	
	1976	1986	1976	1986
U.S. STATES:				
Maine	2.9	1.4	0.5	0.3
New Hampshire	2.4	2.3	0.4	0.5
Vermont	2.5	1.5	0.4	0.4
Massachusetts	4.5	5.0	0.7	0.9
Rhode Island	3.3	2.6	0.6	0.4
Connecticut	3.0	4.6	0.5	0.9
New York	4.0	2.7	0.7	0.5
New Jersey	2.0	2.8	0.4	0.6
Pennsylvania	3.8	2.7	0.7	0.5
Ohio	1.5	1.2	0.3	0.3
Indiana	0.9	1.0	0.2	0.2
Illinois	1.5	1.9	0.3	0.4
Michigan	2.1	4.9	0.4	0.9
Wisconsin	2.6	2.4	0.5	0.5
Minnesota	3.2	2.4	0.6	0.5
Iowa	1.3	1.4	0.3	0.3
Missouri	0.9	0.9	0.2	0.2
North Dakota	1.7	2.1	0.4	0.5
South Dakota	0.2	1.2	0.04	0.2
Nebraska	1.0	1.0	0.2	0.2
Kansas	2.1	1.6	0.5	0.4
Delaware	2.4	4.6	0.4	0.8
Maryland	2.1	1.7	0.3	0.3
Virginia	1.8	1.2	0.3	0.3
West Virginia	0.5	1.4	0.2	0.4
North Carolina	2.0	2.2	0.4	0.5
South Carolina	2.5	1.6	0.5	0.3
Georgia	1.8	1.7	0.4	0.4
Florida	1.8	1.3	0.3	0.3
Kentucky	2.2	1.7	0.5	0.4
Tennessee	2.0	1.5	0.4	0.4
Alabama	1.3	1.2	0.3	0.3
Mississippi	1.3	1.0	0.3	0.3
Arkansas	1.9	1.3	0.4	0.4
Louisiana	0.8	1.1	0.3	0.4
Oklahoma	1.0	0.8	0.3	0.2
Texas	0.0	0.0	0.0	0.0
Montana	1.6	1.7	0.4	0.5
Idaho	2.4	1.5	0.5	0.3
Wyoming	0.0	0.0	0.0	0.0
Colorado	1.7	1.0	0.3	0.2
New Mexico	1.1	1.1	0.3	0.3
Arizona	1.5	1.4	0.3	0.3
Utah	1.4	1.1	0.3	0.3
Nevada	0.0	0.0	0.0	0.0
Washington	0.0	0.0	0.0	0.0
Oregon	1.6	1.7	0.4	0.4
California	3.6	3.2	0.6	0.7
Alaska	2.1	2.7	0.4	0.9
Hawaii	2.5	1.0	0.4	0.2
Mean:	1.8	1.8	0.4	0.4

U.S. REGIONS:				
New England	3.7	4.0	0.6	0.8
Middle Atlantic	3.5	2.7	0.6	0.5
East North Central	1.7	2.2	0.3	0.5
West North Central	1.7	1.5	0.4	0.3
South Atlantic	1.8	1.6	0.4	0.4
East South Central	1.8	1.4	0.4	0.4
West South Central	0.4	0.4	0.1	0.1
Mountain	1.3	1.0	0.3	0.2
Pacific	3.0	2.7	0.5	0.6
Mean:	1.8	1.8	0.4	0.4

CANADIAN PROVINCES:				
Newfoundland	6.7	13.3	0.7	0.8
Prince Edward Island	7.9	13.2	0.5	0.8
Nova Scotia	9.8	14.5	0.6	0.8
New Brunswick	9.0	16.0	0.7	0.8
Quebec	9.5	3.8	0.9	0.3
Ontario	9.3	10.3	1.0	1.1
Manitoba	14.4	13.7	1.1	0.9
Saskatchewan	12.2	13.8	0.9	0.7
Alberta	8.5	10.5	1.6	1.0
British Columbia	14.6	12.6	1.4	0.9
Mean:	10.2	12.2	0.9	0.8

