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Introduction

Assaf Razin and Joel Slemrod

The globalization of economic activity over the past three decades is widely recognized. Despite recent indications of renewed protectionism, this trend is likely to continue. With the integration of international activity has come the awareness that countries are linked not only by the cross-border transactions of private firms and citizens but also by the cross-border ramifications of their governments' fiscal policies. The tax policy of one country can affect economic activity in other countries, and in the choice of tax policy instruments a policymaker must consider its international consequences.

Examples of the growing awareness of fiscal interdependence abound. The rate-reducing, base-broadening U.S. tax reform of 1986 has been followed by similar reforms in many countries. In some cases, such as that of Canada, the tax reform was clearly hastened by a sense of the adverse economic consequences that would follow from a failure to harmonize to the new U.S. system. In other cases, the link may have been as much intellectual stimulation as economic necessity.

The move toward European integration in 1992 has also focused attention on fiscal issues. Many observers are concerned that, as barriers to trade and investment come down, cross-country differences in the taxation of economic activity will loom larger and cause inefficient decisions and self-defeating tax competition among member nations. Initial proposals to harmonize European systems of value-added taxes and to impose a uniform withholding tax rate on portfolio investments have not met with much success, however.

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Finally, there is a growing sense that the internationalization of financial markets and the increased importance of multinational enterprises are making it increasingly difficult to administer and enforce efficient and equitable income tax systems. Tax authorities must balance, on the one hand, their desire to preserve their national revenues and, on the other hand, their unwillingness to harm the international competitiveness of their domestic business interests. Thus there is not only heightened international competition among business but also heightened awareness of the possibilities and perils of international fiscal competition.

The research presented in this volume is an attempt to lay some intellectual groundwork for an understanding of these issues, which are destined to command the increasing attention of policymakers in the years to come. It represents an unusual exercise in academia, because it brings together people from two branches of economics—taxation and international economic relations. Our hope was that our joint expertise, perspectives, and methods would be more productive than our separate efforts. Both theoretical and empirical papers are represented. All the papers share the common goal of shedding light on the role of tax policy in a more highly integrated world economy.

A pervasive problem in international taxation, and one that makes the subject so complicated, is the existence of overlapping tax jurisdictions. Every country in the world asserts the right to tax income earned within its borders, regardless of the citizenship of the wealthowner or controller of the income-earning capital. Many countries, including the largest economies in the world, also assert the right to tax the income of their residents, individuals and corporations, regardless of where the income is earned (the "worldwide" system of taxation). In order to reduce the tax burden that would result from taxation by both host and home countries, those countries that use the worldwide system of taxation generally allow taxes paid to foreign governments to be credited against domestic tax liability, but this is subject to various limitations. In addition, a network of bilateral treaties has sprung up to coordinate taxation in the case of overlapping jurisdictions. The United States is an example of a country that operates a worldwide system of taxation and is also party to a number of bilateral tax treaties. Its system of taxing foreign-source income has had a great influence on other countries. This system, though, has undergone continual change, and the Tax Reform Act of 1986 continued the process of change.

In the opening chapter of this volume, Hugh J. Ault and David F. Bradford describe the basic rules that govern the U.S. taxation of international transactions and highlight the changes brought by the Tax Reform Act of 1986. The U.S. attempts to tax the worldwide income of its residents, both individuals and corporations. It does, however, differentiate domestic-source and foreign-source income, principally by taxing foreign subsidiaries' foreign-source income only on repatriation of dividends, at which time a credit for foreign corporate taxes paid in association with these dividends is offered. This allows a deferral advantage to foreign-source income. The Tax Reform Act lowered the statutory rate of tax applied to these dividends, but also substantially tightened the limitation of foreign tax credit by creating several additional categories of income (called ''baskets'') across which averaging of foreign taxes is not allowed. It also revised the rules for allocating expenses between domestic- and foreign-source income, requiring a greater allocation of expenses to foreign operations.

