International tax
cooperation and
capital mobility

Valpy FitzGerald

University of Oxford
edmond.fitzgerald
@st-antonys.oxford.ac.uk

The international mobility of capital and the geographical dispersion of firms have clear advantages for the growth and modernization of Latin America and the Caribbean, but they also pose great challenges. Modern principles of capital taxation for open developing economies indicate the need to find the correct balance between the encouragement of private investment and the financing of social infrastructure, both of which are necessary for sustainable growth. This balance can be sub-optimal when countries compete for foreign investment by granting tax incentives or applying conflicting principles in determining the tax base. The fiscal authorities of the region could obtain a more equitable share of capital tax revenue, without depressing investment and growth, through more effective regional tax rules, double taxation treaties, information sharing and treatment of offshore financial centres along the lines already promoted for OECD members.

I

Introduction

Globalization involves increasing freedom of capital movement: both for firms from industrialized countries investing in developing countries, and for financial asset owners in developing countries themselves. Standard principles of international taxation suggest that the tax burden should fall most heavily on those factors of production which are least mobile, in order to maximize government income and minimize the disincentives to economic growth. There has been a corresponding shift in the incidence of taxation from capital to labour as governments have tried to maintain levels of both fiscal revenue and private investment. In the major Latin American economies, the estimated tax burden on the income of foreign investors has fallen by about a half over the past two decades.

Free movement of capital and opportunities for the geographical dispersion of firms thus create fundamental challenges for tax authorities. Different national taxation norms and interstices between tax administrations create conflicts of interest among all involved. On the one hand, international double taxation arising from the concurrent exercise by two or more countries of their taxation rights is not conducive to business agreements in general and investment in particular. On the other hand, lack of administrative co-ordination between tax jurisdictions supports capital flight and loss of vital tax revenue. The member governments of the Organization for Economic Cooperation and Development (OECD) have therefore strengthened measures to prevent "harmful tax competition" in recent years. However, this is a problem

for developing as well as developed countries. Latin America and the Caribbean have been at the forefront of the liberalization of capital movements, but they are also chronically burdened by fiscal deficits, external debt and inadequate infrastructure.

Current international taxation arrangements pose particular problems for three main reasons: i) the difficulties in acquiring the potential fiscal resources generated by both foreign and domestic trans-border firms; ii) the economic costs of tax competition between developing countries in order to attract foreign investment; and iii) the consequences of the inability to tax residents' overseas assets for the purpose of combating capital flight and furthering social equity. Despite these problems, tax payments by foreign investors represent a major source of fiscal resources for the region: some US$ 15 billion in income tax appears to have been paid by foreign firms in 2000, while tax due on income from residents' overseas portfolio holdings might well be of a similar magnitude. At the very least, international taxation arrangements should be seen as a vital dimension of international development policy, just as investment and trade rules have become.

The institutional framework for international tax cooperation - tax competition, conflicting principles for determining the tax base, and double taxation treaties - is outlined in section II below. Section III then addresses the economic principles that underpin policy discussions on the dilemma facing an open economy that needs both to encourage private investment and finance social infrastructure. Section IV looks at international taxation in practice, taking into account both the statistical evidence on flows and the current progress on information sharing and supervision of offshore financial centres. The paper concludes with a discussion of a possible agenda for regional policy debate in section V.

II

The institutional framework for international tax cooperation

Capital mobility has transformed national tax policy. The present national tax systems were designed in a post-World War II environment of trade protection and capital and labour immobility when very different rates of direct and indirect tax were feasible, but this is no longer the case (Tanzi, 1996a and 1998). Moreover, it is often argued that in a closed economy corporate income taxes are inefficient as they encourage the excessive reinvestment of profits, and that personal income taxation of the recipients of dividends (and capital gains) is sufficient. Further, if savings are to be stimulated, it is often suggested that only consumption should be taxed. Whatever their conceptual validity, these arguments are not directly applicable in practice to small industrial or developing countries (OECD, 2001). On the one hand, there is a severe income distribution problem in them that requires redistribution of wealth (and thus capital taxes) in order to reduce poverty and increase social cohesion. On the other, much of the most productive assets in the economy belong to non-residents, while much of residents' wealth is held abroad. So capital income taxation cannot be ignored as a central development policy issue.

However, in the absence of a single world government, a key issue in international taxation is the appropriate level of domestic corporation tax in view of the integration into international capital markets. It is widely believed by policymakers that lower rates are essential in order to attract foreign investment and thus raise the rate of economic growth. The role of the tax factor in determining location gives rise to wasteful tax competition for attracting investment (OECD, 1998). This has led to a "race to the bottom" as developing countries compete with other host countries and with declining corporation tax rates in the home countries (UNCTAD, 1995).

Most countries in Latin America and the Caribbean –like other developing economies– attempt to attract foreign investment through tax incentive policies, either to compensate for local distortions and inefficiencies, or simply to prevent foreign investment from going to neighbouring or similar countries. However, the empirical evidence suggests that such incentives play a very limited role as determinants of foreign investment and that even when successful they involve significant fiscal costs.[1] Reducing regulatory uncertainty is just as important to investing firms as the specific concessions or incentives that a treaty may contain. Tax incentives appear to be regarded by multinational firms as a "windfall gain" and not as the basis for long-term investment decisions, as they may be subsequently reversed. This does not stop investors negotiating for such concessions, but at most they may affect location decisions within a country when other cost factors are equal.

