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Consequences of the Economic and Monetary Union for the Coordination of Tax Systems in the European Union: Lessons from the U.S. Experience

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Abstract

With the advent of the economic and monetary union in the European Union (EU), the economic landscape of the EU will bear a striking resemblance to that of the United States in terms of fundamental attributes such as the freedom of internal movements of individuals, capital, and goods within the union, as well as the adoption of a common currency. This paper examines developments in the tax systems of the states in the United States and draws lessons for the need of coordination of EU tax systems.

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SUMMARY

With the advent of the EMU, the economic union that is the EU will increasingly resemble that of the United States, in terms of such fundamental attributes as the freedom of internal movements of individuals, capital, and goods within the union, as well as the adoption of a common currency. It is thus interesting to examine the development of the tax systems of the individual states in the United States, which largely represents a benchmark outcome of deep integration without coordination, and draw policy implications from it for the need of coordination of EU tax systems.

The U.S. experience has a number of unique features. First and foremost, the overwhelming importance of the U.S. federal tax system, which collects more than two thirds of the country's total taxes, implies that state taxes, harmonized or not, play only a secondary role in their economic impact. Second, the federal income tax system provides a natural basis on which state income taxes tend to harmonize with each other (especially with respect to their bases), even if no explicit coordination takes place. Third, the existence of a federal tax administration means that there is easy exchange of taxpayer information among the states, which renders income tax evasion at the state level difficult unless there is also evasion at the federal level. There is no tax system comparable to the U.S. federal tax system in the EU. Furthermore, cultural and language differences among union members in the EU are additional impediments to the kind of information exchange that is crucial to minimize harmful tax competition. All these factors suggest that the need for explicit coordination will likely be stronger in the EU than in the United States.

I. Introduction

A process of deep integration that achieved its ultimate limit would be characterized by a situation where individuals, capital, and goods could cross frontiers without any impediment. An economic area that shows these characteristics to the extreme is the United States. In this federation, local jurisdictions (states, municipalities, counties) have their own tax systems, but the individuals living in them can work, make purchases, invest, and engage in any legitimate economic activity in any state, county, or municipality they choose. The absence of border controls between the states in the United States, the use of one currency and one common language throughout the country, and the large role played by its federal government, had until recently made the U.S. case a rather exceptional (if interesting) example of economic integration; its implications for the rest of the integrating world might well have been of limited applicability.

Recent developments in the European Union (EU) have, however, substantially increased the similarities between the two economic unions. Internal physical and fiscal barriers among the EU members have already been abolished since 1993, and, in less than a year, the economic and monetary union (EMU) will commence, in which 11 of the 15 EU members will participate initially. Thereafter, the economic landscape of the EU will bear a striking resemblance to that of the United States, at least with respect to the freedom of internal movements of individuals, capital, and goods among all EU members and to a common currency for conducting transactions in most of the members. Under such circumstances, the lessons that can be drawn from the American experience for the EU are clearly more relevant now than before. Specifically, the American experience provides a benchmark outcome of deep integration *without* coordination. This paper focuses on the policy implications of such an outcome for the need of coordination of EU tax systems.

II. Taxation in an Economic Union

A. General Considerations

Assume first, as a polar case, that we were dealing with a completely closed economy characterized by a totally unitary government. That is, all the fiscal activities are carried out by a monolithic government that is responsible for government spending and that finances this spending through various taxes or, occasionally, through borrowing from the (domestic) private sector.

The taxes are imposed on traditional bases such as wealth, income and consumption. In its decisions on which taxes to use the government is guided by criteria of sufficiency, efficiency, equity, and administrative feasibility. It wants to raise enough taxes so that major fiscal deficits do not appear. It wants to collect these taxes without generating excessive distortions in the economy and, thus, without imposing excessive welfare costs on the taxpayers. It wants to raise these taxes in ways that are broadly consistent with principles of horizontal and vertical

equity. And, finally, it wants to impose taxes that are administrable so that the difference between the statutory and the effective tax systems is not great.

In such a situation the government will be concerned about distortions that the tax system may bring in the consumers' choices among the commodities they consume; about the consumption-saving choices; about the work-leisure choices; about the individuals' propensities to exit the official economy in favor of untaxed activities such as subsistence and do-it-yourself activities; about their propensity to fully pay or (partially or totally) evade taxes; and about the many other decisions (when to sell an asset, what kind of business organization to create) that are influenced by the existence of taxes. The government will not, however, be concerned about the relationship between its own tax system and the tax systems of other countries. In this situation, foreign tax systems are irrelevant and do not influence the economic behavior of any economic agent.

Assume next that we are still dealing with a closed economy but that the government is now organized along federal lines. In other words, it is no longer a monolithic, unitary organization. In such a situation, the national government might still be the only one responsible for collecting taxes if it shares the proceeds from these taxes with the subnational governments. Location might begin to play a role if some individuals are tempted to move to the localities that spend the money they receive from the national government more efficiently or in ways that are more attractive to these individuals. However, taxes, per se, would still not influence these decisions.

