

Tax Coordination: The Importance of Institutions

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March, 2002

* An earlier version was presented at a conference on “The International Mobility of Tax Bases”, Stockholm, November 1, 2001. I thank J. Hassler, M. Persson, and an anonymous referee for comments, but retain responsibility for any errors.

I. Introduction

The issue of competition vs. coordination of tax policy in Europe is certain to be the subject of lively debate in the coming decades. Popular interest in policy issues of this nature is usually associated with highly visible current events, and this case is probably no exception. Some might point to EMU, for example, as an important precipitating event in attracting new attention to tax policy. No doubt it places policymakers in a new decisionmaking environment. Short-run considerations of macroeconomic policy frequently inspire the day-to-day responses of politicians, and EMU, since it imposes new restrictions on the use of monetary policy to deal with short-run fluctuations, may focus new attention on the use of tax and expenditure policy to influence macroeconomic aggregates.

One should recognize, however, that the formulation of tax policy, and particularly questions of tax competition and coordination, are deeply intertwined with the institutional structure of governance. The evolution of these institutions is not well understood, but they appear to depend on fundamental technological and demographic forces. Whether self-consciously or not, the countries of Europe and throughout the world have confronted the issue of competition or coordination in the sphere of tax policy and in other areas of policy for many decades. Fundamental principles of fiscal and social policy were written into the Treaty of Rome, and the accession of new countries to the membership of the EU has gradually extended the scope of those principles. The issues of cooperation and competition in tax policy, narrowly defined to refer to such issues such as the setting corporation income tax rates or the adjustment of tax policy in order to achieve short-run

macroeconomic objectives, should be understood to be small components of a larger process of basic institutional change.

The present paper discusses mechanisms of “coordination”, emphasizing the role of governmental institutions in the implementation of policy. Institutional change tends to occur slowly, as evidenced by historical European experience and by more recent developments, including the evolution of the policies of the European Union. Section II focuses on corporation income taxation as one sphere of policy in which the issue of coordination and competition arises. The taxation of corporation income in the United States occurs both at the level of the national (federal) government and at the state level. The experience of the states can be of interest because they share many similarities with the nations of Europe: they are open economies with substantial volumes of trade, partly achieved through business structures that span multiple jurisdictions, and they derive substantial amounts of revenue from personal income taxation, corporation income taxation, and consumption taxation. Like nations, the potential exists for states to cooperate or to compete in their taxation of business activities. At least in the US experience, the practice of corporation income taxation at the state level does not show much evidence of cooperation; the development of a higher-level institution -- the national government -- seems to have played a much more important role in “coordinated” taxation of corporations than explicit coordination among the states.

The Potential Scope of Coordination

Broadly speaking, there seem to be three main ways in which tax and other policies can be coordinated among countries. One way is through “coordination by delegation”, that is, through the establishment of new governmental structures with taxing powers over the entire range of countries whose policies are to be coordinated. For instance, the EU or some other body could be

empowered to collect VAT, corporation income taxes, personal income taxes, or some other taxes throughout the entire region. The revenues from these taxes could be returned to the coordinating countries, thus, *de facto*, offering a means by which they can jointly collect revenues. This form of coordination requires a mechanism for political decisionmaking that can determine what is to be taxed, by what administrative and enforcement means, and at what rates, by the supranational authority, as well as for the distribution of the proceeds of these taxes. Conceivably, the revenue could be retained by the supranational authority and expended on public purposes also to be determined by some political decisionmaking mechanism. This would amount to “expenditure coordination by delegation”. The EU embodies a certain amount of coordination by delegation in taxation, most notably through the mechanism of the common external tariff. The structural funds and other expenditures constitute a form of expenditure coordination by delegation. The institutional structures through which this form of coordination can be carried tend to develop slowly.¹

¹ As one informal illustration, an EU web site describes “The Customs Policy of the European Union”, stating:

“A key aim is to iron out operational divergences in customs matters at national level and to ensure that the fifteen Member States' customs administrations can together carry out their duties as efficiently as if they were a single administration. To achieve this objective the European Parliament and the Council adopted on 19th December 1996 (Decision No. 210/97/EC) the Commission proposal for an action programme for Community customs, called Customs 2000.”

As it happens, the “action programme” did not come to full fruition within the planned time horizon. The following statement appears at the bottom of the web page: “Customs 2000” is now “Customs 2002”. Coordination of customs duties – a far less complex task than coordination of such fiscal instruments as corporation or personal income taxes -- is explicitly mandated by the 1957 Treaty of Rome (Art. 113).

A second form of coordination, and perhaps what most would take the term itself to mean, is “coordination by explicit agreement”, that is, through joint actions taken by individual governments. For example, several countries could agree to set tax rates on corporation income at specific levels, leaving it to individual countries to collect revenues and to enforce and administer the tax. A third form of coordination might be termed “coordination by implicit agreement”. Without formal agreements, one country might elect to choose the same policy as one or more other countries. For example, the Netherlands might decide to tax corporation income at some rate within 10 percentage points of the German corporation income tax rate. “Implicit coordination” might also be called “competition”, of course; for example, setting a corporation income tax rate at a rate lower than that of neighboring countries could be viewed as competition, not implicit coordination, and thus “implicit coordination” may appear to be a completely meaningless concept. On the other hand, it is often hypothesized that the implicit threat or expectation of retaliatory responses helps to establish and maintain international norms. (See, e.g., Dam (1970), cited in McMillan (1986).) For reasons of space, most of the following discussion will restrict attention to coordination by delegation and coordination by explicit agreement, recognizing however that this leaves aside an important facet of the subject.