Sources: U.S.: Bureau of the Census, *Statistical Abstract of the United States, 1988* (for 1986 taxes), p. 270; *1977* (for 1976 taxes), p. 295; Bureau of Economic Analysis, *Survey of Current Business* (for capital charges and GDP), May 1988, table 1. Canada: Statistics Canada, *Provincial Economic Accounts, Annual Estimates, 1976–1987* (13-213), (for corporation income), table 1, line 2; (for corporation income tax), table 5, line 2; Statistics Canada, *Canadian Economic Observer, 1987* (11-210), (for GDP), table 12-1.

[a]As defined in table 11.4.

Table 11.11 **Effective Tax Rates: Retail Sales Tax as a Percentage of Personal Income and GDP, United States and Canada, 1976 and 1986**

	RST					RST			
	% of Personal Income		% of GDP			% of Personal Income		% of GDP	
	1976	1986	1976	1986		1976	1986	1976	1986
U.S. STATES:					North Carolina	1.6	1.8	1.2	1.4
Maine	2.6	2.6	2.2	2.2	South Carolina	2.6	2.9	2.1	2.5
New Hampshire	0.0	0.0	0.0	0.0	Georgia	2.2	2.0	1.7	1.6
Vermont	1.1	1.4	0.9	1.1	Florida	2.4	2.9	2.2	2.8
Massachusetts	0.9	1.7	0.8	1.5	Kentucky	2.2	2.1	1.6	1.7
Rhode Island	1.9	2.0	1.7	1.9	Tennessee	2.4	3.2	1.9	2.6
Connecticut	2.4	2.6	2.0	2.3	Alabama	2.1	1.8	1.7	1.5
New York	1.7	1.6	1.4	1.3	Mississippi	3.9	4.0	3.0	3.2
New Jersey	1.6	1.8	1.4	1.7	Arkansas	2.2	2.7	1.8	2.2
Pennsylvania	1.8	1.9	1.6	1.8	Louisiana	2.0	2.3	1.2	1.5
Ohio	1.5	2.1	1.2	1.8	Oklahoma	1.2	1.6	0.9	1.3
Indiana	2.7	3.0	2.1	2.5	Texas	1.9	1.9	1.3	1.4
Illinois	2.0	1.9	1.6	1.6	Montana	0.0	0.0	0.0	0.0
Michigan	1.7	2.0	1.4	1.8	Idaho	1.9	2.2	1.4	1.9
Wisconsin	2.0	2.3	1.7	2.0	Wyoming	3.1	2.8	1.7	1.6
Minnesota	1.8	2.2	1.4	1.8	Colorado	1.8	1.5	1.4	1.2
Iowa	1.9	2.0	1.5	1.8	New Mexico	4.0	3.7	2.8	2.7
Missouri	1.9	2.2	1.5	1.8	Arizona	3.3	3.3	2.7	2.7
North Dakota	3.1	2.1	2.1	1.6	Utah	2.9	3.1	2.2	2.3
South Dakota	2.8	2.4	2.1	2.0	Nevada	2.2	3.5	1.6	2.7
Nebraska	1.7	1.6	1.3	1.3	Washington	4.1	4.6	3.2	4.0
Kansas	2.0	1.6	1.6	1.3	Oregon	0.0	0.0	0.0	0.0
Delaware	0.0	0.0	0.0	0.0	California	2.4	2.3	1.9	1.9
Maryland	1.4	1.6	1.3	1.6	Alaska	0.0	0.0	0.0	0.0
Virginia	1.2	1.1	1.0	1.0	Hawaii	5.1	4.7	3.7	3.9
West Virginia	4.1	4.0	3.1	3.4	Mean:	2.1	2.2	1.6	1.8

