

July 2002

**GLOBALIZATION AND STATE/LOCAL GOVERNMENT FINANCES\***

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\* An earlier version of this paper was presented at the National Tax Association 92<sup>nd</sup> Annual Conference on Taxation in October 1999. We are grateful for helpful comments from Roy Bahl and Helen Ladd. Please address all correspondence to James Alm.

## **Introduction**

There is little question that state and local (SL) governments in the United States face enormous challenges in the new millennium. Changing demographics - the aging of the population, a change in its racial and ethnic composition, a shift in the rate of household formation, and the movement of individuals across jurisdictions - will change both the demands for SL expenditures and the ability of SL governments to finance these expenditures. The potential for continued devolution of responsibilities to SL governments will require these governments to adapt to increased, or at least, altered, responsibilities. Persistent growth in the consumption of difficult-to-tax services will strain SL sales taxes, as will the already massive and still projected explosion in electronic commerce. Importantly, increased integration of the world's economy will create challenges for governments at all levels, both in the United States and abroad. The purpose of this chapter is to focus on these last effects, the impacts of globalization on SL finances.

A common and widely accepted view is that globalization will dramatically reduce the ability of a government to collect its taxes and to set any of its policies independently of market forces and of policies in other jurisdictions. If labor and capital (and even consumption) can move easily from one jurisdiction to another, then any attempt to tax these factors more heavily than one's neighbors will lead to a 'vanishing taxpayer' as labor and capital flee from high- to low-tax regions. Analysts differ on whether this development is a positive or a negative one. However, few question that globalization has led, and will continue to lead, to a significant reduction in the autonomy of governments.

It is our purpose here to explore the impacts of globalization on SL government

finances in the United States. We make two basic points. First, the actual evidence on the predicted effects of globalization - its impacts upon the narrow issue of SL taxes and upon the broader issue of government autonomy - is suggestive, but it is also quite preliminary and somewhat mixed. Second, and more importantly, while globalization obviously limits the choices that governments can make in some areas, it also creates opportunities that governments can exploit in other areas. After all, with greater resource mobility, governments arguably have more power to influence the locational decisions of firms, workers, and consumers. Governments that succeed in their choices will be the ones that have well-grounded and credible institutions, that are better able to match taxes with expenditures, and that are better able to give taxpayers the services that they wish for the taxes they pay. In short, we argue that globalization may well enhance, not diminish, the power of those SL governments that are able to provide the type of environment that its constituents desire.<sup>1</sup>

In the next section we define ‘globalization’ and discuss various indicators of its trends. We then examine some long- and short-term developments in government finances, including SL governments in the United States and governments in other parts of the world. In the following section we present some initial ‘speculations’ on the effects of globalization and SL finances, and we then present some results from a more rigorous but stylized model of government. Our conclusions are discussed in the final section.

### **‘Globalization’: Definitions and trends**

Globalization can be difficult to define. Some describe globalization as liberalization of trade flows and capital flows, including deregulation of the banking sector (Grunberg, 1998;

Fox, 1998). Others focus on increased factor mobility as a sign of integration among countries (Grubert, 1998). Globalization could also be defined by the conditions that contribute to increased economic integration, such as improved technology advances, lower communication costs, increased information flows, and reduced transportation costs, all of which make outsourcing and production shifting cheaper and easier. The Organization for Economic Cooperation and Development (OECD, 2001a) characterizes globalization as the ‘internationalization of production and sales and new forms of delivering goods and services to consumers across countries, new developments in information and communications technologies, and the growing importance of e-commerce’. We focus on several specific trends indicating increased globalization across economies to examine the impact of globalization on the SL level. Our working definition of ‘globalization’ is increased factor mobility across countries and across regions within a country.

One indicator of globalization is advances in communication technologies. According to the World Bank (1999), the number of internet hosts around the world increased from under one million in 1990 to nearly 50 million at the end of the 1990s. Such advances have made it easier to monitor events in distant locations, and have also made it easier to transmit information instantly around the world.

Another indicator is the increase in world trade. Table 1 shows that over the last forty years trade increased as a share of gross domestic product (GDP), a trend that has become increasingly strong in recent years. In the 1990s, trade volume growth (7 per cent per year) far outpaced growth in real GDP (3 per cent per year). This trend has continued in the late 1990s and through 2002. The OECD (2001a) reports that the ratio of trade in goods and services to

GDP (measured in volume terms as world exports relative to GDP) increased from about 19 per cent in 1995 to 23 per cent in 1999, and on average OECD trade grew in value terms at around 8.5 per cent per year during the last 15 years. Globalization is also revealed in increased trade liberalization and financial liberalization across countries. Table 1 shows that taxes on international trade have fallen significantly over the last twenty years.

**Table 1.** World Trade and Taxes

	Year				
	1960	1970	1980	1990	1995
World Trade <sup>a</sup>	24.5	27.1	38.8	37.9	42.5
World Trade Taxes <sup>b</sup>	NA	17.6 <sup>c</sup>	14.9	13.4	7.9

<sup>a</sup> 'World Trade' is defined as the sum of exports and imports of goods and services, and is expressed as a percent of Gross Domestic Product.

<sup>b</sup> 'World Trade Taxes' include import duties, export duties, profits on export or import monopolies, exchange profits, and exchange taxes, and are expressed as a percent of current revenues.