Drawing Boundaries Around Tax Policy?

Tax policy is in some ways inseparable from other aspects of public policy. Especially in the countries of the European Union but also more generally among the developed economies, taxes are used to finance expenditures on transfer payments or transfers in kind in order to redistribute income. But the economic policy questions raised by transfer policies are in many respects virtually the same as those that arise in the tax context. It is routine, for instance, to characterize the labor-supply incentives in a system of cash transfers to the poor in terms of the “implicit marginal tax

rates” embedded within the transfer system. The redistribution achieved through cash transfers can be offset through the collection of taxes on the income or consumption of transfer recipients, or augmented through tax relief for these individuals. The differences between tax and transfer policy can become so blurred that they may amount to little more than technical legal and verbal distinctions. In the area of public pension policy, it is hardly meaningful to discuss the “tax” side of public retirement systems separately from the “expenditure” side; for example, the entire issue of the aging of the population and its implications for public pension systems revolves around the simultaneous consideration of the taxes paid into these systems and the distribution of benefits from them. In the sphere of business taxation, it is well-recognized that preferential tax relief for particular categories of investment should be viewed essentially in the same policy context as explicit subsidies for particular industries, sectors, or regions. As von Clauswitz might have said, “tax policy is expenditure policy continued by other means” (or perhaps *vice versa*), a concept encapsulated in the concept of “tax expenditures” developed by Surrey (1973) . Furthermore, tax policies often interact with or become part of (or alternatives to) policies that are commonly viewed as “regulatory” rather than “fiscal” in nature. An obvious illustration is the taxation of energy-related products – fuels or automobiles, for example -- and the regulation of prices for publicly-provided energy and energy-using activities such as electricity, rail services, and urban transportation systems. Taxes or subsidies on production or consumption in these sectors of the economy can impede, enhance, or supplant regulatory policies aimed at achieving environmental objectives, whether by design or through inadvertence. Inevitably, discussions of coordination vs. cooperation in the realm of tax policy will become entangled with parallel issues in the areas of expenditure and regulatory policy, in other words, across the entire spectrum of public policy.

A Brief Look Back

It is a fascinating experience to peruse the pages of Heckscher's classic *Mercantilism* (Heckscher 1931 [1934]). For modern economists, Heckscher's name is almost inevitably joined with that of Ohlin and thus to the modern theory of international trade. Thanks at least in part to Adam Smith, mercantilism is also substantially identified with international trade, and especially the practice of interventionist trade policies.² It therefore comes as something of a shock to discover the early chapters of Heckscher's treatise on this subject dealing with such matters as 'Municipal Policy', including such matters as the financing, management, and organization of toll roads. In fact, Heckscher's study is replete with discussions of *internal* trade in the economies of western Europe in the fifteenth and sixteenth centuries. Such issues as the regulation of local labor markets and the numerous levies imposed by local nobles on merchants shipping goods along the Rhine feature prominently in his discussion. In fact, a major theme of Heckscher's study is the struggle between national and local interests for supremacy in the making of economic policy. This period, for Heckscher, is one in which national authorities strove to suppress and supplant local authorities. As a consequence, economic policy interventions such as taxes and regulations came increasingly to be applied uniformly within countries, a theme aptly summed up in the title of the first major part of his study, 'Mercantilism as a Unifying System'.

Heckscher-Ohlin trade theory theory, in its most simplified textbook version, ignores 'domestic' economic policy and the spatial organization of trade within countries. A country is just a point in

² Mercantilism has of course been the subject of a vast body of historical and doctrinal investigation, and perhaps no short statement on this subject is adequate. As an illustration of how mercantilism is presented to modern readers by one respected author, however, see Blaug (1985),

space within which fixed amounts of productive resources (labor and capital) move costlessly between industries that produce goods that can be exchanged with other countries. These productive resources, in the standard version of the model, are perfectly immobile internationally but perfectly mobile within countries. (Ohlin (1924 [1991]) explains the conventional rationale for this approach, even while devoting considerable space to an analysis of the implications of factor mobility.) This theory is used to examine the effects of ‘international’ economic policies, such as import tariffs. From the perspective of post-mercantilist Europe, as seen by Heckscher, the historical justification for the Heckscher-Ohlin model of international trade is perhaps apparent. Mercantilism is not only about interventionist international economic policies. It is also about *liberalization* of internal or domestic economic policies. These two faces of mercantilism – state intervention in international economic relations and liberalization of domestic economic relations (what, in more modern terms, we might call ‘completing the internal market’) – are two sides of the same coin, the consequence of an upward shift in the central locus of economic policymaking from local to national authorities.

This process can be viewed as a form of ‘cooperation by delegation’, using the terms introduced above.³ It concerns precisely the question of whether the policies that govern different areas –

whose treatment focuses almost exclusively on mercantilism in its relationship to international trade and macroeconomics.