U.S. REGIONS:[a]					CANADIAN PROVINCES:				
New England	1.5	1.9	1.3	1.7	Newfoundland	5.8	6.6	5.7	6.3
Middle Atlantic	1.7	1.7	1.4	1.5	Prince Edward Island	4.0	5.4	4.0	5.6
East North Central	1.9	2.1	1.5	1.8	Nova Scotia	3.4	4.3	3.3	4.1
West North Central	1.9	2.0	1.5	1.7	New Brunswick	3.4	5.4	3.3	5.0
South Atlantic	2.0	2.2	1.6	1.9	Quebec	3.6	4.0	3.1	3.5
East South Central	2.5	2.7	1.9	2.2	Ontario	3.0	3.5	2.4	3.0
West South Central	1.9	2.0	1.3	1.5	Manitoba	3.3	3.5	2.6	3.0
Mountain	2.5	2.5	1.8	2.0	Saskatchewan	3.0	2.4	2.3	2.2
Pacific	2.5	2.4	1.9	2.1	Alberta	0.1	0.3	0.1	0.2
Mean:	2.1	2.2	1.6	1.8	British Columbia	3.5	3.5	2.8	3.0
					Mean:	3.3	3.9	3.0	3.6

Sources: U.S: Bureau of the Census, *Statistical Abstract of the United States, 1988* (for 1986 taxes), p. 270; *1977* (for 1976 taxes), p. 295; *1988* (for 1986 revenues), p. 416; *1977* (for 1976 revenues), p. 436; Bureau of Economic Analysis, *Survey of Current Business* (for GDP), May 1988, table 1. Canada: Statistics Canada, *Provincial Economic Accounts, Annual Estimates, 1976–1987* (13-213), (for retail sales tax), table 10, line 16; (for personal income), table 16, line 9; Statistics Canada, *Canadian Economic Observer, 1987* (11-210), (for GDP), table 12-1.

[a]As defined in table 11.4.

Table 11.12 **Effective Tax Rates: Property Taxes as a Percentage of GDP, United States and Canada, 1976 and 1986**

	PT as % of GDP			PT as % of GDP	
	1976	1986		1976	1986
U.S. STATES:			North Carolina	1.8	1.7
Maine	4.7	3.2	South Carolina	1.9	2.0
New Hampshire	5.2	4.1	Georgia	2.5	2.0
Vermont	4.8	3.5	Florida	2.8	2.7
Massachusetts	5.7	3.0	Kentucky	1.4	1.4
Rhode Island	4.3	4.0	Tennessee	1.8	1.6
Connecticut	4.3	3.3	Alabama	0.91	0.87
New York	4.8	3.7	Mississippi	1.8	1.8
New Jersey	5.4	3.7	Arkansas	1.6	1.4
Pennsylvania	2.3	2.5	Louisiana	1.0	1.1
Ohio	2.8	2.4	Oklahoma	1.6	1.6
Indiana	2.8	2.6	Texas	2.3	2.8
Illinois	3.1	3.0	Montana	4.5	4.4
Michigan	3.8	3.9	Idaho	2.5	2.3
Wisconsin	3.8	3.7	Wyoming	2.9	5.1
Minnesota	3.2	2.9	Colorado	3.2	2.9
Iowa	3.4	3.5	New Mexico	1.4	0.89
Missouri	2.5	1.5	Arizona	3.9	2.6
North Dakota	2.7	2.3	Utah	2.4	2.5
South Dakota	4.4	3.4	Nevada	2.7	1.7
Nebraska	4.0	3.5	Washington	2.7	2.5
Kansas	3.4	3.1	Oregon	4.1	4.3
Delaware	1.5	1.2	California	4.4	2.3
Maryland	3.2	2.6	Alaska	5.1	2.0
Virginia	2.3	2.2	Hawaii	1.9	1.7
West Virginia	1.5	1.6	Mean:	3.1	2.6