There are two models used in the design of taxes on non-residents' assets and residents' assets abroad, which are similar in their general provisions but have very different implications for developing countries. The OECD Draft Taxation Convention/Model Tax Conventions (OECD, 1997) is based on taxation according to place of residence; while the United Nations Model Double Taxation Convention between Developed and Developing Countries (United Nations, Department of Economic and Social Affairs, 2001) is based on taxation according to source ("territorial" taxation). Developing countries would benefit most from a multilateral tax treaty based on the source principle, for two reasons. First, the gains from taxing income of foreign investors would be greater than the loss from not taxing income from their own residents' assets held abroad, because a developing country has a net external liability position. Second, full taxation of the foreign assets of residents of developing countries by the authorities in the destination country on the source principle would at least make capital flight much less attractive.

The source principle is often also adopted because tax administrators have great difficulty in finding out how much foreign income accrues to their residents.

---

[1] See Plasschaert (ed., 1994) and Blomström (2001), as well as section IV below.

The residence principle, although based on overall capacity to pay, has proved to be of limited significance in countries whose residents do not have substantial (recorded) investments in other countries, and whose fiscal administration is not well equipped to ensure its application. Moreover, to the extent that developed countries apply both the source and residence principles to their own residents, they claw back tax from their own investors in developing countries, while by not taxing non-residents' holdings of securities they stimulate capital flight from developing countries. For example, the United States taxes both the foreign income of US residents and the US-source "earned income" of non-residents.[2] Moreover, it does not normally give full credit against US tax liabilities for foreign tax payments.

For developing countries, a further issue is how to strike a balance between maximizing their share of revenues and maintaining a climate that attracts foreign direct investment (FDI). This requires agreements on the sharing of revenues between host and home countries in what is almost a zero sum game that implies a net transfer between the taxpayers of home and host countries in the final analysis. By adopting a tax treaty, a host country also subscribes to international rules that promote stability, transparency and certainty of treatment.

Since the tax systems of the major home (for example, OECD) countries are based on worldwide income taxation principles, their multinational companies are frequently subject to some degree of double taxation. This fact not only deters international investment, but also provides incentives for the use of tax havens to channel cross-border capital flows through offshore holding companies. The use of these schemes is detrimental to both the home and host country, because of reduced tax revenues and distorted investment inflows.

The number of double taxation treaties (DTTs) has therefore increased rapidly in recent decades, and there are now some two thousand such treaties in existence (table 1). The principle of non-discrimination (i.e., national treatment) has been intrinsic to such treaties since the last century and was central to the draft tax convention prepared by the League of Nations in 1935 (IBFD, 1998). Double taxation agreements were originally established between developed countries, but

TABLE 1

World: Double taxation treaties (DTTs) and bilateral investment treaties (BITs)

	1980	1990	2000
DTTs	700	1 150	2 118
BITs	200	400	1 941

Source: UNCTAD (2001).

their recent expansion includes treaties both with and between developing countries: 34% between developed and developing countries, and a further 17% between developing countries. They clearly follow the course of the Bilateral Investment Treaties (BITs), which establish corresponding investor protection disciplines.

The effect of tax treaties depends on the credits and exemptions included in them in order to eliminate or reduce double taxation. When countries are at a similar level of development (and there is roughly balanced two-way investment) the implicit redistribution is not a serious problem, but for host (developing) countries the marginal revenue is of greater value than it is to the home (developed) country. As the flow of income is generally from developing to developed countries, the tax credit method is the most attractive to developing countries. From the point of view of developing country revenue authorities, DTTs are the only way to cover intra-firm transactions and thus overcome the problem of transfer pricing (OECD, 1997).

These treaties, however, become ineffective if offshore centres are used as transfer pricing points as well as for tax evasion. Moreover, a number of developing countries play a key offshore role in the international investment process, where tax avoidance is of particular importance. The object here is not so much the attraction of foreign investment as such, but rather the administration of assets and tax revenue.[3] In consequence, in the absence of a comprehensive multilateral tax agreement, reconsideration of tax credits within existing DTTs would be desirable, as would the application of the United States "pass-through" principle to tax havens.

Finally it should not be forgotten that for developing countries capturing tax revenue on the income of their own residents who have assets overseas

---

[2] For a summary of current United States rules on international taxation, see United States Congress, JCT (1999).

[3] "We thus observe a process that, at times, has been described as 'tax degradation', whereby some countries change their tax systems to raid the world tax base and export their tax burden" (Tanzi, 1996b, p. 3).

is a major problem too. In consequence, closer international collaboration (even within the existing DTT network) by sharing information and permitting joint actions could increase the fiscal resources available to developing countries dramatically (OECD, 1998; Tanzi, 1996a). Further benefits would include disincentives to capital flight and increased balance of payments stability.

III

The economic principles of capital income taxation and tax co-ordination

The traditional view of capital income taxation in open economies[4] is that residence-based taxes reduce the after-tax return on domestic savings by driving a wedge between the rate of return on world financial markets and the after-tax rate of return received by residents: in other words, it acts as a tax on the ownership of capital or "savings". In contrast, source-based taxes raise the required rate of return on domestic investment above the rate of return on world financial markets and thus amount to taxes on the location of capital, i.e., on investment. In consequence, the traditional literature suggests that a small open economy should not apply any source-based capital income taxation at all, adopting only residence-based systems.