³ The term “delegation” is meant to describe the effective shift of power to a higher -level of government by whatever means it may be achieved. In democratic societies, the powers of government are commonly viewed as delegated by the citizenry. The emergence of national authority in the period described by Heckscher might “optimistically” be viewed as a “revealed preference” for higher-level governmental institutions, or, more “pessimistically”, as the result of a natural selection process. The crucial point, for present purposes, is that greater uniformity in taxation was effectuated (albeit haltingly) not by explicit coordination of policymaking by lower-level governments but by the strengthening of higher-level institutions.

towns, in Heckscher's period – are to be determined locally or to be made uniform over these areas, that is, in Heckscher's case, over entire national economies. As Heckscher makes clear, this process was resisted by entrenched local interests and involved determined efforts by national-level authorities to wrest control away from local authorities. The establishment of more centralized and uniform systems of taxation required a restructuring of the basic institutions of governance. We should bear this historical example in mind in considering tax competition and cooperation today; in particular, it illustrates the complicated interactions among economic policymaking, narrowly defined, and the development of the legal and political institutions from which economic policies emerge.

II. Competition and Cooperation in Corporation Income Taxation

The question of tax competition has been raised frequently with reference to corporation income taxes. A number of recent studies explore the extent to which countries appear to be engaged in competition with respect to corporation income tax rates, with some evidence suggesting that these tax rates have been falling in recent years, perhaps in order to attract or retain business investment.⁴

Some suggest that countries are engaged today in a "race to the bottom" in which corporation income taxation will cease to be a major revenue source for national governments. One could envisage efforts to coordinate policies, for example by establishing agreements about corporation income tax rates, that would limit the extent of this competition. The welfare properties of such

⁴ The literature on this subject is growing rapidly. For a recent survey with many references, see Wilson and Wildasin (2001). For detailed analysis of recent trends in tax policy, see Devereux et al. (2001a, b).

agreements can be debated, and many analyses have attempted to determine the conditions under which unrestricted competition produces more or less efficient policy outcomes. Studies such as the OECD (1998, 2000b) are unambiguous in their determination that tax competition can be ‘harmful’.

In some of its aspects (the use of offshore tax havens with strong financial secrecy, for example), “tax competition” becomes almost a catch -phrase for “tax evasion”. To the extent that financial and legal institutions in other countries offer a framework for the execution of sham transactions in order to misreport income or other tax-relevant information, tax administration is fundamentally undermined.⁵ The discussion below is concerned not with these manifestations of tax competition, but rather with the exploitation of opportunities for legal tax avoidance through the careful structuring of economic transactions and activities in different locations.

Taxation of Corporation Income: A Means to What End?

The implementation of a corporation income tax in a multi-national context raises a number of practical and conceptual issues. It may be helpful to begin by recognizing explicitly that corporations do not bear the real economic burden of taxation, but merely distribute this burden to people. From the viewpoint of economic policy, why might it be desirable to use corporations in this fashion? If the corporation income tax were to disappear completely in all countries, in what respects would this be an unwelcome development?

⁵ For a view of “tax havens” that is favorably disposed to competitive tax policies and that takes strong exception to the OECD perspective, see Dwyer and Dwyer (forthcoming).

The answers to these questions can be as complex as corporation income taxes themselves. Certainly, as Table 1 shows, corporation income taxes are significant sources of revenue for OECD countries. If corporation income taxes were abolished, these revenues would have to be made up from other sources, which would have a number of efficiency and equity consequences. But considering the corporation income tax in its own right, there seem to be three principal policy objectives that it might promote.

First, the corporation income tax may provide an important element in a system personal income taxation, what one might call the “integration” perspective. Second, the corporation income tax may be a form of “benefit” tax. Third, the corporation income tax may provide a means to export taxes to non-residents.

To begin with, consider the corporation income tax in relation to the taxation of individuals. Under a true comprehensive income tax (a “Schanz-Simons” income tax), the income accruing to a corporation is viewed as income that is properly attributable to the individuals that own the corporation. If this income is distributed in the form of dividends, then it can be taxed at the personal level. A difficulty arises, however, with respect to undistributed profits. These do constitute income for shareholders, but the constructive measurement of this income and its attribution to individual shareholders is administratively very difficult. In practice, the corporation income tax is usually seen as an approximate method by which taxes are effectively withheld, at the corporate level, on income which is properly understood to be the income of individuals. In a world where the taxation of personal income is non-uniform, particularly because of progressive rates of taxation, the corporation income tax cannot easily function as a perfect substitute for

imputation of corporate income to individual shareholders and its taxation under the personal income tax. As has been thoroughly discussed in the literature, this creates complex incentives for corporate financial policies and for investment incentives. Many of these difficulties would be obviated if the personal income tax were levied at a constant proportional rate, since the corporation income tax rate could then be equated to the personal rate.