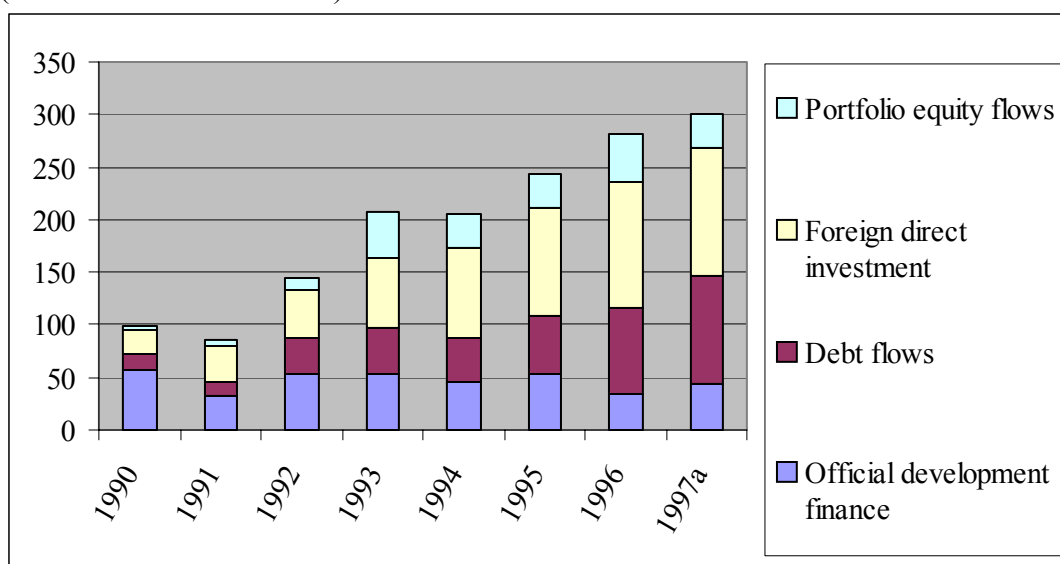
<sup>c</sup> World Trade Taxes are for 1973.

Source: World Bank (1998).

Moreover, global economic integration is evident in the increased size and importance of private capital flows to developing countries. The World Bank (1998) reports that official development finance declined during the 1990s, while private debt and equity flows grew spectacularly (Figure 1). Private flows as a per cent of total flows were only 43 per cent in 1990, and grew to 85 per cent in 1997. The volume of cross-border transactions in bonds and equities also exploded in the last twenty years, as have foreign exchange transactions. For example, for Japan, Germany, and the United States, international transactions in bonds and

equities have grown from 15 per cent of total output to nearly 600 per cent of total output (Daniels and Van Hoose, 2002). The increase in international transactions in financial assets has far outpaced the growth in trade. From 1979 to 1998, the annual turnover of foreign exchange grew from 12 times the volume of world exports of goods to 70 times the volume of world exports (Daniels and Van Hoose, 2002). Much of this foreign exchange turnover is conducted for international portfolio rebalancing. Gross international capital flows have risen to about six times the level of net flows. Therefore, even countries with small net capital flows may experience substantial inflows and outflows of capital (International Monetary Fund, 2001).

**Figure 1.** Net Long-Term Resource Flows to Developing Countries  
(in billions of U.S. dollars)



Developing countries are defined as low- and middle-income countries with 1995 per capita incomes of less than \$765 (low) and \$9,385 (middle). <sup>a</sup>Preliminary.

Source: World Bank (1998).

### Some trends in government finances

While our measures of globalization focus on the integration of the world economy, we are mainly interested in the effects of globalization on SL governments. Accordingly, we next present trends in government finances, in the level of taxes (and expenditures), in the structure of taxes, and in average tax rates for different types of taxes.<sup>2</sup> We also examine the evidence for the United States and for other countries.

If globalization makes it more difficult to tax mobile factors, then taxes on mobile factors should diminish, and those on immobile factors should increase, with globalization. However, the evidence here is somewhat mixed. Consider first the changes in SL taxation in the United States over the last ninety years. The burden of property taxes are generally (though not entirely correctly) viewed as falling on immobile factors, especially land, while consumption taxes are seen as falling on consumers and income taxes are borne by factor owners. However, Table 2 shows that, as a percent of total tax revenues at the state and local level, property taxes have in fact fallen while sales and income taxes have risen over this period. Although not shown in Table 2, SL reliance upon user fees has increased, especially in the last several decades.

**Table 2.** Changing Importance of Major State and Local Taxes in the United States, 1902 to 1992

Year	Per cent of Total Tax Revenues, Type of Tax			
	Property Tax	Sales Taxes	Income Taxes	Other
1902	82.1	3.3	0	14.6
1927	77.7	7.7	2.7	11.9
1950	46.2	32.4	8.7	12.7

1970	39.3	34.9	16.7	9.1
1992	32.1	35.3	25.0	7.6

Source: Vedder (1999).

The composition of taxes has also changed at the national level, perhaps in response to tax competition across countries. In particular, governments compete to attract inflows of capital, especially inflows of foreign direct investment. As a result, governments have been lowering corporate income tax rates, while relying more on personal income taxes and a variety of indirect taxes.

While the reliance on different types of taxes has changed, the shares of tax revenues for state versus local governments in the United States have been little altered. Table 3 shows that state (local) governments collected about 60 (40) per cent of total SL taxes both in 1980 and 1995. Table 3 also indicates that local governments rely primarily on property taxes, while states rely more on sales taxes and income (especially individual income) taxes. These shares were little changed over the period.

**Table 3.** State and Local Taxes in the United States

	1980	1995
<b>Total State and Local Taxes</b> (in billions of dollars)	\$223 billion	\$661 billion
State, per cent of total	61.4%	60.5%
Local, per cent of total	38.6%	39.5%
<b>Property Taxes</b>		
State, per cent of total state and local taxes	1.4%	1.5%
Local, per cent of total state and local taxes	29.6%	29.3%
<b>Individual Income Taxes</b>		
State, per cent of total state and local taxes	16.6%	19.1%
Local, per cent of total state and local taxes	2.2%	1.8%

<b>Corporate Income Taxes</b>		
State, per cent of total state and local taxes	5.8%	4.4%
Local, per cent of total state and local taxes	0.0%	0.3%
<b>Sales Taxes</b>		
State, per cent of total state and local taxes	30.5%	29.1%
Local, per cent of total state and local taxes	5.4%	6.1%

Source: United States Bureau of the Census (1998).