U.S. REGIONS:[a]		
New England	5.1	3.3
Middle Atlantic	4.2	3.4
East North Central	3.2	3.1
West North Central	3.2	2.7
South Atlantic	2.4	2.2
East South Central	1.5	1.4
West South Central	1.9	2.3
Mountain	3.0	2.6
Pacific	4.2	2.4
Mean:	3.1	2.6

CANADIAN PROVINCES:		
Newfoundland	0.89	1.5
Prince Edward Island	2.0	2.1
Nova Scotia	3.0	2.4
New Brunswick	2.3	2.2
Quebec	2.8	3.0
Ontario	3.2	3.6
Manitoba	4.0	4.2
Saskatchewan	2.9	4.1
Alberta	2.1	2.9
British Columbia	4.0	3.5
Mean:	2.7	3.0

Sources: U.S.: Bureau of the Census, *Statistical Abstract of the United States, 1989* (for 1986 property taxes), p. 274; *1978* (for 1976 property taxes), p. 299; Bureau of Economic Analysis, *Survey of Current Business* (for GDP), May 1988, table 1. Canada: Statistics Canada, *Consolidated Government Finance, 1976* (68-202), (for 1976 property taxes), table 7, line 7; *1983* (for 1986 property taxes), table 7, line 4; Statistics Canada, *Canadian Economic Observer, 1987* (11-210), (for GDP), table 12-1.

[a]As defined in table 11.4.

Table 11.13 **Effective Tax Rates: All Taxes as a Percentage of GDP, States and Provinces, United States and Canada, 1976 and 1986**

	AT[a] as % of GDP	
	1976	1986
U.S. STATES:		
Maine	10.5	9.6
New Hampshire	8.6	6.7
Vermont	11.4	9.3
Massachusetts	11.9	9.8
Rhode Island	10.3	9.8
Connecticut	9.2	8.8
New York	13.2	12.4
New Jersey	9.6	9.2
Pennsylvania	9.0	9.5
Ohio	7.3	8.6
Indiana	7.3	8.0
Illinois	8.3	8.5
Michigan	8.9	10.2
Wisconsin	10.4	10.8
Minnesota	10.4	9.6
Iowa	8.5	9.2
Missouri	7.4	7.0
North Dakota	8.3	8.1
South Dakota	9.2	8.2
Nebraska	8.2	8.1
Kansas	8.0	8.1
Delaware	8.7	9.0
Maryland	10.8	10.2
Virginia	8.0	7.8
West Virginia	8.1	9.7
North Carolina	7.4	7.7
South Carolina	7.9	8.6
Georgia	7.7	7.6
Florida	8.3	8.4
Kentucky	7.4	7.7
Tennessee	7.0	7.2
Alabama	7.2	7.5
Mississippi	8.2	8.0
Arkansas	7.4	7.6
Louisiana	6.8	7.6
Oklahoma	7.0	8.5
Texas	6.3	7.1
Montana	9.1	9.3
Idaho	7.8	8.0
Wyoming	7.1	11.4
Colorado	8.6	8.2
New Mexico	8.0	7.8
Arizona	10.1	9.2
Utah	8.2	9.0
Nevada	8.2	7.7
Washington	8.5	9.1
Oregon	8.6	9.4
California	10.3	8.7
Alaska	9.3	12.2
Hawaii	10.0	9.8
Mean:	8.7	8.8

U.S. REGIONS:[b]			CANADIAN PROVINCES:		
New England	10.7	9.2	Newfoundland	14.2	14.9
Middle Atlantic	11.3	10.9	Prince Edward Island	11.9	13.6
East North Central	8.3	9.1	Nova Scotia	13.3	13.6
West North Central	8.6	8.3	New Brunswick	12.6	13.9
South Atlantic	8.3	8.3	Quebec	18.0	15.8
East South Central	7.4	7.5	Ontario	12.8	13.3
West South Central	6.5	7.4	Manitoba	13.8	14.2
Mountain	8.7	8.7	Saskatchewan	12.0	13.5
Pacific	9.9	8.9	Alberta	7.7	7.1
Mean:	8.7	8.8	British Columbia	13.9	12.8
			Mean:	13.0	13.3