In practice, however, it is not at all clear that existing personal income tax systems should be viewed as attempts to implement “true” income taxation. Rather, the personal income tax has been aptly described as a “hybrid” between a “true” comprehensive income tax and a personal consumption tax (Aaron et al. (1988), Bradford (1986)) because it contains elements of both types of taxation. At the expense of some oversimplification, a pure consumption tax would tax all forms of consumption. Such a tax can be administered by taxing the act of consumption itself, or by taxing those portions of income that are not used for non-consumption purposes, i.e., by taxing income that is not saved. A pure income tax captures all forms of income, regardless of use. The crucial differences between income and consumption taxation thus revolve around the tax treatment of savings and the return to savings, i.e., capital accumulation and the return to capital. Many income tax systems exempt some or all retirement savings and the return on such savings from taxation, either by explicit allowances for retirement contributions or simply by failure constructively to include employer-provided retirement contributions (whether to defined-benefit or defined-contribution retirement plans) in the taxable income of employees. Since retirement savings constitutes a major form of wealth accumulation in modern economies, the sheltering of retirement savings from income taxation represents a major step away from a true income tax and toward a personal consumption tax. The taxation of capital gains income on a realization rather

than on an accrual basis amounts to following a consumption-tax policy with respect to this important category of income. From the consumption tax perspective, much of the rationale for the corporation income tax disappears.⁶ The erosion of the corporation income tax is not necessarily harmful, if a personal consumption tax is viewed as the ideal personal tax.

Another possible goal of the corporation income tax is to insure that corporations contribute toward the financing of public expenditures from which they benefit. In practice, this goal is difficult or impossible to achieve because benefits cannot readily be measured. A related but quite distinct rationale for the taxation of corporation income concerns not the *benefits* that corporations receive from public expenditures but the *costs* that they impose on the jurisdictions in which they carry out business activities. Business use of public infrastructure, such as highways or ports, may impose costs on other users because these facilities are not pure public goods. Efficient resource allocation, including spatially-efficient investment and economic development, requires that the congestion costs associated with the use of public services and facilities be internalized either through the use of explicit charges and fees or through taxes that approximate such charges as nearly as possible. The corporation income tax is probably not an ideal tax from this viewpoint; for instance, taxes on real property or on employment would presumably be more closely tied to utilization of congestible public goods than a tax on income. In any case, theoretical analysis indicates that free competition among governments for mobile productive resources tends to drive tax burdens to equality with congestion costs, thus promoting efficient resources allocation.

Pure competition among governments for productive resources, at least in its idealized form, leads not to a ‘face to the bottom’, if by that is meant a system with zero taxation of mobile resources,

⁶ The taxation of corporations can still be important in capturing pure profits that would accrue to

just as pure competition among producers of private goods and services does not lead to zero prices in markets. Rather, tax competition can drive taxes toward marginal congestion cost, with the efficiency consequences that are normally associated with marginal-cost pricing.⁷

Finally, from the viewpoint of a single country, a possible goal of the corporation income tax is to impose tax burdens on non-residents, specifically, on non-resident owners of corporations. If the corporation income tax can capture profits or rents that accrue to shareholders, and if shareholders reside in other countries, then it is in the interest of any one country to impose such a tax.

To sum up, if the corporation income tax did not exist, would we have to invent it? The answer is equivocal. The answer may be yes, if we hope to achieve a closer approximation to a true comprehensive income tax, but perhaps no, if a personal consumption tax is preferable on equity and efficiency grounds. The corporation income tax may be one element of a system of business taxation that recovers congestion costs associated with business activity, and in this respect it may contribute to efficient resource allocation. It may also provide a means by which one jurisdiction's residents can impose tax burdens on others, a possibly appealing policy objective for the introduction of a corporation income tax from the viewpoint of individual jurisdictions but not from a system-wide perspective.

existing capital investments.

⁷ Marginal cost pricing of public services can be antithetical to income redistribution. The essence of redistribution is that beneficiaries of redistributive policies do not have to bear the full cost of the benefits that they receive. Thus, even when fiscal competition may be efficiency-enhancing, it can undermine major policy goals. If redistribution is viewed as social insurance intended to protect individuals from risks that are not properly insured in private markets because of informational asymmetries, then fiscal competition may exacerbate rather than enhance efficient resource

Taxing Businesses to Tax People

To illustrate some of the potential interplay between personal and corporation income taxation, it may be useful to consider, by way of illustration, some important types of income-producing activity. The creation of intangible assets such as scientific ideas, artistic works, and product reputations plays a significant role in modern economies. From a macroeconomic perspective, some observers would attribute a significant fraction of economic growth to such activities. From a distributional viewpoint, many of the great personal fortunes derive from the creation and development of assets of an intangible nature. How should the income or consumption of those who create such assets be taxed?

Our understanding of the organization of business activities is imperfect, and for that reason it is not easy to ascertain the efficiency implications of tax policies that create incentives for changes in the organizational form of business. But it is certainly clear that different types of organizational forms have emerged in different industries, at least in part because of underlying economic benefits and costs. To take three important examples, consider the application of creative and intellectual effort to produce (a) pharmaceutical drugs, (b) books, magazines, music, and works of art, and (c) operating system software for computers. As broad generalizations, it appears that corporations provide an effective framework within which much of the research and development in the pharmaceutical sector occurs, sole proprietorships are the preferred business form for authors, musicians, and artists, and operating systems have been developed both by major corporations and

allocation. See Bureau and Richard (1997), Sinn (1997), and Wildasin (1998) for more discussion of fiscal competition and its implications for redistribution and insurance.

by loosely-affiliated individuals contributing to open-source software, sometimes organized through non-profit institutions. In each of these cases, a final product is produced that consumers value, and which (with the possible exception of open-source software) gives rise to a payment that ultimately rewards the creative or inventive effort from which the product originates, as well of course as the other efforts involved in bringing the product to the consumer. The number of distinct transactions between the original creation and the final consumer may be numerous, and they may be protracted in time. An efficient tax system would not create incentives to change the structure of transactions between the originator of a valuable idea and the final consumer. An equitable tax structure would attach tax liability either to the consumption or the income of the two individuals at either end of this transactions chain, and would insure that the tax revenues derived thereby would flow to the “correct” jurisdiction.