Ault and Bradford go on to explore the economic policies or principles that the tax system reflects. They argue that the assignment of income to a geographic location is often an ill-defined concept, and therefore any operational rules that do so must be essentially arbitrary. There are competing theoretical frameworks for analysis in the international area that lead to quite different results. Real-world phenomena, they believe, are inconsistent with any single unifying framework. They conclude that the most important task for policy analysis is to try to determine with more accuracy exactly what impact the complex system of rules has on the form and extent of international activity. That charge is taken up in the remainder of the book.

Taxation and Multinationals

Multinationals pose special problems for taxing authorities because the geographic source of income is not easily determined. Overlapping tax jurisdictions, which generally employ different tax bases and rules, add enormously to the complexity of tax compliance and administration. They also can create opportunities for multinational companies to play the national tax systems against each other to reduce their worldwide tax payments. The concern for tax minimization can create incentives for real and financial strategies that would, in the absence of taxation, make little sense.

The next set of four papers examines several ways that the tax system affects the decisions of multinational corporations. The first two papers study its impact on foreign direct investment, and the next two examine two aspects of financial behavior that are affected by taxation.

Foreign direct investment (FDI) has surged dramatically in recent years. FDI into the United States reached $57 billion in 1988, after averaging only $4.1 billion in the 1970s and $18.5 billion in the 1980–85 period. Outward foreign investment from the United States in 1987 was $45 billion compared to an average of only $10 billion in 1977–84. The FDI of some other countries, particularly Japan, has grown even more rapidly than that of the United States.

The taxation system of the potential host country of an investment and home country of the multinational can affect the after-tax return, and therefore the incentive, for foreign direct investment. Each of the following two papers uses time-series data on FDI flows to assess how important the tax effects on FDI to and from the United States have been.

The paper by Joosung Jun examines the effect of U.S. tax policy on outward FDI. He delineates the three channels through which domestic tax policy can affect firms' international investment flows. First, tax policy can affect the way in which foreign-source income is shared among the firm, the home country government, and the host country government. Second, tax policy can affect the relative net profitability of investments in different countries. Finally, it can affect the relative cost of raising external funds in different countries.

Using this three-channel framework, Jun examines the aggregate time-series data on outward flows of FDI and concludes that U.S. tax policy toward U.S. domestic investment has had an important effect on outflows of direct investment by influencing the relative net rate of return on investment located in the United States and investment located in foreign countries.

The paper by Joel Slemrod investigates how the U.S. tax system, in conjunction with the tax system of a capital exporting country, affects the flow of foreign direct investment into the United States. First, using aggregate data, the paper corroborates earlier work suggesting that the effective U.S. tax rate does influence the amount of FDI financed by transfer of funds from parent companies, but not the amount financed by retained earnings. Next, it disaggregates FDI by exporting country to see if, as theory would suggest, FDI from countries that exempt foreign-source income from taxation is more sensitive to U.S. tax rates than FDI from countries that attempt to tax foreign-source income on a residual basis. The data analysis does not show a clear differential responsiveness between these two groups, suggesting either difficulties in accurately measuring effective rates of taxation or the existence of financial strategies that render ineffective attempts by the home country to tax foreign-source income.

Two of the chapters focus on how multinationals adjust their accounting and financial policies in response to the tax system. Jean-Thomas Bernard and Robert J. Weiner present a case study of transfer pricing practices in the petroleum industry. By setting the price of interaffiliate transactions, a multinational enterprise can affect the allocation of taxable profits among the countries in which its subsidiaries operate in order to reduce the worldwide tax burden of the multinational. Using data on oil imports in the United States from 1973 to 1984, they find that the prices set in interaffiliate transactions differed from the price set by unaffiliated parties ("arm's length" prices) for oil imported from some, but not all, countries. The average difference in price was small, however, representing 2 percent or less of the value of crude oil imports. Furthermore, the observed differences across exporting countries between arm's length and transfer prices are not easily explained by average effective tax rates in the exporting countries. Their results thus provide little support for the claim that multinational petroleum companies set their transfer prices to evade taxes. These findings may not be readily generalizable to other industries, particularly because petroleum is a relatively homogeneous good for which market prices are easily observable, thus facilitating the job of tax authorities in the U.S. and abroad concerned with transfer price manipulation.