Sources: U.S. Bureau of the Census, *Statistical Abstract of the United States, 1989* (for 1986 all taxes), p. 274; *1978* (for 1976 all taxes), p. 279; Bureau of Economic Analysis, *Survey of Current Business* (for GDP), May 1988, table 1. Canada: Statistics Canada, *Consolidated Government Finance, 1976* (68-202), (for 1976 all taxes), table 7, line 20; *1983* (for 1986 all taxes), table 7, lines 3, 4, 9, and 11; Statistics Canada, *Canadian Economic Observer, 1987* (11-210), (for GDP), table 12-1.

[a]All taxes.

[b]As defined in table 11.4.

Table 11.14 **Variations of Effective Tax Burdens, United States and Canada, 1976 and 1986**

	Specific Tax Base			GDP Tax Base				
	PIT	CIT	RST	PIT	CIT	RST	PT	AT
	U.S.—50 States							
Coefficients of Variation:								
1976	0.69	0.56	0.53	0.69	0.49	0.51	0.41	0.16
1986	0.63	0.65	0.50	0.64	0.57	0.50	0.38	0.14
Correlation: 1976–1986	0.78	0.73	0.94	0.87	0.71	0.94	0.79	0.66
	U.S.—9 Regions[a]							
Coefficients of Variation:								
1976	0.36	0.52	0.18	0.38	0.42	0.16	0.36	0.17
1986	0.37	0.56	0.15	0.39	0.48	0.13	0.24	0.12
Correlation: 1976–1986	0.96	0.93	0.94	0.97	0.90	0.93	0.82	0.89
	Canada—10 Provinces							
Coefficients of Variation:								
1976	0.35	0.26	0.41	0.37	0.37	0.47	0.34	0.20
1986	0.28	0.28	0.45	0.29	0.25	0.49	0.31	0.18
Correlation: 1976–1986	0.89	0.12	0.92	0.92	0.37	0.95	0.83	0.88

[a]As defined in table 11.4.

Table 11.15 Variations of Effective Tax Rates, United States and Canada, 1976 and 1986

	Specific Tax Base			GDP Tax Base				
	PIT	CIT	RST	PIT	CIT	RST	PT	AT
	All States and Provinces (60)							
Coefficients of Variation:								
1976	0.72	1.06	0.54	0.76	0.66	0.58	0.40	0.25
1986	0.71	1.22	0.56	0.74	0.59	0.60	0.37	0.23
Correlation: 1976–1986	0.88	0.90	0.94	0.93	0.76	0.96	0.77	0.88
	Atlantic/New England (10)							
Coefficients of Variation:								
1976	0.64	0.55	0.67	0.67	0.19	0.71	0.42	0.16
1986	0.60	0.81	0.66	0.62	0.35	0.70	0.29	0.25
Correlation: 1976–1986	0.96	0.97	0.97	0.96	0.73	0.97	0.87	0.90
	Quebec/New England-Middle Atlantic (10)							
Coefficients of Variation:								
1976	1.06	0.57	0.57	1.05	0.28	0.56	0.24	0.25
1986	0.89	0.40	0.52	0.88	0.39	0.52	0.14	0.24
Correlation: 1976–1986	0.98	0.41	0.97	0.97	0.08	0.97	0.62	0.95
	Ontario/Middle Atlantic-East North Central (9)							
Coefficients of Variation:								
1976	0.60	0.83	0.26	0.61	0.49	0.24	0.28	0.22
1986	0.48	0.86	0.28	0.46	0.51	0.26	0.19	0.18
Correlation: 1976–1986	0.81	0.90	0.92	0.81	0.69	0.91	0.76	0.95
	Prairies/West North Central (9)							
Coefficients of Variation:								
1976	0.66	1.29	0.28	0.67	0.74	0.26	0.19	0.22
1986	0.65	1.28	0.25	0.68	0.55	0.28	0.27	0.27
Correlation: 1976–1986	0.95	0.99	0.69	0.95	0.95	0.79	0.64	0.96
	Foothills (6)							
Coefficients of Variation:								
1976	0.81	1.34	1.16	0.82	1.24	1.21	0.30	0.09
1986	0.86	1.54	1.15	0.85	1.02	1.23	0.32	0.16
Correlation: 1976–1986	0.95	0.99	0.99	0.95	0.96	0.99	0.62	−0.15
	British Columbia/Pacific (6)							
Coefficients of Variation:								
1976	0.55	1.30	0.85	0.54	0.87	0.84	0.32	0.20
1986	0.83	1.29	0.85	0.83	0.71	0.85	0.31	0.17
Correlation: 1976–1986	0.44	0.99	0.99	0.75	0.69	0.99	0.52	0.64