Universal application of the residence principle would equalize the gross rate of return on capital and thus allocate world capital (but not savings) efficiently, while universal application of the source principle would allocate world savings (but not capital) efficiently by equalizing intertemporal marginal rates of substitution. Optimal tax theory has thus held that even in a second-best world (where Pareto efficiency cannot be attained because of the need to raise taxes for public goods and redistributive aims) the residence principle is preferable because it at least ensures production efficiency (Diamond and Mirrlees, 1971).

Residence based taxation is also claimed to be preferable as it allows progressive rates to be applied for equity reasons. However, if these residence-based taxes cannot be collected effectively (due to lack of fiscal information, administrative capacity or international cooperation) then capital income taxes as a whole become undesirable. In sum, the traditional

conclusion of the optimal tax literature is thus that "small open economies should adopt no source-based taxes and capital income taxes should be eliminated altogether if countries cannot enforce residence-based taxes" (Bovenberg, 1994, p. 118).

This conclusion is based on four assumptions: (i) that capital is perfectly mobile; (ii) that governments can freely tax immobile factors of production, especially labour; (iii) that there is no tax offset in the home country for capital tax paid in the host country; and (iv) that the government can effectively tax income on residents' overseas assets. In consequence, it is argued that source-based taxation is completely shifted onto immobile factors (including labour) as the perfect mobility of international capital means that the supply of capital is infinitely elastic, so that an explicit labour tax is more effective.

Poorer countries have been under greater pressure to reduce their rates of taxation of affiliates of foreign multinationals than have richer countries. The implication is that –at least for the purposes of foreign direct investment– tax competition affects the poorest countries most, and disproportionately so. Haufler and Wooton (1999) show how tax competition even between industrialized countries for foreign direct investment can lead to resource and location rents being expropriated by multinational firms. This justifies the measures taken by the Organization for Economic Cooperation and Development (OECD) and the European Union (EU) to prevent such harmful competition between their respective members. The same argument holds *a fortiori* for developing countries.

However, the assumptions listed above do not obtain in practice. Capital is not perfectly mobile internationally, being attracted by particular developing economies due to their market size, resource endowments or human capital, so that capital income

---

[4] See, for example, Gordon (1986), Giovannini, (1990) or Stern and Newbery (eds., 1985).

taxes are not entirely shifted away from investors (foreign or domestic). Governments cannot tax immobile factors (such as labour) freely for equity reasons and also because the traditional model assumes that labour supply is exogenous. If wage levels affect labour supply or labour productivity, then there is a clear trade-off with capital market distortions, as Sen and Turnovsky (1990) demonstrate.

As we have seen, international tax credit systems do exist, and double taxation treaties are designed in effect to provide a direct transfer between fiscal authorities and thus not affect investment decisions (Frenkel, Rain and Sadka, 1991). In consequence, countries resort in practice to source-based capital income taxes because of feasibility constraints, which explains why the conclusions drawn from the theory of optimal taxation have not been applied in practice (Slemrod, 1990). Finally, there is of course considerable capacity for better coordination between fiscal and financial authorities worldwide.

Moreover, within a rigorous dynamic model designed to include these macroeconomic effects, Bovenberg (1994) shows that governments can neutralize the effect of source-based taxes on investment behaviour by allowing firms to set off their new investment spending against their capital income tax liability, thus converting the tax to one on cash flow only. The intergenerational impact of residence-based taxation can similarly be neutralized by a tax deduction for new saving. In addition, the intergenerational impact of both forms of taxation can be countered by an appropriate public debt policy.

Capital income taxes also discriminate between different forms of financing (e.g. portfolio versus direct investment), so that different combinations of taxes on dividends, interest income, or capital gains can be used in addition to corporate taxes (which amount to source-based taxes on equity income) in order to achieve the desired balance (Nielsen and Sorensen, 1991). This approach assumes that the capital stock is domestically owned. If it is foreign-owned, the burden of a source-based tax is borne by foreigners (who would not of course be affected by a residence-based tax), but the impact on capital mobility depends on both the cost of adjustment and any tax credit offset in the home economy (Sorensen, 1990).

International tax arbitrage does nonetheless impose severe constraints on the ability of an individual fiscal authority to set tax rates on capital income (and commodities). International tax competition takes place between countries, explicitly or implicitly, when capital is free to move between them. When capital markets clear, even if any two countries do not explicitly coordinate their tax systems between them, each nevertheless must take into account the tax system of the other in designing its own tax system. As Razin and Sadka (1994) demonstrate, when both countries adopt one of the polar principles (source-based or residence-based) then international capital markets will reach an equilibrium at positive tax and interest rates; but if they adopt different principles (or mixtures thereof) a viable equilibrium may not exist. However, if capital markets are integrated but tax systems are not harmonized, then tax competition will emerge.

If both countries are price-takers (that is, "small" in relation to the world economy) then this competition leads to an equalization of the marginal productivity of investment across countries (i.e., the residence principle). No further gains can be made from tax harmonization and inter-governmental coordination is not necessary. Some countries (e.g., the United States) or groups of countries (e.g., the European Union (EU) are indeed "large", however, in the sense that they can design their fiscal policies with a view to their effects on world prices. A country with some monopoly power will in effect drive the world interest rate above its own marginal product of capital if it is a net investor overseas. In this case, international fiscal coordination will be a Pareto improvement (Dixit, 1985). However, the existence of a regional arrangement (such as the European Union) allows for gains from coordination within the region, permitting both greater revenues and greater inward investment, even without global coordination (Haufler and Wooton, 2001). This latter case would appear to be relevant for developing country regions such as Latin America or the Caribbean.