Assume, however, that the local governments have the power to impose their own taxes and use this power to develop their own systems of taxation. This is the situation that characterizes the United States. The individual states, and to some extent the counties and municipalities, can be visualized as separate countries pursuing independent but necessarily interrelated tax policies. These localities could pursue totally autarchic tax policies, thus ignoring their neighbors, but they would be constrained in their actions by the likely reactions of neighboring governments to some of their actions and by the behavior of their taxpayers who might try to exploit to their advantage the differences that exist among the tax systems of the different states.

If all taxes were personal and benefit taxes, in the sense that all the taxes collected from individuals were based on their incomes and the proceeds from these taxes were spent for services that benefitted those same individuals, tax differences across states might not matter very much. Individuals who paid more taxes would receive more benefits and thus would not feel that they were worse off. However, even if all taxes were spent for the direct benefits of taxpayers as a group (say for schools, health, roads, police protection), given the different characteristics of taxpayers (some with children, some without; some young, some old), some individuals would still benefit more than other individuals. Furthermore, most governments use part of their tax revenue for redistributive purposes so that some individuals benefit at the cost of others. Additionally, many taxes are not personal but are collected from transactions and income flows. These taxes give the taxpayers the possibility of being free riders if they can

reduce their tax burden without being affected on the benefits they receive from the government. For all of these reasons, taxpayers would find it to their advantage if they could reduce their tax burdens. Cross-border transactions and cross-border income flows create arbitrage pressures and opportunities for tax avoidance as long as the tax systems of different jurisdictions diverge significantly. These pressures cannot be ignored by the policy makers.

B. Pressures from and Limits of Tax Competition

The fact that the United States is a currency union with one currency and, thus, de facto fixed exchange rates across states implies that the taxes imposed by one state cannot affect the exchange rate of that state vis-à-vis other states. The fact that there are no frontiers and that the states do not have independent monetary policies means that there may be a tendency to use taxes in place of tariffs and credit subsidies to achieve competitive advantages for the producers of a particular state. One can thus expect that tax competition would be a problem. This would be of interest to the EU since, as noted earlier, with the advent of the EMU, the majority of EU members will be in a situation that is substantially analogous to that which presently confronts the individual states of the United States.

If one state imposed taxes on consumption that were much higher than those imposed by other, and especially neighboring, states, the individuals living in that state would be encouraged to shop in other states, thus contributing to the tax revenue of other states. This would happen even if the state spent all its tax revenue for services that benefitted the community. In other words, the free rider problem would be present.

If the state imposed much higher taxes on labor income than other states, some individuals might be tempted to move to the other states unless the higher public expenditure in the former compensated them for the higher taxes. If taxes on capital income were higher, savers would have an incentive to invest their savings in states with lower taxes unless the state in which they reside required, as in fact all states do, that the tax payment be made to it *and* provided that it were able to get the relevant information on the incomes earned out of state in order to effectively tax its residents. If it does not have that administrative capability, the state will not be able to prevent the loss of its tax on income. Thus, the importance of getting access to information on the incomes earned out of state is of great importance.[2]

If the state imposed higher taxes on enterprises than other states, it would encourage at least some enterprises to establish themselves in states with lower taxes unless it offers advantages in terms of social, physical, and legal environment, public services, amenities, quality of the work force, and so forth that neutralize the difference in tax burden. A low tax environment is, of course, not necessarily a preferred environment.

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[2]See Tanzi and Zee (1998) for an assessment of the role of information exchange for taxation in a borderless world.

While tax differences are important, it is easy to exaggerate their impact. Individuals and perhaps even enterprises usually have a preferred habitat which is often the place they have been living in and to which they have got accustomed. Furthermore, a full knowledge of the environment, a knowledge acquired from having resided there for a long time, often involves a lowering of costs since that knowledge implies that the least cost options within that habitat are known and have been exploited.[3] The various connections that are established with many other individuals in the place where one lives are also a kind of social capital and, thus, have economic value. To individuals, in particular, mobility may impose considerable costs which may be monetary but, more importantly, psychological or social. These costs are much lower for movements within the United States than for movements from one country to another, especially when the language is different.[4] All this means that *small* tax differences may not be sufficient to induce behavioral changes when the costs mentioned above are significant.

Deep integration and new technologies may, however, create opportunities that can be exploited at particularly low costs. These opportunities are likely to be especially important in the taxation of financial capital,[5] but they begin to exist more and more also in the taxation of consumption. For example, mail-order purchases are becoming more important not only within the United States but also across countries.[6] Those who have traveled in Europe in recent years must have noticed the increasing frequency of advertisement of products on CNN and other similar satellite stations. These advertisements are not aimed at the citizens of a specific country but at the citizens of the entire region where the stations' signals can be received. The advertised products can be ordered by phone or by mail from particular countries and can be paid using a common credit card. The use of a credit card and a telephone is often sufficient to make purchases across frontiers. Clearly, Europe, the United States, and even the world, have become progressively more sensitive to tax differences. Putting it differently, differentials in tax rates that may not have been significant in

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[3]Of course, having been in one place for a long time may also bring about rigidities and costs such as the unwillingness of the enterprise to reduce the work force or to close inefficient plants.