In theory, an increase in factor mobility should lead to some convergence of tax rates across governments. In fact, however, the evidence on tax rate convergence is mixed. Consider first tax rate convergence across nations. Mendoza, Milesi-Ferretti, and Asea (1997) calculate effective tax rates for consumption, capital income, and labor income taxes for a number of developed economies for 1970, 1980, and 1990 (Table 4). They find that the average tax rates for the various taxes, as well as the standard deviations, are surprisingly similar for the three years, despite the increased integration of economies over this period. Ault (1997) and Messere (1998) also find that the tax systems of industrialized countries retain remarkable and sustained diversity. Carey and Tchilinguirian (2000) calculate average effective tax rates (AETRs) on capital, labor, and consumption for OECD countries, updating the original methodology as used by Mendoza, Razin, and Tesar (1994). They find that in OECD countries for 1991 to 1997, the AETR on capital was on average 34.7 per cent, the AETR on labor was 36.8 per cent, and the AETR on consumption was 16.4 per cent. As for the trends in AETRs, they show that the average annual changes in AETRs on capital and consumption were in each case 0.2 per cent, while the average annual change on labor was 0.3 per cent. Thus, they conclude that OECD countries have focused the increase in the overall tax burden on labor, the least mobile factor of production. Across OECD countries since 1990,

they also find a narrowing in the distribution of AETRs on capital (and, to a lesser extent, on consumption), but not on labor.

**Table 4.** Average Effective Tax Rates on Consumption and on Factor Incomes, Country Averages<sup>a</sup>

<b>Consumption Tax Rates</b>	<b>Mean</b>	<b>Standard Deviation</b>
1970	15.23	7.23
1980	15.06	8.41
1990	17.56	8.96
<b>Capital Income Tax Rates</b>		
1970	30.55	13.85
1980	34.74	12.88
1990	38.99	13.62
<b>Labor Income Tax Rates</b>		
1970	25.76	7.40
1980	32.30	8.56
1990	36.77	9.93

<sup>a</sup> The AETRs are computed from effective tax rates on factor incomes and consumption (see [www.econ.duke.edu/~mendozae](http://www.econ.duke.edu/~mendozae)).

Source: Mendoza, Milesi-Ferretti, and Asea (1997).

In contrast, Edmiston (2002) calculates annual sample statistics from effective tax rates on consumption, labor, gross capital, and net capital, as well as statutory rates on corporate income and personal income, for the 15 EU countries over the period 1970-2001. With the exception of the individual income tax rate, there was a clear downward trend in the relative variances, defined as the variance divided by the mean tax rate.

Patterns of convergence in tax rates arguably should be more evident in the United States, where factors are more mobile than they are across countries. Again, however, tax rates across the states have not converged (Federation of Tax Administrators, 1999). As indicated in

Table 5, even now state individual income tax rates range from a low of less than 1 per cent in Iowa, Ohio, and Oklahoma to 12 per cent in the highest tax bracket in North Dakota; several states (Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming) do not impose any income tax. State corporate income tax rates have also not converged, varying from 1 per cent in Alaska and Arkansas to 12 per cent in Iowa, and the states still differ significantly in the factors and formulae used to apportion income. Several states (Nevada, South Dakota, Washington, and Wyoming) have no corporate income tax, and several other states (Michigan and Texas) impose an alternative form of business tax. There is also much variation in general sales tax rates (0 to 7 per cent), gasoline taxes (7.5 to 32 cents per gallon), and cigarette taxes (2.5 to 100 cents per pack). Consideration of purely local taxes would add further to the variation. There is little evidence of any recent change in these patterns.

**Table 5.** State Tax Rates, 1999

State	General Sales Tax: Rate	Gasoline Tax: Cents per Gallon	Cigarette Tax: Cents per Pack	Individual Income Tax: Range of Rates// Number of Brackets	Corporate Income Tax: Range of Rates
Alabama	4.0%	18.0 cents	16.5 cents	2.0%-5.0%/3	5.0%
Alaska	No State Tax	8.0	100	No State Tax	1.0-9.4
Arizona	5.0	18.0	58	2.87-5.04//5	8.0
Arkansas	4.625	19.7	31.5	1.0-7.0//6	1.0-6.5
California	6.0	18.0	87	1.0-9.3//6	8.84
Colorado	3.0	22.0	20	5.0//1	5.0
Connecticut	6.0	32.0	50	3.0-4.5//2	8.5
Delaware	No State Tax	23.0	24	2.6-6.4//7	8.7
Florida	6.0	13.1	33.9	No State Tax	5.5
Georgia	4.0	7.5	12	1.0-6.0//6	6.0
Hawaii	4.0	16.0	100	1.6-8.75//8	4.4-6.4
Idaho	5.0	26.0	28	2.0-8.2//8	8.0
Illinois	6.25	19.3	58	3.0//1	7.3
Indiana	5.0	15.0	15.5	3.4//1	7.9
Iowa	5.0	20.0	36	0.36-8.98//9	6.0-12.0
Kansas	4.90	20.0	24	4.10-6.45//3	4.0
Kentucky	6.0	16.4	3	2.0-6.0//5	4.0-8.25
Louisiana	4.0	20.0	20	2.0-6.0//3	4.0-8.0
Maine	5.5	19.0	74	2.0-8.5//4	3.5-8.93
Maryland	5.0	23.5	66	2.0-4.85//4	7.0
Massachusetts	5.0	21.0	76	5.95//1	9.5
Michigan	6.0	19.0	75	4.4//1	State 'Business Activities Tax'
Minnesota	6.5	20.0	48	6.0-8.5//3	9.8
Mississippi	7.0	18.4	18	3.0-5.0//3	3.0-5.0
Missouri	4.225	17.05	17	1.5-6.0//10	6.25