In practice, the originator of a valuable concept may well reside in a different jurisdiction than the ultimate consumer(s), and may in fact reside in several jurisdictions over time. Portions of the ownership of this concept may pass through many entities en route to the market. The publishing industry, as presently organized, illustrates how this may happen. The income of an author may be paid out, in the form of royalties, over the author’s entire lifetime, from one multinational publishing company or several, with royalties ultimately derived from sales to consumers around the world. A researcher at a pharmaceutical company may receive a salary, stock options, or some other form of compensation in exchange for the production of valuable ideas, the ownership of which is transferred to the company which may either produce and market new drugs or transfer the rights to do so to another firm. To complicate matters still further, the value created by authors and publishers, or by biochemists and pharmaceutical firms, depends in an intricate fashion on the

reputations that publishers and pharmaceutical firms create over time, thanks to their competent execution of their production and distribution tasks and thanks also to the quality of the work performed by previous authors and biochemists which has helped to create the reputations of these firms.

These examples illustrate some of the many conceivable organizational arrangements through which the creators of valuable intellectual property may be rewarded. The corporation income tax may provide a useful complement to a personal income tax in the attempt to achieve a comprehensive tax on income, since significant portions of the income accruing to intellectual property might otherwise be sheltered in corporations. At the same time, it appears that there may be significant opportunities to restructure the organization of transactions in order to minimize tax burdens.

Of course, tax minimization entails costs. As Stiglitz (1985) observes, there are often significant regulatory barriers and transactions costs associated with financial and other transactions that can reduce taxes, and sophisticated tax avoidance often requires the costly services of tax professionals. Only if the potential tax savings are sufficiently high can we expect taxpayers to incur these costs. For many taxpayers in the middle of the income distribution, the payoffs to sophisticated tax strategies may well be rather modest. The situation for taxpayers at the top of the income distribution, however, is quite different.

To take the US case as an example, consider the data in Table 2. In 1999, the top 2% of taxpayers received about 24% of “Adjusted Gross Income” (AGI), a measure of income for US tax purposes, and the top 0.16% received over 11% of AGI. It should be noted that AGI falls substantially short of comprehensive income as usually defined, and especially so for high-income households, both because of some peculiarities of the US personal income tax⁸ and, of note in the present context, because it reflects various tax-minimization efforts already made by these taxpayers in arriving at income as reported on tax returns. These high-income taxpayers paid over 40% of all personal income taxes, and the top 0.16% alone paid over 20%. Taxpayers in the top group paid taxes of almost \$890,000 on average. The payoff to such taxpayers of finding tax-favored transaction structures, including arrangements that allow income to be shifted to low-tax jurisdictions, is clearly very high. The cost to a high-tax jurisdiction (in this case, the US) of losing the opportunity to tax these individuals, and their incomes, is also very high, as is the potential payoff to another jurisdiction from attracting them or their incomes.

From the viewpoint of the overall redistributive objectives of the fiscal system, the tax treatment of those at the top of the income distribution is a matter of great importance because so much income and wealth accrues to them. And these taxpayers face extremely powerful incentives to find ways to reduce their taxes. Over time, the operation of these incentives can exert significant influence not only on the tax planning of particular individuals or corporations, including their locational decisions, but on the organization of long transaction chains involving many individuals and corporations.

⁸ In particular, AGI reflects preferential tax treatment of capital gains income, an important source of income for high-income taxpayers.

Corporation Income Taxation in an Integrated Economy: The Example of US State Corporation Income Taxes

The states of the United States commonly impose corporation income taxes. The corporation income tax plays a significant role in the revenue structure of state governments, but, as is also true at the Federal level, other taxes (especially personal income and retail sales taxes) are much more important revenue sources for the states.⁹ As described in somewhat greater detail below, the states are limited in the ways in which they can tax corporate income, primarily as specified in a series of decisions by the US Supreme Court and, to a much more limited degree, in statutes imposed by the Federal government. The tax rates imposed by the state governments are not explicitly coordinated, but the rates of taxation are generally far lower, almost always less than 10%, than the rates imposed at the Federal level (currently at 35% for large corporations).. Some states do not tax corporation income, or do so only to a very limited extent. The ownership of major corporations in the US is widely-dispersed, especially through institutional investors such as pension funds, and major corporations normally have workers, sales, and capital investments in several or many states.