[4]This is one difference that will remain, even after the commencement of the EMU, between the economic unions of the United States and the EU. This may also explain why the Tiebout hypothesis, that assumes that people vote with their feet by moving to jurisdictions where the pattern of taxes and public spending is closer to their preferences, is more readily accepted by American economists than by European economists. For a devastating criticism of that hypothesis, see Bewley (1981).

[5]For implications for taxation of innovations in communication technology and in financial instruments, see Owens (1997) and OECD (1998b), respectively.

[6]See Duncan (1988) for a discussion of this issue in the United States and EC (1997b) for an examination of the present situation in the EU.

the past may become important in the future as new technologies allow individuals to exploit them at low costs. These developments are likely to force some countries to reduce their tax rates if these are significantly higher than those of other countries.

III. A Comparison of Major Taxes in the United States and the EU

In the economic union that is the United States, every individual state has the full power, as noted earlier, to design its own tax system. To a large extent, this is also true at present with each individual member of the EU.[7] Under such circumstances, the extent of the differences in major taxes among the states in the former should have interesting implications for the members of the latter. Table 1 provides the top marginal regular rates of individual and corporate income taxes as well as the rates of the retail sales tax (RST) imposed by the different states in the United States in 1994 (the latest year for which such data are available). The main objective of the table is to show the rate differences that are tolerated within the American economic union. Obviously, some arbitrage pressures must arise from the differences in the rates and from the costs to the taxpayers in exploiting these differences. If the costs in exploiting these differences are high, larger rate differentials are likely to be tolerated and to have less impact on economic decisions. For comparison, Table 2 provides the same information for the EU members (except that standard VAT rates are shown in place of the RST rates) in 1997.

A. Individual Income Tax

Table 1 shows that for the individual income tax there are differences as large as 12 percentage points in the marginal tax rates between the states that do not have a tax on the income of individuals (Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming) and Massachusetts, the state with the highest marginal tax rate. Other states with rates comparable to Massachusetts' are California, Montana, and Rhode Island, among others. In many places individuals are also taxed by municipal or county taxes generally with somewhat lower rates.

The rates reported in Table 1 exaggerate somewhat the arbitrage pressures created by taxes on individual income. First, they represent marginal and not average tax rates. The average tax rates, expressed as a percentage of personal income, in 1994 ranged from zero to only about 4.5 percent in New York, with a national average of 2.4 percent.[8] Second, because of the fact that state and local income taxes are deductible from income in the determination of federal

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[7]The notable exception has been that under the various directives of the European Commission (EC), the value-added tax (VAT) systems of EU members are required to achieve some degree of (mostly base rather than rate) harmonization (see further below).

[8]See ACIR (1997).

Table 1. United States: Rates of State Income and Sales Taxes, 1994

(In percent)

	Individual Income Tax 1/	Corporate Income Tax 2/	Sales Tax
Alabama	5.000	5.00	4.000
Alaska	--	9.40	--
Arizona	6.900	9.00	5.000
Arkansas	7.000	6.50	4.500
California	11.000	9.30	6.000
Colorado	5.000	5.10	3.000
Connecticut	4,500	11.50	6.000
Delaware	7.700	8.70	--
District of Columbia	9.500	10.00	5.750
Florida	--	5.50	6.000
Georgia	6.000	6.00	4.000
Hawaii	10.000	7.92	4.000
Idaho	8.200	8.00	5.000
Illinois	3.000	4.80	6.250
Indiana	3.400	4.50	5.000
Iowa	9.980	12.00	5.000
Kansas	7.750	4.00	4.900
Kentucky	6.000	8.25	6.000
Louisiana	6.000	8.00	4.000
Maine	8.500	8.93	6.000
Maryland	6.000	7.00	5.000
Massachusetts	12.000	... 3/	5.000
Michigan	4.400	... 3/	6.000
Minnesota	8.500	9.80	6.000
Mississippi	5.000	5.00	7.000
Missouri	6.000	6.50	4.225
Montana	11.000	6.75	--
Nebraska	6.990	7.81	5.000

Table 1 (concluded). United States: Rates of State Income and Sales Taxes, 1994

(In percent)