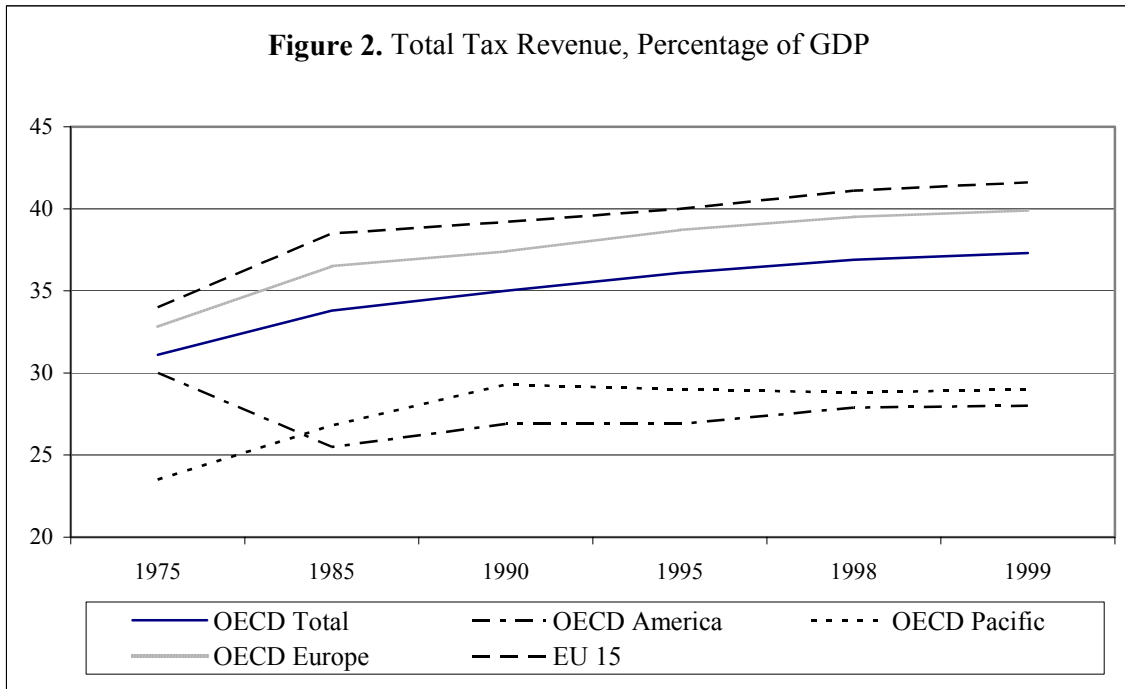
**Table 5 (continued). State Tax Rates, 1999**

Montana	No State Tax	27.0	18	2.0-11.0//10	6.75
Nebraska	5.0	25.0	34	2.51-6.68//4	5.58-7.81
Nevada	6.5	24.0	35	No State Tax	No State Tax
New Hampshire	No State Tax	18.7	52	State Tax on Dividends and Interest Only	7.0
New Jersey	6.0	10.5	80	1.4-6.37//6	9.0
New Mexico	5.0	18.0	21	1.7-8.2//7	4.8-7.6
New York	4.0	8.0	56	4.0-6.85//5	9.0
North Carolina	4.0	21.6	5	6.0-7.75//3	7.0
North Dakota	5.0	21.0	44	2.67-12.0//8	3.0-10.5
Ohio	5.0	22.0	24	0.673-6.799//9	5.1-8.5
Oklahoma	4.5	17.0	23	0.5-6.75//8	6.0
Oregon	No State Tax	24.0	68	5.0-9.0//3	6.6
Pennsylvania	6.0	30.77	31	2.8//1	9.99
Rhode Island	7.0	29.0	71	26.5% of Federal Liability	9.0
South Carolina	5.0	16.0	7	2.5-7.0//6	5.0
South Dakota	4.0	22.0	33	No State Tax	No State Tax
Tennessee	6.0	21.4	13	State Tax on Dividends and Interest Only	6.0
Texas	6.25	20.0	41	No State Tax	State 'Franchise Tax'
Utah	4.75	24.75	51.5	2.3-7.0//6	5.0
Vermont	5.0	20.0	44	25% of Federal Liability	7.0-9.75
Virginia	3.5	17.5	2.5	2.0-5.75//4	6.0
Washington	6.5	23.0	82.5	No State Tax	No State Tax
West Virginia	6.0	25.35	17	3.0-6.5//5	9.0
Wisconsin	5.0	25.8	59	4.77-6.77//3	7.9
Wyoming	4.0	14.0	12	No State Tax	No State Tax
District of Columbia	5.75	20.0	65	6.0-9.5//3	9.975

Source: Federation of Tax Administrators (<http://www.taxadmin.org>).

As for the level of tax collections or, more broadly, the size of government, it is argued