Nonetheless, it is also clear (and is reflected in modern endogenous growth theories) that the provision of "infrastructure" –in the form not only of roads and the like but also of education, health, research and even law– is also essential for growth. There must be some form of taxation for financing this infrastructure, but there are social limits on the extent to which this can be raised from labour incomes in societies with low levels of per capita incomes. There thus emerges a potential trade-off between low corporation tax rates to stimulate private investment (both domestic and foreign) on the one hand, and high rates in order to finance physical and social infrastructure provision on the other. It is not clear, therefore, that the lowest tax rates are necessarily the most conducive to growth.

The "new economic geography" gives sound analytical reasons for believing that capital is not

entirely mobile (i.e., indifferent to location), because of agglomeration economies, etc., so tax potential is affected too. Rather than a simple "race to the bottom", advanced "core" economies may be able to act as semi-monopolists in fixing "prices" (i.e., taxes) against the less advanced periphery, but integration may not lead to falling tax rates and may be consistent with the maintenance of large Welfare States (Baldwin and Krugman, 2000). This result is extended formally by Kind, Knarvik and Schjelderup (1999), who find that a source tax should be levied on capital in order to capture the positive externality that arises from agglomeration. The existence of transaction costs and economies of scale means that investors are attracted by larger markets, which then require fewer tax incentives to attract investment than would otherwise be the case (Haufler and Wooton, 1999). Finally, these taxes on semi-mobile capital can be used to produce a public good and relieve the tax pressure on immobile labour (Andersson and Forslid, 1999).

The analytics of this problem are addressed in the Appendix, within the framework of a simple model of an economy with an open capital market and two types of capital. If there is only one type of capital –mobile and private– then the model reproduces the conventional result that any increase in the domestic corporation tax rate will reduce national income. The optimal tax rate is zero, or even negative (subsidies), if these can be financed from taxes on another immobile factor such as labour. In addition, it is clear that if the international corporation tax rate, or the tax rate levied by competitors for inward investment, is reduced, then in order to maintain national income levels it will be necessary to reduce the domestic corporation tax rate as well.

However, once a second type of capital –social infrastructure– is introduced a positive corporation tax rate is optimal, because although it reduces the private capital stock, as in the first case, it also raises the public capital stock. The optimum value of the tax rate depends on the marginal productivity of the two forms of capital.

The policy implications of this are considerable. On the one hand, in developing countries where infrastructure is relatively scarce, and thus its marginal productivity is higher (while the marginal productivity of mobile capital is being equalized worldwide), there is a sound economic argument for corporate tax rates being higher than in advanced countries. In effect, host countries should set their optimal tax rate independently of the international rate. On the other hand, it is also the case that the resulting level of national income does depend on the international tax rate, and when this is lowered by home countries –or competing host countries– then national income will fall. However –and even more significantly– the model shows that, even under these circumstances, pushing the corporation tax rate downwards will reduce national income even more.

In sum, there are sound reasons, well grounded in economic theory, for believing that more effective taxation of income from foreign assets can provide substantial fiscal resources to support sustainable development in Latin America and the Caribbean. For developing countries with greater external liabilities than external assets, and considerable difficulties in registering the latter, source-based capital income taxes are the best solution. Their distorting effects on investment can be mitigated by appropriate tax design (especially domestic reinvestment offsets and international tax credits).

IV

The international taxation problem in practice

In practice, the taxation of international assets relates to residents and non-residents on the one hand, and affiliate firms and portfolio assets on the other. The main focus of interest is in fact the taxation of foreign affiliates, that is, "inward FDI". In the case of Latin America and the Caribbean, the inward FDI stock as of 2000 was valued at US$ 607 billion (UNCTAD, 2001). Assuming that the recorded income tax payments by US affiliates (see

below) are representative of all foreign investment in the region, then the total income tax paid in this category to host countries was approximately US$ 15 billion in 2000. In that year, the stock of outward FDI from the Latin America and the Caribbean (that is, of affiliates abroad) was valued at US$ 111 billion (UNCTAD, 2001), but there is no evidence on the fiscal revenue accruing to host or home countries from this activity.

There is little statistical evidence on the tax paid or payable on portfolio holdings and debt paper either. The general practice in the region is not to tax interest payments, dividends or capital gains to non-residents on the grounds that this merely increases the cost of borrowing above the going rate of return set in international capital markets, plus the country risk premium. This follows the precedent set by the United States in 1984 in absolving withholding tax on foreign residents earning interest income on portfolio investments (OECD, 1998). Non-residents investing on the US stock market face no capital gains tax, although they do pay United States tax on dividends accruing. The US decision subsequently obliged all other industrialized countries to follow suit.

While industrialized countries may be able to tax their own residents' overseas capital gains, the tax infrastructure of many developing countries is not sufficient for this. The OECD/Council of Europe Multilateral Convention on Mutual Administrative Assistance in Tax Matters signed in 1988 ensures that information on such holdings is shared with other OECD governments, but not with non-members. In the case of the large international portfolio holdings of residents of Latin America and the Caribbean, there is even less data, because most of these assets have not been declared to the residents' tax authorities.[5] However, analysis of Bank for International Settlements data on international bank deposits indicates that non-bank depositors are very sensitive to domestic wealth taxes and interest reporting, as well as to interest rates, which implies that tax evasion is a determinant of such deposits, and that this sensitivity increased significantly during the 1990s (Huizinger, 2001).