	Individual Income Tax 1/	Corporate Income Tax 2/	Sales Tax
Nevada	--	--	6.500
New Hampshire	5.000 4/	7.50	--
New Jersey	6.650	9.00	6.000
New Mexico	8.500	7.60	5.000
New York	7.875	9.00	4.000
North Carolina	7.750	7.75	4.000
North Dakota	5.544	10.50	5.000
Ohio	7.500	8.90	5.000
Oklahoma	7.000	6.00	4.500
Oregon	9.000	6.60	--
Pennsylvania	2.800	11.99	6.000
Rhode Island	10.890	9.00	7.000
South Carolina	7.000	5.00	5.000
South Dakota	--	--	4.000
Tennessee	6.000 4/	6.00	6.000
Texas	--	--	6.250
Utah	7.200	5.00	5.000
Vermont	9.900	8.25	5.000
Virginia	5.750	6.00	3.500
Washington	--	--	6.500
West Virginia	6.500	9.00	6.000
Wisconsin	6.930	7.90	5.000
Wyoming	--	--	4.000
Unweighted average	**6.1**	**6.9**	**4.7**
Standard deviation	**3.2**	**3.0**	**1.8**
Coefficient of variation	**51.5**	**43.7**	**38.2**

Source: *Significant Features of Fiscal Federalism*, Vol. 1 (Washington: ACIR, 1995)

1/ Top marginal regular rates on residents, excludes local taxes.
2/ Top marginal regular rate, excludes local taxes.
3/ Taxes on corporation assessed on an alternative basis.
4/ On interest and dividends only.

Table 2. European Union: Rates of Member Income and Value-Added Taxes, 1997

(In percent)

	Individual Income Tax 1/	Corporate Income Tax 2/	Value-Added Tax 3/
Austria	50.0	34.00	20.0
Belgium	55.0	39.00 4/	21.0
Denmark	60.0	34.00	25.0
Finland	38.0	28.00	22.0
France	54.0	33.33	20.6
Germany	53.0	45.00	15.0
Greece	45.0	40.00	18.0
Ireland	48.0	36.00 5/	21.0
Italy	51.0	37.00	19.0
Luxembourg	46.0	32.00 4/	15.0
Netherlands	60.0	35.00 4/	17.5
Portugal	40.0	36.00	17.0
Spain	47.6	35.00	16.0
Sweden	25.0 6/	28.00	25.0
United Kingdom	40.0	31.00	17.5
Unweighted average	**47.5**	**34.9**	**19.3**
Standard deviation	**8.9**	**4.3**	**3.1**
Coefficient of variation	**18.7**	**12.3**	**15.9**

Source: *1998 International Tax Summaries* (New York: John Wiley & Sons, 1998).

1/ Top marginal regular rate on residents, excludes local taxes.
2/ Top marginal regular rate, excludes local taxes.
3/ Standard rate.
4/ A higher marginal rate applies at some lower range of income.
5/ A reduced rate of 10 percent applies until 2010 to profits from manufacturing operations and certain services.
6/ A significant local individual income tax of 31 percent exists.

income tax liability, even the effective marginal tax rates are somewhat lower than they are reported in Table 1. In fact, the effective rates would be reduced by about one third. Third, the free exchange of information between state and federal tax authorities reduces or eliminates the arbitrage possibilities created by tax avoidance or tax evasion behavior. The main option is voting with one's feet.

It is not clear the extent to which the differences in the tax rates reported above may have induced some individuals to move from high-taxed to low-taxed states. As already indicated, many other factors enter into the decision of where to live, including the social environment and the availability of good jobs. There is no empirical evidence that indicates that these rate differentials have had much of an impact in pushing individuals out of high taxed states. But there is evidence to indicate that states have been sensitive to differences in tax rates. For example, it has been argued that the 1986 federal tax reform in the United States, by reducing the federal tax rate it increased the spread in the states' effective marginal tax rates and prompted them to cut their own top income tax rates in 1987 and 1988.[9]

In the absence of the free exchange of information among tax authorities, even tax rate differences as low as those reported in Table 1 could induce substantial movements of financial capital from relatively highly-taxed to low-taxed jurisdictions to avoid paying higher tax rates. However, the states where the investors reside have full access to the information reported by the taxpayers to the federal authorities. If some tax avoidance occurs, it must be in relation to funds invested in municipal bonds in other states, which are not taxed by the federal government. In more recent years, taxpayers have had the obligation to report to the federal authorities the investments they have in nontaxed instruments and this information is now available to the local authorities. Because of this easy access to information on the incomes from financial investments received from states other than the one where the taxpayer resides, states can enforce a nation-wide concept of taxable income. They can thus implement a residence-based principle with no withholding taxes on the income flows across different jurisdictions. Information exchange on tax matters in the EU among its members clearly has not approached anywhere near the level that prevails in the United States, as there is currently no EU-wide authority that is comparable to the U.S. federal authorities.