James R. Hines, Jr., and R. Glenn Hubbard investigate how tax policy affects U.S. multinationals' policy of repatriating dividends from subsidiaries to the parent company. The income earned by foreign subsidiaries is subject to U.S. tax only when dividends are repatriated. At that time the taxes deemed to have been paid to foreign governments on the earnings behind the dividend payment may be credited against U.S. tax liability. The credit that may be taken in any given year is limited to the amount of U.S. tax liability on the foreign-source income. This system provides multinationals with an incentive to defer dividend repatriations that will incur a net U.S. tax liability and to favor repatriations from firms in high-tax countries for which the tax credit will exceed the U.S. tax liability. In order to study the quantitative significance of these incentives, Hines and Hubbard examined data collected from tax returns for 1984 on financial flows from 12,041 foreign subsidiaries to their 453 U.S. parent corporations. They found that, although on average dividend repatriations composed 39 percent of subsidiaries' after-foreign-tax profits, most subsidiaries paid no dividends at all. The pattern of repatriations was related to the tax cost, so that in net terms the U.S. government collected very little revenue on the foreign income of U.S. multinationals while at the same time the tax system is apparently distorting their internal financial transactions.

The Effect of Taxation on Trade and Capital Flows

The international ramifications of tax policy go far beyond the impact on multinationals' behavior. The tax policy of one country can "spill over" to other countries' economies thereby affecting trade patterns, the volume of saving and investment, and the desired portfolios of wealthholders. Each of the next set of three papers addresses one aspect of how tax policy in one country can affect the cross-border flow of goods and claims to assets.

Jacob A. Frenkel, Assaf Razin, and Steve Symansky deal directly with the international spillovers of taxes in a stylized two-country model. Adopting the saving-investment balance approach to the analysis of international economic interdependence, they emphasize dynamic effects of domestic tax restructurings on interest rates, investment, employment, consumption, and the current account position. They show that a domestic budget deficit, under a consumption tax system, raises the world rate of interest and crowds out domestic and foreign investment. It also lowers the growth rates of domestic consumption while raising those of foreign consumption. In contrast, under an income tax system, the same budget deficit lowers the world rate of interest, reduces the growth rates of domestic and foreign consumption, and crowds out domestic investment while crowding in foreign investment. The analysis of revenue-neutral tax conversions in a single country and revenue-neutral tax conversions in the context of a two-country VAT harmonization reform (as planned for the European Community in 1992) highlights the crucial role played by trade imbalances resulting from intercountry differences in saving and investment propensities. Existence of such international differences implies that tax harmonization may result in output and employment expansion in some countries and contraction in others, thereby generating conflicting interests among the various countries. The analytical results are supplemented by detailed dynamic simulations which highlight the variety of mechanisms through which the effects of tax policies spill over to the rest of the world.

Martin Feldstein and Paul Krugman scrutinize the view, common among many businesspersons, that reliance on the VAT aids a country's international competitiveness since such a tax is levied on imports but rebated on exports. They claim that in practice VATs are selective and fall more heavily on internationally traded goods than on nontraded goods and services. In this case, use of a VAT causes a substitution of nontraded goods and services which reduces both exports and imports, but the trade balance can either improve or worsen. The only pro-competitive aspect of a VAT may be the fact that substituting a consumption tax for an income tax encourages saving which, by itself, tends to improve the trade balance in the short run.

A. Lans Bovenberg, Krister Andersson, Kenji Aramaki, and Sheetal Chand deal with the effects of the tax treatment of investment and savings on international capital flows. They evaluate changes in tax wedges on savings and investment in the U.S. and Japan and examine how recent reforms of capital income taxation created incentives for bilateral capital flows between these countries during the 1980s. The results reveal that the tax burden on assets located in Japan exceeded the tax burden on assets located in the U.S., while a U.S. saver faced a heavier tax burden than a Japanese saver for assets located in both countries. They suggest that these differential tax burdens could to some extent explain the pattern of bilateral flows of savings and investment between the U.S. and Japan in the 1980s.