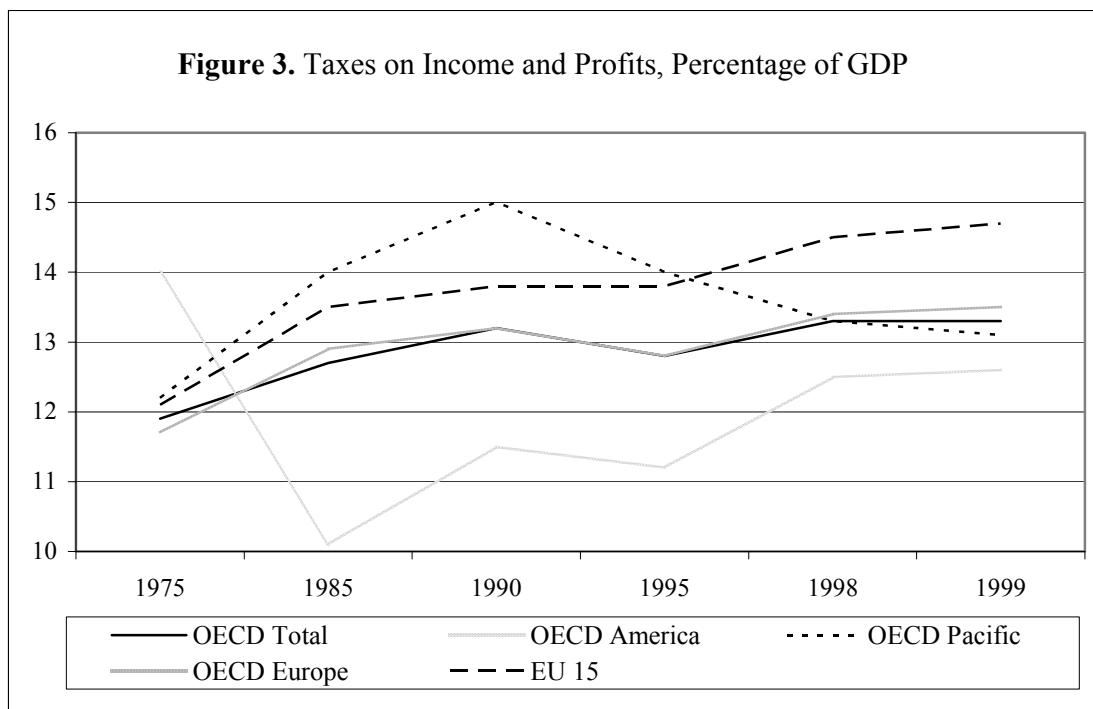
that increased globalization will reduce government spending because it limits the ability of government to collect taxes. Even here the evidence is not supportive of a government that is powerless in the face of increasing globalization. Over the last century, and also over the last several decades, total government spending in nearly all industrialized countries has grown, from an average of well under 10 percent of GDP before 1900 to now nearly half of GDP across these countries (International Monetary Fund, 1998). Figure 2 shows that the OECD average tax-to-GDP ratio rose by 3.5 percentage points from 1985 to 1999 and by 6.2 percentage points from 1975 to 1999. Most recently, the OECD average tax-to-GDP ratio actually rose from 36.9 per cent in 1998 to 37.3 per cent in 1999, largely reflecting strong worldwide economic growth as countries also made some recent moves to cut tax rates. Focusing on the various regions within the OECD, Figure 2 shows that the European and Pacific regions followed similar patterns as that for the OECD as a whole. Total tax revenues were lower in 1999 than in 1975 in OECD America, which includes Canada, Mexico, and the United States, but increased over the period 1985 to 1999.



Source: OECD Revenue Statistics.

These averages, however, mask a great deal of variation. From 1985 to 1999, 12 OECD countries had a reduction in their tax-to-GDP ratios while 18 had increases (OECD, 2001b). Over this period, general consumption tax revenues and social security contributions accounted for most of the rise in the tax-to-GDP ratios. Social security contributions have been relatively constant since 1996, indicating that most of the increase has come from growth in general consumption tax revenues. These increases have been partly offset by reduced revenues from taxes on specific goods and services like tobacco (OECD, 2001b). Figure 3 shows taxes on income and profits relative to GDP. From 1975 to 1999, tax revenues for the OECD as a whole grew relative to GDP. Again, however, there is a great deal of variation across different regions. The European regions have seen steady growth in taxes on income and profits. Taxes on income and profits for OECD America were lower in 1999 than they

were in 1975, but have grown steadily since 1985. Taxes on income and profits in OECD Pacific peaked in 1990 and have fallen steadily since then.



Source: OECD Revenue Statistics

Further variations in tax collections across countries are evident in taxes imposed on wage earners. The tax wedge on labor, or the difference between what employers pay out and what employees take home, varies widely across countries. For a single worker, the wedge ranges from a low of 14 per cent in Mexico and 16 per cent in Korea to 52 per cent in Germany and 57 per cent in Belgium. For a married couple, the range is similar, from negative 2 per cent in Iceland and 11 per cent in Luxembourg to 41 per cent in Belgium and 44 per cent in Sweden (OECD, 2000). Some of these taxes have come down; for example, Belgium, Germany, Sweden, Austria, and Italy have lowered tax wedges by about 1 per cent for most

categories of wage earners. Nevertheless, these numbers provide evidence that some of the arguably most open economies continue to have some of the highest tax rates. The Economist (2001) notes that two of the most open international economies, Sweden and Denmark, have remarkably high tax collections, 57 per cent and 53 per cent of GDP, respectively.

On balance then, the evidence clearly suggests that globalization, however measured, is on the rise.<sup>3</sup> However, the effects of globalization on government finances are a good bit harder to discern. In the United States, in fact, government spending has risen steadily over the last century, and has risen at all levels of government. Especially in the 1990s, at a time when the spread of globalization was thought to be particularly dramatic, government spending by local, state, and federal governments in the United States continued upward, fed by a huge - and largely unpredicted - surge in tax revenues. Government spending has risen even more dramatically in Europe, at a time when these economies have become arguably more open and more interconnected. Of course, it may well be that there has not been sufficient time for many of the effects of globalization to be felt fully. Still, these data give at least an initial reason for retaining some skepticism about the supposed effects of globalization.

**The effects of globalization on state and local government finances: Some initial speculations**

State and local tax systems were originally designed for a world in which production and consumption were primarily of tangible goods, in which the sale and consumption of these goods generally occurred in the same location, and in which the factors of production used to make the goods were for the most part immobile. In such a world, taxation was a fairly straightforward exercise. Sales and excise taxes could be imposed on the tangible goods that were consumed, by the government in the jurisdiction in which consumption (or production) occurred. Similarly, income and property taxes could be imposed on factors where they lived and worked without fear that taxes would drive the factors elsewhere. In making these tax decisions, a government in one jurisdiction had no need to consider how its actions would affect the governments in other jurisdictions because tax bases were largely immobile.

There is little doubt that, in principle, globalization changes things, and changes them dramatically. First, as noted earlier, globalization implies that tax bases are significantly more mobile. With integrated national and world markets, factors of production are obviously able to move more easily from one jurisdiction to another. For example, businesses have more flexibility in choosing where to locate because communication and transportation costs have been slashed. Further, some forms of production activity require little in the way of traditional capital and labor, so that physical location becomes less important. Labor, especially skilled labor, also becomes more mobile in this environment. Likewise, financial capital is able to flow quickly across local, state, and national boundaries.

Clearly, if factors of production can move easily from one location to another, then the ability of a government to tax these factors is greatly diminished. A government that raises its

tax rates above those of other jurisdictions risks losing its tax base to these areas.

Particularly in the case of income from capital, there is much speculation that taxation will become increasingly problematic (Mintz, 1992). In fact, there is some empirical evidence that factors are responding to these types of tax considerations (Grubert, 1998; Hines, 1999).