Table 2 shows that the top marginal tax rates on individual income in the EU averaged about 47.5 percent in 1997, which was substantially higher than the states' average of about 6.1 percent in the United States in 1994. Individual income in the latter is, however, also subject to a federal income tax with a top marginal rate (at present as it was in 1994) of 39.6 percent. Hence, taking both the federal and state taxes into account in the United States, the average top marginal tax rates on individual income in the two economic unions are at broadly comparable levels. What is more interesting, however, is the difference in the degree of variability in the rates. While the standard deviation of the rates in the United States, at 3.2 percent, is much lower than the EU's 8.9 percent, this is a somewhat biased indicator of

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[9]See Tannenwald (1991).

variability, due to the large difference in the average rates between the two. An alternative measure of variability, the coefficient of variation (CV), which measures the magnitude of the standard deviation *relative* to the average, in fact shows that the EU's CV, at 18.7 percent, is only about one-third of that of the United States.[10]

It seems that, despite the absence of explicit coordination of individual income tax rates in the EU, economic integration and factor mobility have been constraints on individual EU members' flexibility in setting tax rates substantially different from one another. Putting it differently, a sort of decentralized harmonization, driven by market forces, is probably at work here. Why are these forces playing less of a role in the United States than in the EU, despite the former's greater degree of integration than that of the latter? The answer, most likely, lies in the much greater institutional barriers in the EU to information exchange among its members, as noted earlier. The more severe the limitation in access to information about taxpayers in different jurisdictions, the more sensitive are income flows to rate differentials, and, therefore, the smaller are the differentials that could be tolerated in a union.[11]

B. Corporate Income Tax

In the Unites States, the rate differences are also significant for the top marginal income taxes on corporations, which can range from zero for a few states (Nevada, South Dakota, Texas, Washington, and Wyoming), to 10 percent or higher in others (Connecticut, District of Columbia, Iowa, North Dakota, and Pennsylvania). At first sight, such large differences for taxes on corporate income are somewhat surprising, because one would expect that corporations would react to such differences more vigorously than individuals, thus forcing the states to harmonize the rates.[12] In other words, one would expect that investors would choose to locate in states where these taxes are low.

For the state taxes on corporations, some considerations similar to those mentioned above for individuals also prevail. First, the corporate income taxes paid to the states are deductible for determining the federal income tax liability so that the effective tax rates are reduced by about one third. Second, the rate differences mentioned above refer to marginal rather than average

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[10]It must be noted that the CV measure—an indicator of relative variability—may not provide an accurate signal of the underlying pressures from tax competition, as such pressures frequently depend as well on absolute tax rate differentials.

[11]Recent policy discussions in the EU regarding the taxation of savings have underscored the importance of, among other measures, information exchange among members to tackle harmful tax competition. See EC (1997a).

[12]See McLure (1986b).

tax rates (some states impose these taxes with progressive rates). Third, many states provide tax incentives and generous deductions which substantially reduce the burden of high rates.[13] Even though the taxes imposed by state and local governments on corporations are not very high, given the facility with which enterprises and capital can move within the United States, one would expect that these taxes would play some role in location decisions even recognizing that other factors beside taxes may be more important. This has been recognized by many theoretical studies.[14] Efforts by various researchers to establish some relations between tax levels and location decisions have, however, not been as successful as one might expect. Neither surveys of business executives nor econometric analyses have, for the most part, established clear-cut tax effects. Surveys have often reported that business taxes play at best a marginal role in location decisions. Corporate managers mention them but never prominently and other factors are always given more importance.[15] Econometric studies have for the most part done not much better.[16] However, recent work by Leslie E. Papke and by James R. Hines, Jr. has found stronger effects than in the past.

Papke's work, reported in two recent articles, introduces several technical innovations with respect to earlier work. These innovations are supposed to better assess the impact of taxation than with less sophisticated methods. Papke finds that "economic factors do play a significant role in manufacturing location." Furthermore, "industries differ markedly in their responsiveness to variations in state economic characteristics." The author concludes that "state and local governments continue to be sensitive to their level of business taxes; these results indicate that tax composition will have some effect on the composition of industry within the state."[17] Hines attempts to estimate whether the location of foreign direct investment in the United States is influenced by the state tax rates. To do this, he separates foreign investors in two groups: those from countries which provide home-country credits for the income taxes paid in the United States and those from countries that do not allow such a credit. He assumes that the former would not be affected by the state taxes paid while the latter would be. Therefore, different investment behavior by these two groups would provide evidence that state taxes do in fact play a role in the location decisions of investors. His empirical analysis leads him to conclude that "high state tax rates gave a significant negative effect on local investment. Investors who cannot claim credit (in their own countries) for state

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[13]See Ledebur and Hamilton (1986) for a survey of tax incentives given by states.

[14]See, for example, Gordon (1983).

[15]See Kieschnick (1981).

[16]For a review of many of these studies, see Wasylenko (1991).