The focus of empirical research has therefore been on the taxation of income earned by foreign affiliates, and in particular those of United States firms, because the US Department of Commerce publishes uniquely detailed data. We may assume that the figures in table 2 are representative of tax paid by all foreign affiliates in the region. The effective tax rate paid in the Latin America and Caribbean region, on average, is well below that for any other region of the world. However, this is almost entirely due to the effect of the "low-tax" countries in the Caribbean: just two Caribbean jurisdictions (Bermuda and the British West Indies) are reported as the location of more gross income that the five major economies of the continent, while having effective tax rates one-tenth of those elsewhere in the region. South and Central America, in contrast, have effective tax rates similar to those in Europe, although lower than those in Asia.

Moreover, as shown in table 3, the present situation reflects a general downward trend in tax burdens in the major economies of the region: the average for Argentina, Brazil, Mexico and Venezuela declined from 50% in 1983-1986 to 25% in 1993-1997. This is undoubtedly the result of tax competition in order to attract foreign investment.

Conover and Nichols (2000) confirm earlier findings that United States firms do engage in income shifting worldwide on a large scale, although they did conform with the 1986 Tax Reform Act by bringing profits back to the United States. The same is true of the firms of European OECD members, where extensive transfer pricing and tax-induced capital restructuring (e.g., intra-firm debt) takes place despite the fact that the OECD Model Tax Convention and the OECD Transfer Pricing Guidelines call for the application of market prices to intra-firm transactions (Bartelsman and Beetsma, 2000). The analysis of US data made by Altshuler, Gruber and Newlon (1998) supports this view, indicating that the elasticity of US manufacturing investment abroad to host tax rates is greater than unity and rose between the 1980s and 1990s.[6]

As we have seen, developed countries tend to adopt the residence principle, since they usually have a net positive foreign asset position and this principle maximizes their tax take. Developing countries typically favour the source principle because they are hosts to significant amounts of FDI, although a number of emerging markets such as Mexico and Argentina have moved from source to residence taxation in an attempt to stimulate foreign investment and capture income from their residents' overseas assets.

The problem for developing countries is exacerbated by the fact that the major industrialized

---

[5] The detailed statistics published by the US Treasury on foreign holdings of US financial assets (principally bank deposits and government bonds) do not allow us to determine the holdings of Latin American and Caribbean residents, firstly, because they include the operating balances of banks in the region, including central bank reserves, and secondly, because the largest holdings are those of offshore financial centres and are thus mainly owned by non-residents of the centres in question.

[6] Specifically, these authors estimate that the elasticity has risen from -2 to +3 between 1984 and 1992. Interestingly, this figure is very similar to the value for the corresponding elasticity ($-1/1-\beta$) between the capital stock (K) and the tax rate (t) that the model in Appendix B predicts for plausible parameter values.

TABLE 2

**All countries: Income and taxation of
United States affiliates worldwide, 1998**
(*Billions of dollars*)

	Reported income	Cost of sales	Foreign income tax paid	Net income	Effective income tax rate (%)	Other local taxes paid
All countries	2115	1937	41	137	23	112
Canada	248	233	5	10	33	7
Europe	1208	1102	22	84	21	73
Latin America and the Caribbean	245	218	5	23	17	14
Africa	22	19	1	2	38	1
Middle East	10	8	1	1	50	14
Asia–Pacific	378	358	8	17	32	3
South America	127.0	120.7	1.8	4.5	25	11.7
Central America	77.0	69.5	1.9	5.7	25	2.3
Caribbean	41.3	27.7	1.0	12.5	7	0.4
Argentina	21.4	20.5	0.4	0.4	50	2.6
Brazil	67.0	63.2	0.6	3.2	16	7.2
Chile	10.1	9.1	0.2	0.8	20	0.5
Mexico	67.5	61.6	1.7	4.1	29	1.8
Venezuela	10.3	10.2	0.2	-	..	0.5
Bermuda	18.0	11.3	0.3	6.5	4	-
British West Indies	11.7	7.6	0.2	3.9	3	-

Source: Calculated by the author on the basis of US Commerce Department figures. "Effective income tax rate" is foreign income tax paid divided by gross income (net income plus foreign income tax paid).

TABLE 3

**Latin America and the Caribbean: Income and
taxation of US affiliates in the region, 1998**
(*Billions of dollars*)

	Reported income	Cost of sales	Foreign income tax	Net income	Effective income tax rate (%)	Other local taxes paid
All Latin America and the Caribbean	245.1	217.8	4.6	22.7	17	14.4
South America	127.0	120.7	1.8	4.5	25	11.7
Central America	77.0	69.5	1.9	5.7	25	2.3
Caribbean	41.3	27.7	1.0	12.5	7	0.4

Source: Calculated by the author on the basis of US Commerce Department figures. "Effective income tax rate" is foreign income tax paid divided by gross income (net income plus foreign income tax paid).

countries follow worldwide income taxation systems that depart from pure residence or source principles. The United States, for instance, taxes both foreign income of United States residents and US-source income of non-residents. Moreover, it does not generally admit full foreign tax credits against US tax liabilities. This all-inclusive system tends to discourage outbound investment because it departs from the "capital export neutrality" principle in that the tax rate varies according to the country of destination. Furthermore, the United States currently applies different rules to the taxation of foreign income received by US residents, depending on whether the operations are carried out directly by United States persons (e.g., through a foreign branch) or indirectly, through a foreign corporation.