In order to impose a corporation income tax, a state must determine what corporations are subject to its tax. In the US, the powers of the states to tax corporation income are governed primarily by constitutional restrictions as interpreted by courts. The courts have made clear that a state cannot

⁹ In 1998, state governments collected about \$31.1 bn in corporation income taxes, amounting to about 6.5% of all state tax revenues. In Canada, the provincial governments also tax corporation income. The corporation income tax accounts for about 10% of provincial government own-source revenues. The Canadian case presents some interesting points of contrast with the US. In brief, Canadian provinces enjoy less latitude than US states in their administration of corporation income taxes because of statutory controls imposed at the national level. Because of this “coordination by delegation”, provincial corporation income taxes are administered much more uniformly than is true of state corporation income taxes in the US. See Wildasin (2000) for more details.

tax a corporation that has no workers, capital assets, sales, or other economic “hexus” with the state. If a corporation has a “physical presence” in a state, in the form of physical capital (buildings, plants, etc.) or workers, it definitely can be taxed by a state.¹⁰ If a corporation merely sells tangible goods in a state, it cannot, as a matter of Federal statute, be taxed there. Whether a corporation can be taxed by a state solely because it derives revenues from the sale or licensing of intangible goods and services (the right to use a trademark is a leading example) is currently the subject of litigation.¹¹

If two or more corporations are affiliated in some fashion (parent/subsidiary, as one example), the fact that one is taxable in a state may or may not imply that affiliated corporations are also taxable. If these corporations are viewed as a unitary business, then generally they can all be taxed by a state. A state may allow “separate accounting”, in which the incomes and taxability of different affiliated corporations are separately determined.

¹⁰ Canadian provinces are obliged to limit the application of their corporation income taxes to firms with permanent establishments in the province – in effect, either physical assets, employees, or both. The OECD Model Tax Treaty (2000a) also recommends that countries tax only corporations with “permanent establishments” within their jurisdiction.

¹¹ For information concerning the development of legal doctrine in the field of state corporation income taxation, consult Pomp and Oldman (1998). In the OECD Model Tax Treaty, income from intangible assets such as trademarks, copyrights, patents, and other intellectual property is to be taxed only in the countries where the owners of such assets reside, with the exception that this income can also be taxed in countries where the asset owner carries on business through permanent establishments that use these assets. By comparison with the taxation of corporation income by states in the US, the model tax treaty applies a more restrictive nexus standard, since it requires that a business have a permanent establishment within a country in order to be taxed there. The opportunities for countries to capture the rents accruing to non-resident owners of intangible assets appear to be more restricted, under the OECD proposed rules, than is true under current US practice.

When a corporation is taxable in more than one state, the states are required to apportion or allocate the corporation's income in some "fair" fashion, not specified by Federal statute, and varying from state to state, so that the problem of multiple taxation is avoided or at least mitigated. There is a "classical" apportionment rule that has been established by the Multistate Tax Commission, in the form of a Multistate Tax Compact. This is the so-called "three-factor" formula, which attributes to a given state a certain portion of a corporation's income for purposes of the state income tax. This portion is determined by calculating a weighted average of the state's share of the corporation's payroll, capital assets, and sales. States may elect to be members of the Multistate Tax Compact; at present, 45 of the 50 states have some form of membership. Any state may elect to follow the formula in the Multistate Tax Compact, but no state is required to do so. In practice, only a comparatively small number of states follow the classical three-factor formula. Increasingly, states are implementing apportionment rules under which the "sales factor" is more heavily weighted than the others (e.g., double-weighting), and in some cases states are moving to a single-factor formula based only on sales.¹²

Because the factors in apportionment formulae determine the fraction of a corporation's income that is subject to tax in any one state, the state corporation income tax has come to be viewed as an implicit tax on those factors. For example, if a corporation invests in a new plant in a state and hires workers to work there, a larger fraction of its assets and employment will reside in that state and a correspondingly larger share of the corporation's income will be taxed by that state, at its corporation income tax rate. This business decision thus increases taxes paid to one state, and reduces taxes paid to other states, affecting the firm's incentives to locate economic activity in one

¹² Up-to-date information on state corporation income tax policies, including interpretations of

state or another. If states rely on the sales factor to apportion income, then state corporation income taxes affect the incentives of corporations to sell their outputs in different states; a higher tax rate in one state encourages domestic firms to sell to customers in other states, and discourages foreign firms from selling within the state.

Reduced reliance on the employment and property factors can be viewed as an attempt by the states to compete more effectively for relatively mobile labor and capital. On the other hand, the shift toward use of the sales factor in the apportionment of corporate income may provide a means by which a state can capture some of the profits that would otherwise accrue to the shareholders of corporations located outside of the state. Specifically, even if a corporation has no workers or establishments located within a state, the use of the sales factor enables a state to impose a tax burden on the corporation and thus, indirectly, on its shareholders. At least for large, widely-held corporations, a large fraction of shares are normally held (perhaps indirectly, through mutual funds or other institutions) by individuals that reside throughout the entire country or outside of the country altogether. The state corporation income tax, then, may provide a means by which a state can shift some of the burden of its tax system to non-residents.