[17]Papke (1991, p. 65); see also Papke (1987).

tax payments appear to reduce their investment shares, relative to foreign tax credit investors, by about 7-9 percent, for every 1 percent rate of taxation."[18]

Thus the state corporate income taxes may influence the location decisions of investors.[19] This may explain why tax rates and tax incentives continue to be important tools for pursuing the objectives of state governments, and why states compete for business investment with low rates and with tax incentives. This competition may drive down the statutory or the effective rates in some states, thus forcing other states to do the same or create conditions for a different spatial allocation of investment from one in the absence of competition. In the process, the allocation of tax revenue is changed and the level of taxation at the state level is reduced. Such competition could clearly be harmful if carried to an excessive degree.[20] If this process brings some tax rate harmonization, it is a spontaneous result rather than a coordinated policy.

Like the top marginal individual income tax rates, the top marginal corporate income tax rates in the EU seem to have also been subject to the forces of decentralized harmonization—again even more so than that in the United States, and probably for similar reasons. As shown in Table 2, the relative variability of EU's top marginal rates on corporate income, as measured by the CV, was only about 12.3 percent in 1997, compared to the United States' 43.7 percent in 1994. Notwithstanding this low relative variability, the absolute differences in rates among the EU members remain significant (and broadly on par with those found in the United States), ranging from 28 percent in Finland and Sweden to 45 percent in Germany.[21] As in the United States, one would expect that such large differences in statutory rates would give rise to profit-shifting opportunities for businesses which operate in multiple tax jurisdictions, most notably through transfer pricing or other creative accounting practices. Profit-shifting would be made that much easier if all transactions are conducted in one common currency. Of course, the corporate income tax in a particular jurisdiction should be levied only on the income generated in that jurisdiction, but determining such income of a corporation whose activities extend beyond the boundaries of the jurisdiction in which it resides is no easy matter, given that most corporations are highly skilled at devising tax avoidance schemes.[22]

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[18]Hines (1996).

[19]See also the results obtained by Fox and Murray (1990) and by Bartik (1989).

[20]Harmful tax competition is a rapidly emerging policy concern in both the EU and elsewhere. See EC (1997a) and OECD (1998a).

[21]In Ireland, profits from manufacturing operations and certain services are taxed at the reduced rate of 10 percent until 2010.

[22] For a comprehensive review of the issues that arise when states tax corporations operate in (continued...)

To address this problem, most states in the United States have adopted either some variant of the three-factor formula contained in the Uniform Division of Income for Tax Purposes Act (UDITPA) of 1959, or the UDITPA's key conceptual approach of allocating income on a formula basis—otherwise known as formula apportionment. The general formula of the UDITPA apportions a fraction of the total U.S. taxable income of a corporation to any individual state based on the simple average of the sum of that state's share in the corporation's total of the following three factors: property, payroll, and sales. At present, a majority of the states have assigned more weight to the sales factor in the above formula.[23] In addition to the United States, Canada and Switzerland have also adopted the formula apportionment approach in allocating the corporate income tax base among subnational jurisdictions.[24]

The use of formula apportionment does not resolve all the difficulties involved in taxing multijurisdictional corporations, however.[25] Clearly, such a method works best in an environment in which there is a high degree of harmonization of the definition of the tax base across different tax jurisdictions. In the United States, the existence of the corporate income tax at the federal level has facilitated the achievement of this harmonization at least to some degree. A corporate income tax does not, of course, exist at the union level in the EU. To avoid double taxation in the apportionment formula, a multilateral approach to the design of the formula may be needed.[26] While formula apportionment could reduce administrative and compliance costs through narrowing the scope of base manipulations by corporations, it does not address pressures of tax competition, as under it different jurisdictions would still retain the right to set their own tax rates. This may, however, be viewed as one of its virtues at the same time, i.e., in retaining some jurisdictional flexibility and autonomy on tax policy matters. Market forces could be relied upon to determine the tolerable degree of rate differentiation across jurisdictions within an economic union, such as that observed in both the United States and the EU (provided effective measures are implemented to deter harmful tax competition).

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[22](...continued)
several states, see McLure (1986a).

[23]For a recent description of formula apportionment as practiced in the United States, see Treasury (1996).

[24]See Daly and Weiner (1993) for a review of practices in Canada and Switzerland.

[25]For a review of the merits and limitations of formula apportionment, see McLure and Weiner (1997) and Mintz (1998).

[26]This may call for the creation of an international organization, such as that along the lines of a World Tax Organization proposed by Tanzi (1996). Within the EU, however, in principle the EC should take up this responsibility.

C. RST and VAT

The differences across the U.S. states in the rates of the RST is smaller than for the taxes on income. As Table 1 shows, the RST rates vary from zero in five states (Alaska, Delaware, Montana, New Hampshire, and Oregon) to more than 6 percent in six states (Illinois, Mississippi, Nevada, Rhode Island, Texas, and Washington). No state imposes the RST with rates above 7 percent and 17 states impose it with rates of 6-7 percent. Excluding the five states that do not have the RST, all states are in the 3-7 percent range and, in fact, most are in the 4-6 percent range. The CV of the RST is about 38.2 percent, lower than that of either the individual or corporate income tax rates.