Some Implications For Optimal Tax Policy

Much of the research reported here has suggested that taxation can exert a potentially powerful influence on both real and financial decisions about cross-border movements of capital and goods. At the same time, it is clear that the increasing internationalization of economic affairs has profoundly changed what is appropriate tax policy. The last set of papers in this volume explore the implications for optimal tax design of several aspects of openness.

Assaf Razin and Efraim Sadka address two policy issues in the context of world capital market integration: (a) the effects of relaxing restrictions on the international flow of capital on the fiscal branch of government and (b) the degree of international tax coordination needed to ensure a viable equilibrium in the presence of international tax-arbitrage opportunities.

First, Razin and Sadka show that notwithstanding the use of distortionary taxes as part of the optimal program, it requires an efficient allocation of investment between home and foreign uses so that the marginal product of capital is equated across countries. Consequently, capital-market liberalization tends to lower the cost of public funds and increase the optimal provision of public goods and services. More public goods are demanded because of the increase in real income resulting from the improved trade opportunities and because broadening the tax base lowers the marginal cost of public funds through a distortion-reducing change in the marginal tax rates.

Second, they remind us that a complete integration of the capital markets between two countries requires that the residents of each country face the same net-of-tax rate of return on foreign and domestic investments. Otherwise, there must exist profitable arbitrage opportunities. These conditions will be met only if taxes by the home country levied on domestic residents on their domestic-source income and foreign-source income, and taxes on nonresidents' income in the home country are related to the corresponding foreign country taxes in a specific way. To assure such a relationship without arbitrage opportunities, the countries must coordinate to some degree their domestic and foreign tax structures.

The net effect of a country's tax system on international trade and factor flows is only partly revealed by how it taxes international transactions. As Roger H. Gordon and James Levinsohn point out, what are ostensibly "domestic" taxes can have an important impact on international transactions. They study the optimal coordination between domestic taxation and both tariff and nontariff trade policies. When the set of tax instruments is restricted, perhaps owing to administrative cost considerations, then tax policies that distort trade patterns may be optimal, although the direction of trade loss may be of either sign.

Gordon and Levinsohn next investigate to what extent the observed use of border distortions (tariffs, export subsidies, etc.) may result from a country's attempt to offset the trade distortions created by their domestic tax structure. To examine this hypothesis, they look at International Monetary Fund financial statistics for thirty countries during the period 1970–87. The data suggest that, while for poorer countries border taxes do seem to offset the trade impact of domestic taxes, the richer countries have significant trade-discouraging distortions caused by domestic taxation that are not offset by border taxation.

The final chapter, by John Douglas Wilson, deals with the optimal tax structure for an open economy in which similar types of workers are paid different wages since worker productivity in some industries depends on the level of wages (the efficiency wage model). The first-best optimal policy, an industrial policy which subsidizes high-wage firms, is not obtainable either due to asymmetric information between the government and the firms or because employment subsidies lead to increased efficiency at the cost of a less equitable income distribution. Consequently, a second-best policy of capital-market intervention is desirable. A role for capital-market intervention as a second-best policy emerges only when there exist capital-market asymmetries. A somewhat surprising result of the analysis is that if the government does not know the identity of firms in which supervision problems lead to the dependence of labor productivity on wages, then high-wage firms should face a positive tax on capital at the margin while low-wage firms should face a positive subsidy. In this way the optimal tax policy encourages capital investment in the sector that lacks a supervision problem, the low-wage sector. This form of capital-market intervention enables the government to make greater use of employment subsidies for high-wage firms, because it discourages low-wage firms from masquerading as high-wage firms in an attempt to obtain these subsidies.

Conclusion

A major challenge to policymakers faced with a more integrated world economy lies in the area of taxation. In fact, the international effects of taxation are now attracting increased interest in both professional circles and governments. This volume provides a first attempt to deal with the complex issues associated with the taxation of internationally mobile goods, services, and factors of production. We hope that the book will stimulate further intensive research in this important new area, international taxation economics.