In the first case, foreign income is currently taxed in the United States, while in the second it is only taxed upon distribution to United States persons, so that by choosing the corporate form in their foreign operations, US investors can defer US taxation and exploit cross-country tax differentials, at least in the short-run. Moreover, in order to regulate foreign tax credit availability and related issues (such as deferral of US taxation of foreign income), the system has evolved into a very complex set of rules that discourages capital mobility and encourages the use of tax havens to conduct foreign investment.

The study by the OECD (2001) is the most authoritative recent examination of the problem of tax incentives for FDI, from the point of view of both OECD members and non-members. Corporate income tax is shown to play an important "backstopping" role in enforcing capital gains tax on equity holders, and it has a withholding function for foreign firms too. It is also justified as a fee for the use of public goods and services and as a way of enabling local governments to share in economic rents. The OECD cautions about the use of tax incentives for FDI, especially up-front measures such as tax holidays that promote tax evasion, and it also highlights the dangers of excessive rewards for existing capital stock as opposed to net new investment. Much of the desired reallocation effect can be achieved by the redesign of tax structure rather than blanket reductions.

The type of multinational company most likely to be swayed in its location decisions by levels of taxation will be those multinationals driven by short-term cost-minimization and tending to emphasize low value-added production. Multinationals aiming at the maximization of profits in the long term are more concerned with ensuring flexibility of their international production structures, and hence with other location factors such as labour quality, currency stability, market access and natural resource availability. They view tax breaks as a "windfall" gain to be considered (and claimed) only after more important criteria have been satisfied. Moreover, although the justification adduced for tax incentives may be the desire to generate technological externalities, in practice the ability of a developing economy to realize these gains depends on the prior existence of sufficient enterprise capability and a skilled workforce - and thus in all probability fairly high taxes (Blomström, 2001).

A further problem associated with this issue is that of offshore financial centres (OFCs). By allowing multinationals, through transfer pricing, to declare the majority of their profits in shell companies registered in OFCs, the tax revenues resulting from investment and production in (non-OFC) developing countries are lost to the hosts.[7] The Financial Stability Forum (Financial Stability Forum, 2000) addressed the issue of OFCs from the point of view of systemic instability in international capital markets. Offshore financial centres which are unable or unwilling to adhere to international supervisory standards (displaying weak supervisory practices and/or a lack of cooperation and transparency) pose problems with regard to prudential concerns for the effective supervision of international financial intermediaries and market integrity concerns relating to the effectiveness of international enforcement efforts in respect of illicit activities and abusive market behaviour.

The Financial Action Task Force (OECD, 2000) initially defined 35 jurisdictions as "non-cooperative countries or territories" in key areas of transparency and information exchange required to meet international anti-money laundering standards - a list which included the Bahamas, Cayman Islands, Dominica, Panama, St. Kitts & Nevis and St Vincent and the Grenadines in the region, as well as Israel, Lebanon, Liechtenstein, the Philippines and Russia. Six of these countries or territories, including Bermuda and the Cayman Islands, rapidly made commitments to eliminate harmful practices by the end of 2005. In the wake of global anti-terrorist measures after September 2001, the remaining Caribbean States and United Kingdom dependencies[8] in the region signed similar commitments to embrace international standards for transparency, exchange of information and fair tax competition by February 2002.

Finally, foreign portfolio investment has recently become subject to a variety of taxation measures intended to act as controls on capital inflows or outflows in a number of emerging markets. Although this paper is concerned with the direct taxation of income from foreign assets rather than indirect (i.e., turnover) taxes on asset transactions,[9] it should be noted that withholding taxes on asset income can have a similar dampening effect, because although the base is smaller the rate is much higher (Zee, 2000). Such a tax can be

---

[7] A particularly contentious case is the use of Foreign Sales Corporations to reduce the tax burden for US exporters, but as these mainly operate through the US Virgin Islands they lie beyond the scope of this paper.

[8] As well as the Channel Islands.

[9] See FitzGerald (1999), however, for an extensive analysis of this subject.

designed to provide an incentive to foreign investors holding assets with longer maturities, or to promote the holding of any asset for a longer period, of course. Moreover, a withholding tax of this kind would bear on the many resident holders of domestic securities (particularly high-yield government bonds) who purchase them via offshore mechanisms in order to avoid tax.

V

New policy issues for Latin America and the Caribbean

From the point of view of developing country tax authorities, double taxation treaties (DTTs) are at present the only reliable way to cover intra-firm transactions and thus overcome the problem of transfer pricing (OECD, 1998). It is therefore necessary to ensure far more comprehensive information exchange within existing treaties than is currently the case, particularly in relation to assets in the United States. Such measures, however, become ineffective if offshore centres are used as transfer pricing points as well as for tax avoidance. In consequence, in the absence of a comprehensive multilateral tax agreement, reconsideration of tax credits within existing DTTs would be desirable, as would the application of the United States "pass-through" principle to tax havens.

If applied uniformly, either the source or the residence principle could provide a basis for an effective system of international tax co-operation. Thus, Tanzi (1996a and b; 1998) argues that the time has come for some sort of world tax organization, not so much to impose and/or collect taxes (which would be politically unfeasible), but rather to support national tax authorities. Such an organization would i) exercise surveillance on tax systems worldwide; ii) provide a policy forum; iii) resolve disputes on tax competition; iv) exercise moral pressure on "free-riders"; v) gather tax statistics; vi) communicate best practices; and vii) develop codes of conduct for tax administration.