Some literature in the United States has tried to assess the extent to which differences in tax rates across states (and across countries) induce taxpayers to cross jurisdictional lines for their purchases and thus generate some tax exporting in the sense that some jurisdictions lose tax revenue to their neighbors. One would expect that individuals who are within an easy distance from jurisdictions that impose lower tax rates might take advantage of these differences; that policy makers would be aware of the possibility of distortions in the location of the retail sales and would insure that tax differentials do not become too large; and that retailers would be tempted to place their shops close to the border but on the side of the lower tax jurisdictions. To some extent all these possibilities are likely to occur but, as is often the case, it has been difficult to quantify their size. The relatively low RST rate differentiation shown in Table 1 may suggest that the states' policy makers have been concerned about the possibility that high tax rates may lead to tax exporting so that some competition-induced tax harmonization in fact has already taken place.

Over the years, several experts have attempted to assess the impact of sales taxes on the location of retail sales. For example, John L. Mikesell found that a 1 percent tax rate increase in the center city of 173 standard Metropolitan Statistical Areas would reduce its per capita retail sales by somewhere between 1.69 and 10.97 percent.[27] For the District of Columbia, Ronald C. Fisher found that increases in the sales tax differentials reduced tax revenue from food sales but not from apparel.[28] William F. Fox found that "the sales tax...[had] the largest effect on retail activity of any tax, but at the margin tax rate changes would appear to influence only a low percentage of sales."[29] These border effects are more pronounced in contiguous areas along the borders of states, countries, or cities.

As noted earlier, border effects of indirect taxation have also been a concern in the EU. While the CV of the present VAT rates among EU members, at 15.9 percent (Table 2), is already far

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[27]Mikesell (1970).

[28]Fisher (1980).

[29]Fox (1986, p. 399).

lower than that of the RST rates in the united States, it may still not be low enough for the EU. The reason is that the VAT, unlike the RST, is collected in multiple stages. In a truly single market within an economic union, the VAT would be imposed on an origin basis with no border tax adjustments made as goods and services cross members' jurisdictions,[30] and VAT credits would be cumulative across such jurisdictions. Hence, differences in VAT rates among EU members would have large revenue spillover effects. These effects are additional to those related to cross-border sales by consumers that might result from rate differentials.[31] In contrast, the RST, being a single-stage sales tax, has no such cross-jurisdiction tax credit cumulation effects.

IV. General Implications and Main Lessons

A. General Implications

The above discussion of the major taxes in the states of the United States (in comparison to those in the EU), which has the form of economic union to which the EU is moving, is instructive for two reasons. First, it shows the differences in tax rates that are currently tolerated by the governments of the American states. Second, it points to some of the political and economic constraints or costs that accompany economic integration.

There are political constraints when competition forces a jurisdiction to modify the structure of the tax system that it would prefer to have. This change in the tax structure can leave the jurisdiction with lower tax revenue, when competition forces it to lower its tax rates to prevent a loss of its tax bases. Or it can leave it with a different structure when some taxes are more sensitive than others to outside competition. For example, the jurisdiction may be forced

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[30]In the present transitional VAT regime in the EU with no fiscal frontiers, the VATs of members are still implemented on the destination basis, i.e., exports to other members are zero-rated, but imports are taxed, not at the borders since these no longer exist, but at the next stage of production. Hence, a notional concept of frontiers is maintained for taxation purposes.

[31]The proposed definitive VAT regime by the EC calls for a much higher degree of rate harmonization than that observed at present in the EU. See EC (1996). Keen and Smith (1996) have recently proposed an alternative, two-tier rate structure: all EU-wide intermediate transactions would have a common VAT rate (this would address the problem of cumulation of VAT credits across jurisdictional boundaries), but each member would be free to set the VAT rate(s) on sales to final consumers. This scheme, referred to as a viable integrated VAT (VIVAT) by the authors, would require that a distinction be made between intermediate and final transactions, but would leave the degree of rate differentiation on final sales to market forces.

to raise the taxes on immobile factors or on products with high transportation costs and this may conflict with equity considerations.

There are economic costs when the tax differentials change economic behavior in a way that reduces welfare. For example, if individuals cross borders to benefit from lower tax rates, say on sales, but to do so they have to sustain some costs, in terms of transportation costs and time lost, that they could have avoided by shopping in their own jurisdiction, then the tax differential has reduced welfare. This also happens when an enterprise chooses a given location over a preferred one purely because of tax rate considerations.[32]

It must be recognized, however, that by forcing a lowering of the marginal tax rates across jurisdictions, because of tax competition, the process of integration of economies will also bring about some lowering of the welfare costs associated with high marginal tax rates. If a substantial share of public spending is wasteful or unproductive and the lowering of the rates reduces that expenditure, then total welfare may even rise. Nevertheless, a jurisdiction that could use public resources efficiently and that placed more value on a large role for the government and was unable to pursue that role because of the constraints imposed by the competition from other jurisdictions would feel that its net welfare had fallen in spite of the lowering of the welfare costs of taxation.