Increased mobility is not limited to factors of production. Consumers are also able to plan their consumption according to tax considerations, and consumption does not necessarily occur in the jurisdiction in which a taxpayer resides. A jurisdiction that attempts to tax, say, gasoline more heavily than in surrounding areas will find that consumers will purchase elsewhere. Similarly, individuals can now purchase most types of products over the internet and thereby avoid paying some (or even all) sales taxes. Additionally, there has been increased consumption of services and intangible goods, both of which are much more difficult to tax than tangible goods.<sup>4</sup> This is especially true within domestic economies. Services contribute a minor role in international trade (about 20 per cent) but contribute a great deal to domestic GDP. For the G7 countries, the proportion of total production contributed by services is about 55 to 65 per cent, and continues to rise relative to declining agriculture and industry shares (OECD, 2001a). From 1995 to 1999, G7 trade in total services grew at an average annual rate of change of three per cent. Of this, trade in computer and information services, which are some of the more difficult services to measure and therefore to tax, grew at an annual rate of 14 to 15 per cent. Other fast growing services include financial services, and royalties and license fees (OECD, 2001a). The once-tight link between the location of sales and the location of consumption is now quite loose.

Second, and relatedly, globalization implies that the measurement, identification, and

assignment of tax bases are much more difficult.<sup>5</sup> Consider a typical multistate (or multinational) business. The product that the firm makes may be designed in one or more jurisdictions; the firm may use inputs purchased in multiple jurisdictions; the product may be produced in several places and assembled in a still different location; and the final good may be sold in multiple locations. Because the business operates in multiple jurisdictions, the firm has considerable leeway to manipulate prices to minimize its tax liabilities. This latter problem is well known, but its severity has increased with the enormous expansion in the number of firms operating in multiple jurisdictions.

Likewise, consider an individual whose income comes from multiple sources. A global income tax requires that income from these sources be aggregated. However, it is easy for an individual to hide, say, interest income from multiple areas. In the absence of information sharing across governments, the ability of a state or local government to identify incomes from other jurisdictions is quite limited.

Consider finally a consumer who can purchase goods and services in several different ways: from traditional local merchants or from company websites. In the former case, identification, measurement, and assignment of the tax base are straightforward. In the latter case, they are not. Application of sales taxes in this new environment poses considerable problems for governments.

How will SL governments respond to these various pressures, especially in their tax choices? Most importantly, globalization implies that the ability of any government to choose its tax policies independently of those in other jurisdictions is greatly curtailed. In the presence of mobile tax bases, a single government's choice of tax policies will have effects beyond its

own borders and will be affected by the actions of other jurisdictions. In short, tax competition will increase, and this increase will have a number of effects.

The level of tax rates seems likely to decline. In particular, if tax bases can move easily from one jurisdiction to another, then they will flow from high-tax to low-tax areas. Owners of capital, skilled labor, and consumers will become increasingly sensitive to tax differentials in their locational decisions. As a consequence, it is commonly argued that governments will face increasing pressures to compete with one another by reducing tax rates or by offering special tax incentives, in order to attract and to retain the various tax bases. For example, when a government reduces its tax rates on capital income, it thereby attracts capital flows from other jurisdictions, and in doing so the government benefits its own jurisdiction. However, the government's action also imposes costs - or negative externalities - on the jurisdictions that lose factors of production, and it risks generating similar tax-cutting responses from those governments. With tax competition, there could well be what some have referred to as a 'race to the bottom', in which overall tax collections decline precipitously as SL governments compete to attract or to retain their tax bases.<sup>6</sup>

As noted earlier, however, the evidence here is mixed. Tax collections by SL governments have in fact risen greatly in the last decade, at precisely the time that globalization has increased.<sup>7</sup> Overall, SL government spending has continued to rise over this period. Of course, it may be too early to discern the effects of taxation on government, and even a small negative impact on tax collections could create significant problems for some SL governments.

The composition of SL taxes could also change as a result of increased difficulty in

taxing mobile tax bases. The overall tax burden from income taxes on mobile tax bases like capital and skilled labor will likely decline across governments; tax rates on these factors should also flatten and converge. In contrast, taxes on immobile bases - unskilled labor, physical capital, and property - should increase.<sup>8</sup> Charges and fees for specific services should rise in importance because these tax bases are largely immobile. SL governments may turn more frequently to 'sin taxes' on alcohol and cigarettes, to environmental or 'green taxes', and to lotteries, in attempts to replace lost revenues from mobile bases. There is some empirical evidence that such taxes fall more heavily on lower-income individuals.

The form of SL sales taxes is also likely to change. State and local governments may well decide that a destination-based consumption tax that is collected by the federal government and distributed to state and local governments would be preferable to further erosion in their sales tax collections. Alternatively, they may agree among themselves to apply a uniform state sales tax. They may even radically reform the sales tax by moving toward a consumption-based, uniform-rate, destination-principle sales tax, as advocated by McLure (1997) and Fox and Murray (1997).

These latter changes suggest more broadly that SL governments may attempt greater harmonization (or at least coordination) of their tax systems, in an attempt to reduce the negative fiscal externalities that one government's decisions impose upon other governments. Such harmonization implies that there should be some convergence in tax rates across SL governments, and also in the definitions of tax bases. With harmonization, SL autonomy in tax policy will obviously diminish.<sup>9</sup>

Overall, these compositional changes imply that SL tax systems will likely become

more regressive than at present. If taxes on capital and skilled labor decline, if sin taxes, income taxes on unskilled labor, and lotteries all increase, and if marginal income tax rates flatten, then SL governments will find it quite difficult to maintain any progressivity in their tax systems. Together with an expected decline in overall revenues, the ability of SL governments to redistribute income to lower income individuals will likely diminish.

As discussed earlier, there have been some changes in SL tax policies along these lines. However, to date these changes have been minimal. While the economics of these changes is certainly plausible, the process by which they occur seems slow, erratic, and uncertain. The next section presents the main results of a rigorous but highly stylized model of government choices that suggests that governments are not as powerless as these initial speculations would suggest.