By the same token, if a state fails to impose a corporation income tax on out-of-state corporations whose only connection with the state is the revenues that they derive from sales there, a restructuring of corporate organizational form may substantially erode the state's corporation income tax base. In brief, this can be done by attributing all or most of the income of a corporation to some particular corporate asset, such as a trademark or patent. A new corporation can be formed

complex court decisions, can be found in RIA (2001).

to which the ownership of this asset can be transferred, and the new corporation can be located in any desired jurisdiction. This corporation derives its revenues from the sale or licensing of this asset to other corporations, including possibly affiliated corporations. The income of these other corporations, which may be taxable in various states, is reduced by the payments made for the use of the trademark or patent. If the corporation that owns the trademark or patent is not physically present within a state, if the state attempts to tax only corporations that are physically present, and if these corporations are not viewed as a single business whose combined income is taxable within the state, then the separation of one corporation into several can remove a large fraction of a corporation's income from the reach of a state tax authority. The ability of the state to impose a tax burden on the corporation's shareholders is thereby constrained.¹³

The effects of the corporation income tax, when imposed at a higher level of government, may be rather different. Although the US economy as a whole is not closed with respect to the rest of the world, whether considered in terms of commodity trade or factor mobility, it is comparatively less open. By contrast with the situation for individual states, the domestic ownership share of corporations operating within the US is relatively high. The Federal corporation income tax is neutral with respect to the location of sales, employment, or investment among the states. It is imposed approximately at a uniform rate on all corporations, and combining or separating the taxable income of several corporations thus neither increases nor decreases tax liabilities.¹⁴ In this

¹³ If it is possible to determine accurately the value of corporate assets like trademarks or patents at the time of transfer from one entity to another, then the opportunities to escape taxation by such transfers would be limited. The valuation of such assets presents enormous difficulties for accountants and tax authorities, however.

¹⁴ Here, as throughout this discussion, many significant details of the corporation income tax – such as imperfect loss offsets, for instance -- are ignored for the sake of simplicity.

relatively closed national economy, the corporation income tax might be an important element in the proper income tax treatment of individuals for the reasons described above. In this case, as in many others, a higher-level government seems to have a comparative advantage in carrying policies that promote distributional goals. The personal income tax, in current US practice, shifts much of the burden of financing public expenditures to a comparatively small and very affluent segment of the population. The corporation income tax may, in this context, be seen as a needed element in a fiscal system that seeks to achieve such distributional objectives.¹⁵ The fact that the Federal corporation income tax is imposed at considerably higher rates and produces substantially more revenue than the state corporation income taxes can be viewed as an example of “coordination by delegation”. The Federal government in this case may be viewed as an institutional structure through which the residents of the states can achieve redistributive policy objectives more effectively than through coordination by explicit or implicit agreements.

In summary, when corporation income taxes are imposed by jurisdictions that are highly open with respect to the rest of the world, like states in the US, they are not likely – in the absence of explicit coordination -- to be effective instruments for the implementation of comprehensive income taxation on individual taxpayers. They may, however, provide an opportunity for these jurisdictions to export tax burdens to non-resident shareholders. Acting on behalf of their shareholders, corporations may develop organizational structures that limit the ability of states effectively to tax their income; one way to do this is to locate income-producing assets, especially intangible assets, in jurisdictions that offer favorable tax treatment.

¹⁵ According to long-established *normative* principles of fiscal federalism, higher-level governments should take primary responsibility for redistributive policies. See, e.g., Oates (1972) for discussion.

In principle, nothing prevents the states of the US from explicitly coordinating their tax treatment of corporate income. Indeed, because of much institutional commonality among the states, the potential for such coordination would appear to be unusually high. Corporations in the US operate in a legal framework that is comparatively uniform among the states, using comparatively standardized financial and accounting systems. Because they are subject to income taxation at the Federal level, the state governments can and do exploit many informational and compliance economies. Nevertheless, at least in the US case, explicit coordination in the taxation of corporate income has been lacking.

III. Conclusion

Though the tax systems of modern economies are hardly models of consistency, they do generally reflect an attempt to impose tax burdens on households in accordance either with their incomes or their consumption, or both. The corporation income tax, a frequent subject of discussion in the context of tax competition and coordination, serves mainly to facilitate the taxation of household income.

Administrative and enforcement constraints on the implementation of traditional tax policies are probably exacerbated by recent developments in technology. The development of new communications, transportation, and information technologies has made it easier to implement financial and legal transactions involving the transfer of assets across jurisdictional boundaries, facilitating the structuring of financial transactions, including the organization of business

activities, in ways that have tax-advantaged consequences. The discussion above has focused on the taxation of corporation income as one part of the overall fiscal system, and especially as one element in a tax system that seeks, ultimately, to impose significant fiscal burdens on high-income individuals.

Conceivably, OECD member states and other countries may find a way to coordinate their income tax policies so that a reasonably effective combination of personal and corporation income taxation can survive. The experience of the states in the US, however, suggests that such coordination is difficult to achieve, at least through voluntary adherence to a system of tax principles such as those embodied in the Multistate Tax Compact or the OECD Model Tax Treaty. In the US case, effective coordination in income taxation has been achieved through “delegation”, that is, through the growth of the income tax system of a higher-level government. The obstacle to coordination through delegation at the international level, of course, is the absence of global institutional structures. Historical experience, exemplified by the growth of national policymaking authority in Europe during the mercantilist period, by the growth of the institutions of the national government in the US, any by the slow evolution of EU institutions during the past half-century, indicates that the pace of institutional change can be very slow indeed. The prospects for the emergence of institutions for global coordination of income tax policy seem remote.

Judging by the experience of the states in the US, corporation income taxes may well persist even in a global institutional environment that is not conducive to coordination of tax policy. However, their economic function, in such an environment, may become increasingly distant from that of distributing tax burdens to resident households in accordance with true economic income. This may

facilitate further evolution of tax systems in the direction of consumption taxation, constraining the ability of national governments to redistribute income through the fiscal systems that have developed during the past century.