B. Main Lessons

From the U.S. experience, one might argue that there is no need to coordinate tax rates on either individual income or corporate income among members of even a deeply integrated economic union, since competition will ensure that they do not get too much out of line. To a large extent, this has already been borne out in the EU. Although there has been no explicit attempt at rate harmonization, the CVs of both the individual and corporate income tax rates of EU members have already reached levels much lower than those in the United States.

While the CV of corporate income tax rates in the EU is not high, the corporate income tax base of individual EU members is still vulnerable to differences in the statutory rates within the union, most notably through profit shifting by corporations with activities in multiple jurisdictions. This vulnerability will surely increase after the commencement of the EMU, with the elimination of exchange rate risks in 11 of the 15 member initially. The states in the United States have addressed this problem by means of formula apportionment. This may well also be a solution for the EU. Formula apportionment would work well, however, only if the definitions of the taxable corporate income base in all participating union members have achieved some degree of harmonization. The existence of a corporate income tax at the federal level—of which there is no counterpart in the EU—has facilitated achieving such a

[32]The evidence available from the American states indicates that these economic costs may not be too large although they do occur.

harmonization in the United States. Hence, harmonization of the corporate income tax base among EU members should be a key tax policy focus in the period ahead.[33]

The U.S. experience with the RST is less applicable to the EU, as the VAT has a fundamentally different collection mechanism from that of the RST. VAT rate differentials among EU members in a full-fledged single market would have enormous revenue distribution implications, due to the cumulation of VAT credits across jurisdictional boundaries. Such implications are not relevant with the RST. The EC's present proposal for a definitive VAT regime calls for a high degree of rate harmonization, and a revenue allocation mechanism that is based on aggregate consumption statistics rather than on actual revenue collection. Should this proposal be modified to allow each EU member flexibility in setting its own rate, say, along the lines of the VIVAT scheme, the RST rate dispersion among the U.S. states would provide some indicative degree of VAT rate differentials that could be tolerated in the EU.

Any lessons drawn from the U.S. experience should be qualified, at least to some extent, by a number of unique features that characterize the American economic union. Most importantly, in the United States more than two thirds of total taxes are collected by the federal government. These federal taxes are imposed with the same laws, the same rules, and the same administration for every individual and enterprise in the whole country. This means that the local taxes which, in principle, are the ones that raise issues similar to those raised by the ongoing process of integration in the EU, are a relatively small share of GDP. Furthermore, the information assembled on taxpayers by the federal government, when it collects its income taxes, is available to the states which in turn tend to use broadly the same tax bases as the federal government. This greatly facilitates the collection of taxes at the state level and reduces the question of tax competition mainly to competition of rates rather than competition of bases. It also implies that differences in tax administrations will not be exploited by taxpayers in order to reduce their tax burden.

Second, in the United States the lack of banking secrecy and of other obstacles to the relatively easy access to information and the similarity of accounting and legal standards ensures that investors take considerably less risk in investing in a state other than the one where they reside than do residents of different EU members. As long as laws related to banking secrecy and to the right to access information, and as long as accounting standards and the quality and veracity of the statements issued by enterprises, banks, investment agents and so forth are different, the environment for capital movements in the EU will not be the same as within the United States. This implies that some tax differences will not lead to the large outflow of the capital from higher to the lower tax jurisdictions as assumed by some theoretical studies. Or, looking at it from a different angle, it implies that a given difference in tax rates among EU members will generate less arbitrage pressures than would be the case within the United States.

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[33]Many of the issues of corporate income tax base harmonization have already been discussed, of course, in the "Ruding report." See EC (1992).

V. Concluding Remarks

With the advent of the EMU, the economic union that is the EU will increasingly resemble that of the United States, in terms of such fundamental attributes as the freedom of internal movements of individuals, capital, and goods within the union, as well as the adoption of a common currency. It is thus interesting to examine the development of the tax systems of the individual states in the United States, which largely represents a benchmark outcome of deep integration without coordination, and draw policy implications from it for the need of coordination of EU tax systems.

The U.S. experience has a number of unique features. First and foremost, the overwhelming importance of the U.S. federal tax system, which collects more than two thirds of the country's total taxes, implies that state taxes, harmonized or not, play only a secondary role in their economic impact. Second, the federal income tax system provides a natural basis on which state income taxes tend to harmonize with each other (especially with respect to their bases), even if no explicit coordination takes place. Third, the existence of a federal tax administration means that there is easy exchange of taxpayer information among the states, which renders income tax evasion at the state level difficult unless there is also evasion at the federal level. There is no tax system comparable to the U.S. federal tax system in the EU. Furthermore, cultural and language differences among union members in the EU are additional impediments to the kind of information exchange that is crucial to minimize harmful tax competition. All these factors suggest that the need for explicit coordination will likely be stronger in the EU than in the United States.

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