### **The effects of globalization on state and local government finances: Some results from a stylized model**

As suggested by the previous section, a basic analysis of globalization predicts that greater factor mobility will lead eventually to lower, more regressive, and less variable tax rates. However, much of this analysis is speculative and relies on analysis of a small open economy. By contrast, consider two open economies that trade with one another, each of which has a government that taxes labor, capital, and consumption. By introducing different degrees of tax base mobility, such a stylized model allows us to examine how globalization affects the ability of a government to tax its tax bases and also how globalization affects the mix of its taxes.<sup>10</sup>

To be precise, consider a standard dynamic neoclassical two-country model with two factors of production and a representative agent in each country. The home country uses its factors of production (capital and labor) to produce and export a commodity (denoted X), and the foreign country similarly uses both factors to produce and export Y; the production function in each country is characterized by constant returns to scale. Factors are fully employed and are paid the value of the marginal product; also, prices are perfectly flexible, and all markets - both domestic and international - are assumed to clear. A ‘representative agent’ in each country chooses the amount of capital and labor to supply to production in both countries and the amount of domestic and foreign goods to consume, and each agent faces a labor-leisure choice. Agents make these choices to maximize the discounted sum of utility over the infinite horizon. The government in each country can impose taxes on both factors of production and on consumption. The model is dynamic, and is solved using numerical steady-state methods.

We examine several different scenarios, each of which corresponds to different degrees of factor mobility. In our initial scenario, there is free trade of goods, and capital and labor are assumed to be immobile across countries.<sup>11</sup> We then introduce ‘globalization’ by allowing for factor mobility, and different degrees of globalization are also considered. In all cases, we calculate the responsiveness of the tax bases - consumption, capital, and labor - with respect to a ten percent change in the tax rate on consumption, on capital, or on labor. Table 6 provides a summary of the basic results from our numerical analyses comparing factor immobility to factor mobility under different tax scenarios.

**Table 6.** Tax Base Responses for Immobile versus Mobile Factors<sup>a</sup>

<b>Percentage Change in Base</b>	<b>Response to a 10% Tax on Kx when Factors are Immobile</b>	<b>Response to a 10% Tax on Kx when Factors are Mobile</b>
Percentage Change in Cx	-5.78%	-3.20%
Percentage Change in Cy	0	-0.50
Percentage Change in Kx	-14.06	-16.59
Percentage Change in Lx	1.02	1.12
Percentage Change in Ky		-0.05
Percentage Change in Ly		0.56
Percentage Change in K		-8.32
Percentage Change in L		0.84
Change in g	2.48	1.20
	<b>Response to a 10% Tax on Lx when Factors are Immobile</b>	<b>Response to a 10% Tax on Lx when Factors are Mobile</b>
Percentage Change in Cx	-9.70%	-7.26%
Percentage Change in Cy	0	-2.26
Percentage Change in Kx	-1.14	-0.81
Percentage Change in Lx	-1.16	-6.24
Percentage Change in Ky		0.13
Percentage Change in Ly		5.21
Percentage Change in K		-0.34
Percentage Change in L		-0.51
Change in g	4.77	2.33
	<b>Response to a 10% Tax on Cx and Cy when Factors are Immobile</b>	<b>Response to a 10% Tax on Cx and Cy when Factors are Mobile</b>
Percentage Change in Cx	-9.09%	-9.09%
Percentage Change in Cy	-9.09	-9.09
Percentage Change in Kx	0	0
Percentage Change in Lx	0	0
Percentage Change in Ky		0
Percentage Change in Ly		0
Percentage Change in K		0
Percentage Change in L		0
Change in g	5.06	5.06

<sup>a</sup> Kx and Lx are home capital and labor supplied to home production; Ky and Ly are home capital and labor supplied to foreign production; K is defined as  $Kx + Ky$ ; L is defined as  $Lx + Ly$ ; Cx and Cy are domestic consumption of the home and foreign goods; and domestic government revenue is denoted g. Note that, when factors are immobile, the percentage change in K (or in L) is simply the percentage change in Kx (or in Lx). See Neumann, Holman, and Alm (2002) for further discussion.

For example, consider the effects of home country taxation of capital, comparing the results when both capital and labor are immobile versus when both are mobile (the top section of Table 6). The response of domestic capital is similar regardless of factor mobility. Table 6 shows that domestic capital ( $K_x$ ) falls 14 percent when factors are immobile and 17 percent when factors are allowed to flow freely across borders. Overall, capital accumulated by domestic factors falls less when capital is taxed and factors are mobile. Also in response to the tax on domestic capital, domestic labor rises one percent when factors are immobile and also rises one percent when factors are mobile. Overall, hours worked by domestic factors rise less when factors can choose the country in which they work. Government revenues are cut in half when factors are mobile and only home capital is taxed; however, if the home government is able to tax both home and foreign capital used in home production, then home government revenues are unaffected by factor mobility. As can be seen in the middle section of Table 6, a largely similar conclusion emerges when the home country taxes labor, with or without factor mobility. The bottom section of Table 6 shows that factors do not respond to changes in consumption taxes regardless of factor mobility. As one would expect, consumption falls when it is taxed, and it falls in an identical fashion regardless of factor mobility.

Allowing for different degrees of factor mobility indicates the direct effects of increasing globalization, and, as we have seen, home government revenue tends to decline as factor mobility increases. We can also indirectly vary the degree of factor mobility by varying the degree of substitutability of factors across the production processes in the two countries. We do not report these numerical results here. However, when the degree of substitutability between foreign and domestic factors is low, the decline in government revenue from

increasing substitutability is relatively small. By contrast, when the degree of substitutability between factors is high, the decline in government revenue from increasing substitutability is relatively large. Therefore, when there are smaller substitution possibilities in production, the response of government revenues to increased factor mobility tends to be smaller.