Notes: U.S. regions are as defined in Table 11.4. "Atlantic" includes Newfoundland, Prince Edward Island, Nova Scotia, and New brunswick. "Prairies" includes Manitoba and Saskatchewan. "Foothills" includes Alberta, Montana, Idaho, Wyoming, Washington, and Oregon.

Table 11.16 **Correlation between Effective Tax Burdens (with Respect to GDP, Canada and United States, 1976 and 1986**

	PIT		CIT		RST		PT		AT	
	1976	1986	1976	1986	1976	1986	1976	1986	1976	1986
U.S.—50 States:										
PIT 1976										
1986				0.35		−0.19		0.02		0.34
CIT 1976	0.59									
1986						0.37		0.15		0.34
RST 1976	−0.31		−0.23							
1986								−0.34	−0.10	
PT 1976	0.15		0.32		−0.35					
1986										0.51
AT 1976	0.56		0.47		−0.05		0.69			
1986										
U.S.—9 Regions:[a]										
PIT 1976										
1986				0.79		−0.10		0.68		0.87
CIT 1976	0.82									
1986						0.04		0.52		0.63
RST 1976	−0.06		−0.01							
1986								−0.62		−0.32
PT 1976	0.82		0.82		−0.31					
1986										0.80
AT 1976	0.89		0.92		−0.14		0.91			
1986										
Canada—10 Provinces:										
PIT 1976										
1986				−0.86		0.31		−0.19		0.65
CIT 1976	−0.48									
1986						−0.26		0.15		−0.57
RST 1976	0.44		−0.74							
1986								−0.69		0.71
PT 1976	−0.11		0.38		−0.42					
1986										0.10
AT 1976	0.83		−0.39		0.57		0.20			
1986										

[a]As defined in table 11.4

Table 11.17 **Correlation Between Effective and Nominal Tax Rates (with Respect to Specific Base), Canada and United States, 1976 and 1986**

	Nominal Taxes				
	PIT		CIT		RST
Effective Taxes	Min.	Max.	Min.	Max.	
U.S.—50 States					
PIT 1976	0.67	0.81			
1986	0.63	0.76			
CIT 1976			0.77	0.78	
1986			0.59	0.50	
RST 1976					0.57
1986					0.71
U.S.—9 Regions[a]					
PIT 1976	0.56	0.73			
1986	0.47	0.64			
CIT 1976			0.89	0.86	
1986			0.72	0.77	
RST 1976					−0.47
1986					−0.33
Canada—10 Provinces					
PIT 1976	0.73	0.19			
1986	0.65	0.41			
CIT 1976			0.25	0.71	
1986			0.82	0.27	
RST 1976					0.92
1986					0.97

[a]As defined in table 11.4.

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