However, it is difficult to see how such a solution could be implemented in practice. The United States is unlikely to change its own tax system simply to increase the tax take of other countries. Prospects for reform are somewhat greater in the European Union, in view of its current efforts to harmonize corporate tax rules within the Single Market and the emerging agreement on the prevention of tax competition and tax evasion between member States. The concern of OECD members to coordinate measures against tax evasion, avoidance and competition between themselves –and the resultant pressure on offshore centres– indicates their degree of concern for their own tax bases. To extend such cooperative measures towards middle-income non-OECD members (many of whom already have observer status at the OECD) would be a logical and technically feasible step.

The provision of information even by the industrialized country tax authorities alone would improve the situation. Since the information is collected in any case, in order to levy dividend taxes, the ultimate cost would not be excessive. This option would require confidence in the administrative capacity, independence and discretion of the tax authorities of even the leading Latin American countries. In a transitional period, an alternative might be for taxes to be levied at source and simply transferred to the authorities of the country of residence. At the very least, the principles of information exchange could be established within the framework of the proposed Free Trade Area of the Americas, as a counterpart to the property rights established under the proposed investment provisions.

The European Community's proposal for the taxation of cross-border interest payments (the "withholding tax directive") shows that a measure of this nature is feasible (European Commission, 1998). Even opponents agree that in principle withholding taxes are justifiable because they are neutral for investors who declare their tax liabilities properly elsewhere, but unless universally applied this would simply lead to the shifting of the formal location of income payments. Progress in the European proposals –even if only in the form of information exchange on payments– would provide a precedent for Latin America and the Caribbean. In this context, Zee (2000) argues for a withholding tax on all private capital inflows into emerging markets, with a

credit and refund provision which would operate within the administrative framework of the existing domestic tax system and which would be substantially more difficult to evade than reserve requirements.

As mentioned above, a prospect for reforming tax administration could be provided by the drive for better co-ordination among national tax authorities to tackle organized crime and money laundering. Both banks and regulators have come under strong pressure to share information on financial transactions as part of this crime-fighting effort and, in the process, divulge the overseas assets of residents in a particular tax jurisdiction. This would seem to imply a need for greater sharing of technical expertise as well as information as such within the region.

The existence of a regional tax cooperation arrangement (such as that of the European Union) would make possible gains from coordination within the region, permitting both greater revenues and greater inward investment, even without global coordination (Haufler and Wooton, 2001). Indeed, as investment incentives in industrializing countries have tended to move in recent years towards the "regulatory domain" in terms of market access, environmental protection and labour standards, this too has made necessary greater cooperation in order to avoid a "race to the bottom" (FitzGerald, 2001). Furthermore, a regional arrangement that makes national tax rules more predictable will have a positive effect because uncertainty about future rates of return can have a disproportionate impact on investment decisions (Dixit and Pindyck, 1994).

Information exchange is therefore central to tax cooperation, although it should be remembered that the scope and usefulness of exchanges of information are limited by political, legal, technical and administrative obstacles (Tanzi and Zee, 1999). In general, withholding taxes may be the only solution to the revenue problem: "It is unlikely that an efficient and complete system of exchange of information can be developed. This leaves the alternative of using withholding taxes applied at source as final taxes" (Tanzi, 1998, p. 21). Specifically, in order to tackle the income-shifting problem, a presumptive tax could be levied on corporations on the basis of their gross assets rather than reported profits.

In sum, the pressure for effective international cooperation to facilitate income tax collection is increasing. The growing mobility of capital across national borders poses serious problems for national fiscal authorities committed to taxing income from wealth. Cooperation between tax officials could reduce some of these problems, but jurisdictional disputes and bank secrecy laws have blocked progress. However, advances in tax cooperation between OECD members –and particularly European Union members– provide not only a precedent for a regional arrangement but also the basis for requiring cooperation from developed countries. For Latin American and Caribbean countries, such an arrangement would also allow much greater capture of tax revenue on the capital income of their own residents, not only in respect of undeclared assets overseas but also of domestic assets, by reducing the fiscal attraction of expatriating capital or ownership. Closer international collaboration within the Americas within the existing tax treaty network, by sharing information and adopting joint actions, could increase the fiscal resources available to the region, and this would bring further benefits, including disincentives to capital flight, increased fiscal and macroeconomic stability, and greater resources available for poverty alleviation.

APPENDIX

A simple model of capital income tax in an open economy

This note seeks to illustrate the optimal capital income tax problem for an economy with an open capital market and two types of capital, one of which is private, mobile and "directly productive" (i.e., generates profits), while the other is public, immobile and "indirectly productive" (i.e., infrastructure). The problem is how to set a level of tax so as to fund infrastructure and maximize welfare when capital can move abroad.

Let us consider an economy with three production factors: immobile labour (L), mobile capital (K) and tax-financed infrastructure (J). National income (Y) is determined by:

$$Y = A.L^{\alpha} K^{\beta} J^{\gamma} \qquad (1)$$

The usual conditions obtain, determining the return on capital (r) as:

$$r = \frac{\partial Y}{\partial K} = \beta.L^{\alpha} K^{\beta-1} J^{\gamma} \qquad (2)$$

The labour force and the infrastructure stock are given for any one period, but the capital stock is flexible as capital can flow inwards or outwards, depending upon the post-tax rate of return. We could also include an appropriate risk premium, but if constant it would not affect the results. For a given domestic tax rate (t) and the exogenous international rates of tax (t^*) and of return (r^*), capital will flow in so long as the post-tax rates of return are

attractive: that is, if $r\,(1-t) \geq r^*(1-t^*)$. We ignore here the effect of double-taxation agreements, which effectively reduce t not only for the host country but also for others with which the home country has similar treaties. At equilibrium, then:

$$r(1-t) = r*(1-t^*) \qquad (3)$$

and substituting (3) into (2) yields the equilibrium capital stock

$$K = \left\{ \frac{\beta.L^{\alpha}J^{\gamma}(1-t)}{r*(1-t^*)} \right\}^{\frac{1}{1-\beta}} \qquad (4)$$