Overall, our numerical results indicate that there is clearly some shifting of factors to escape the relatively higher tax burden imposed on domestic production; that is, factors of production that are free to move in response to tax differentials do in fact relocate to escape taxation. However, even in this stylized world there is little evidence of a ‘vanishing taxpayer’. Government revenue declines with greater mobility, but government largely retains the ability to collect taxes. Perhaps surprisingly, the amount of revenues collected remains largely the same, at least in some circumstances, whether factors are mobile or immobile. Even when only one government assesses a tax and the other government does not, factors are mobile, and factors are substitutes in production, it is nevertheless the case that both countries continue to produce and consume at largely similar levels whether factors are mobile or immobile.

### **Conclusions: Is globalization ‘good’ or ‘bad’ for state and local governments?**

Regardless of agreement or disagreement on the broad effects of globalization on SL finances, and the responses of SL governments to them, observers are likely to differ on whether these changes are desirable. It is this last issue that we consider in our conclusions.

At one end of the spectrum are those who believe that a reduction in the power of

government, including SL governments, is clearly negative. In their view, government is needed to correct the shortcomings of markets, to provide essential goods and services not provided by the market, and to redistribute income. If globalization means that government cannot perform these essential functions, then globalization is clearly harmful. At the other end of the spectrum are those who see most government interventions in markets as inefficient, even inequitable. In this view, if globalization and its concomitant effects limit the ability of governments to meddle in markets, then there are clear benefits from globalization.

We argue here that neither view is quite accurate, for two reasons. First, as noted at several points, the evidence on the effects of globalization is unclear. At least at the present time, there is little empirical - or theoretical - evidence that SL governments cannot collect taxes, that they are losing their fiscal autonomy, that their tax rates and bases are converging, that their tax systems are becoming more regressive, and that their expenditures are falling in total or changing in composition. The empirical evidence could well change, but for now it is largely inconclusive, even perhaps negative, on the predicted impacts of globalization on SL governments.

Second, and more importantly, we believe that much of the current discussion of the effects of globalization on SL governments ignores an important consideration: globalization both limits and expands the choices that governments can make. With greater factor and tax base mobility, governments have more power to influence the locational decisions of firms, workers, and consumers. Those governments that succeed in these choices will be the ones who are better able to match taxes with expenditures, who are better able to give taxpayers the services that they wish for the taxes they pay. Previous research has focused mainly on the

negative fiscal externalities of tax competition. It is only recently that the positive effects of tax and, especially, of expenditure competition have begun to be considered in analytical models of SL government behavior (McLure, 1986; Wilson, 1999). It is these positive effects that we believe deserve more emphasis, effects that are present independently of any impact of globalization on the size of government per se.

To illustrate, consider a world in which all factors of production are completely mobile, there are no transportation or communication costs, and there is a single national market for all goods and services. It might seem that no government at any level would be able to impose taxes in such a hypothetical world because any taxes would lead to the immediate outflow of the tax base from the jurisdiction. Put differently, it might appear that the ‘vanishing taxpayer’ would lead inexorably to the virtual disappearance of government.

Of course, complete taxpayer mobility does not now, and will never fully, exist. Even so, this view is surely wrong. Individuals value the goods and services that SL governments provide, and they are willing to pay for them. As originally argued by Tiebout (1956), individuals will ‘vote with their feet’ by moving to those jurisdictions in which governments provide services that residents value. Indeed, SL governments will be encouraged, even required, to make their communities as attractive as possible: by providing uncongested roads, a clean environment, pleasant parks, quality schools, safe neighborhoods, and the like, all with a tax burden that individuals deem responsible and appropriate. If individuals value redistribution, as many certainly do, then even programs for the poor would survive, albeit at smaller levels than currently.

In sum, then, even in an increasingly integrated global economy SL governments will

still exist, they will still impose taxes, and they will still make expenditures. There is no question that these decisions will be circumscribed by the possibility of a 'vanishing taxpayer'. However, the existence of such a taxpayer also creates opportunities, by giving SL governments the potential to influence these locational decisions. SL governments whose prior performance has been poor will have little credibility in making policy decisions; the response to those governments with sound institutions will be quite different. The forces unleashed by globalization will therefore create pressures on all SL governments to establish these institutions. Those governments that succeed in these choices will be the ones who are better able to match taxes with expenditures, or are better able to give taxpayers the services they desire for the taxes they wish to pay. The challenge for SL governments is to recognize and to act upon the benefits and the costs that globalization creates.

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## Endnotes

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- <sup>1</sup> Similar themes on the future evolution of the role of government can be found in various issues of The Economist (1997, 2001), from which we have benefited.
- <sup>2</sup> For a more detailed discussion of these recent trends, see Fox (1998), Tannenwald (1998), and Vedder (1999). For an earlier but still relevant discussion, see Bahl (1984).
- <sup>3</sup> Frankel (2000) argues that the extent of globalization has been exaggerated and that much of the post World War II trends in globalization are merely a return to the level of integration achieved prior to World War I. Further, he contends that the process of globalization is far from complete and important barriers remain. Such barriers include national borders and geography, differences in currencies, languages, political systems, and customs, as well as tariff and non-tariff trade barriers.
- <sup>4</sup> For a discussion of these other effects, see McLure (1997a), Fox and Murray (1997), and Hellerstein (1997).
- <sup>5</sup> McLure (1997b) and King (1997) make a similar point. For example, King (1997) refers to the ‘observability’ and the ‘verifiability’ of the technology of tax administration.
- <sup>6</sup> For a comprehensive review of the tax competition literature, see Wilson (1999).
- <sup>7</sup> See, for example, Hawkins and Eppright (1999) for the case of Florida.
- <sup>8</sup> Youngman (1999) argues that property taxes, especially property taxes on an immovable base, are an attractive tax base for SL governments.
- <sup>9</sup> For further discussion of harmonization, see Tanzi (1995).
- <sup>10</sup> See Neumann, Holman, and Alm (2002) for a complete discussion and analysis.
- <sup>11</sup> Obviously, a closed economy with no trade in goods and immobile factors allows

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governments the most freedom to tax consumption and factors without consideration of mobility into or out of the country.