REFERENCES

Aaron, H. H. Galper, and J. A. Pechman (eds.) (1988) *Uneasy Compromise: Problems of a Hybrid Income-Consumption Tax* (Washington: Brooking Institution).

Blaug, M. (1985), *Economic Theory in Retrospect*, 4th ed. (New York: Cambridge University Press).

Bradford, D. F. (1986) *Untangling the Income Tax* (Cambridge: Harvard University Press).

Bureau, D. and C. Richard (1997), ‘Public Insurance and Mobility: An Exploratory Analysis in the Context of European Economic Unification’, *Annales d'Economie et de Statistique*.

Dam, K. W. (1970), *The GATT: Law and International Economic Organization*(Chicago: University of Chicago Press).

Devereux, M. P., B. Lockwood, and M. Redoano (2001a), ‘Do Countries Compete Over Corporate Tax Rates?’, unpublished.

Devereux, M. P., R. Griffith, and A. Klemm (2001b), ‘Have Taxes on Mobile Capital Declined?’, unpublished.

Dwyer, T. and D. Dwyer (forthcoming), ‘Transparency versus Privacy: Reflections on OECD Concepts of Unfair Tax Competition’, *Journal of Financial Crime*.

Heckscher, E. F. (1935), *Mercantilism* (auth. Translation by M. Shapiro 1955) (London: Allen & Unwin).

McMillan, J. (1986) *Game Theory in International Economics* (New York: Harwood Academic Publishers).

Oates, W. E. (1972), *Fiscal Federalism* (New York: Harcourt Brace Jovanovich).

Ohlin, B. (1924), ‘The Theory of Trade’, in H. Flam and M. J. Flanders (editors and translators), *Heckscher-Ohlin Trade Theory* (Cambridge: MIT Press, 1991).

Organization for Economic Coordination and Development (1998), *Harmful Tax Competition: An Emerging Global Issue* (Paris: OECD).

Organization for Economic Coordination and Development (1999), *Revenue Statistics: 1965—1998* (Paris: OECD).

Organization for Economic Coordination and Development (2000a), *Articles of the OECD Model Tax Convention on Income and on Capital* (Paris: OECD).

Organization for Economic Coordination and Development (2000b), *Towards Global Tax Co-operation: Progress in Identifying and Eliminating Harmful Tax Practices* (Paris: OECD).

Pomp, R. D. and O. Oldman (1998), *State and Local Taxation*, 3rd ed. (Hartford: R.D. Pomp).

Research Institute of America (2001), *All States Tax Guide* (New York: RIA).

Sinn, H.-W. (1997), “The Selection Principle and Market Failure in Systems Competition.” *Journal of Public Economics* 66 (1997), 247-274.

Stiglitz, J.E. (1985), “The General Theory of Tax Avoidance”, *National Tax Journal* 38, 325—337.

Surrey, S. (1973) *Pathways to Tax Reform: The Concept of Tax Expenditures* (Cambridge: Harvard University Press).

US Department of the Treasury (2001), *Statistics of Income* (Washington, DC).

Wildasin, D. E. (1998), “Factor Mobility and Redistributive Policy: Local and International Perspectives”, in P. B. Sorensen (ed.), *Public Finance in a Changing World* (New York: MacMillan).

Wildasin, D. E. (2000), “State and Provincial Corporation Income Taxation: Current Practice and Policy Issues for the US and Canada”, *Canadian Tax Journal* 48(2), 424—441.

Wilson, J.D. and Wildasin, D.E. (2001), “Tax Competition: Bane or Boon”, unpublished.

TABLE 1**Corporation Income Taxes, % of GDP and % of Total Tax Revenue**

		1965	1970	1975	1980	1985	1990	1995	1997
OECD America	% of GDP	4.0	3.6	3.8	3.3	2.4	2.3	2.8	3.3
	% of Tax Revenue	15.6	12.2	12.5	11.1	7.9	7.4	8.8	9.9
EU 15	% of GDP	1.9	2.1	2.1	2.2	2.6	2.7	2.8	3.5
	% of Tax Revenue	6.7	6.8	6.0	5.9	6.4	6.8	6.9	8.5

Source: OECD (1999). Figures are unweighted averages.

TABLE 2**Personal Income Taxation, US, 1999: High-Income Taxpayers**

Adjusted gross income class	Number of Tax Returns (% of Total)	Adjusted Gross Income (% of Total)	Total Tax (% of Total)	Average Tax (\$ per Tax Return)	Tax as % of Adjusted Gross Income
All Tax Returns	127,075,145	5,855,467,909	877,401,489	9,280	15.7%
\$200,000 under \$500,000	1,876,561	542,447,737	130,273,941	69,465	24.0%
	1.48%	9.3%	14.8%		
\$500,000 -- \$1,000,000	348,256	235,700,884	66,964,769	192,426	28.4%
	0.27%	4.0%	7.6%		
\$1,000,000 or more	205,124	653,184,370	182,292,689	889,445	27.9%
	0.16%	11.2%	20.8%		
All taxpayers \$200,00 or more	1.9%	24.4%	43.4%		

Source: US Department of the Treasury (2001).