Note that this will give an elasticity of the capital stock to the tax rate that is negative and greater than unity. Substituting (4) into (1) then gives national income (Y) in terms of the two tax rates:

$$Y = \left[AL^{\alpha}J^{\gamma} \left\{ \frac{\beta(1-t)}{r*(1-t^*)} \right\}^{\beta} \right]^{\frac{1}{1-\beta}} \qquad (5)$$

From (5) it apparently follows that any increase in the domestic corporation tax rate (t) will reduce national income (Y). The optimal rate is zero, or even negative (subsidies) if these can be financed. This is the basis for the traditional argument for reducing corporation tax rates in developing countries in order to stimulate investment and growth. In addition, it seems clear that if the international tax rate (t^*) in general –or that of competitors for inward investment in particular– is reduced, then in order to maintain national income levels it will be necessary to reduce (t) as well. International tax competition is thus held to be conducive to welfare maximization.

For this conclusion to hold, however, it is necessary to assume that not only the labour force (L) but also the infrastructure provided (J) is independent of the tax rate. In this model the infrastructure stock (J) is given by the previous year's stock less depreciation (d) plus the new investment funded by revenue from the tax on profits ($K.r$):

$$J = J_{-1}(1-d) + t.K.r \qquad (6)$$

In order to simplify the algebra, we shall only consider the second term on the right of (6), because the first term is unaffected by the current tax rate. In this case we can rewrite (1) by substituting in the truncated (6) to yield:

$$Y = A.L^{\alpha} \{tr\}^{\gamma} K^{\beta+\gamma} \qquad (7)$$

Substituting in (2) and (3) as before then yields a new expression for national income:

$$Y = \left[a.L^{\alpha}.\beta^{\beta} \{r*(1-t^*)\}^{-\beta} t^{\gamma}(1-t)^{\beta} \right]^{\frac{1}{1-\beta-\gamma}} \qquad (8)$$

(Y) is no longer monotonically and inversely related to (t) in (8) as it was in (5), because a tax increase no longer just reduces the private capital stock (K) but also raises the public stock (J). Under the usual conditions there is an optimum positive value (T) where income (Y) is maximized, found by differentiating (7) with respect to (t):

$$T = \frac{\gamma}{\beta + \gamma} \qquad (9)$$

The optimal tax rate is thus positive and depends on the relative marginal productivities of the two forms of capital stock (K, J). Indeed, if the tax rate is set to zero, then national income will also be zero as there will be no infrastructure. By extension, in poor countries where infrastructure (J) is scarce and its marginal productivity is higher (while the marginal productivity of mobile capital (K) is equalized worldwide) corporate tax rates should be higher than in advanced countries.

From (8) it is also clear that the resulting level of national income still depends on the international tax rate (r^*) even after the optimal domestic tax rate has been applied. If the international rate is lowered by "home" (i.e., investor) countries –or by competing host countries– then national income in the host country will fall as less mobile capital is attracted. However, even under these circumstances (t^* falling), to engage in a "race to the bottom" (i.e., set t below T) would reduce host national income even more.

(*Original: English*)

Bibliography

Altshuler, R., H. Gruber and T. Newlon (1998): *Has US Investment Abroad Become More Sensitive to Tax Rates?*, NBER working paper, No. 6383, Cambridge, Massachusetts, National Bureau of Economic Research, Inc. (NBER).

Andersson, F. and R. Forslid (1999): *Tax Competition and Economic Geography*, CEPR discussion paper, No. 2220, London, Centre for Economic Policy Research (CEPR).

Baldwin, R. and P. Krugman (2000): *Agglomeration, Integration and Tax Harmonisation*, CEPR discussion paper, No. 2630, London, CEPR.

Bartelsman, E. and R. Beetsma (2000): *Why Pay More? Corporate Tax Avoidance through Transfer Pricing in OECD Countries*, CEPR discussion paper, No. 2543, London, CEPR.

Blomström, M. (2001): *The Economics of International Investment Incentives*, Paris, Organization for Economic Cooperation and Development (OECD).

Bovenberg, A. (1994): Capital taxation in the world economy, in F. Van der Ploeg, *The Handbook of International Macroeconomics*, Oxford, U.K., Blackwell.

Conover, T. and N. Nichols (2000): A further examination of income shifting through transfer pricing considering firm size and/or distress, *International Journal of Accounting*, vol. 35, No. 2.

Diamond, P. and J. Mirrlees (1971): Optimal taxation and public production, *American Economic Review*, vol. 61, No. 1, Nashville, Tennessee, American Economic Association.

Dixit, A. (1985): Tax policies in open economies, in A. Auerbach and M. Feldstein (eds.) *Handbook on Public Economics*, Amsterdam, The Netherlands, North-Holland

Dixit, A. and J. Pindyck (1994): *Investment under Uncertainty*, Princeton, New Jersey, Princeton University Press

European Commission (1998): *Proposal for a Council Directive to ensure a minimum of effective taxation of savings income in the form of interest payments within the Community*, Brussels.

FitzGerald, E. V. (1999): *Policy Issues in Market Based and Non Market Based Measures to Control the Volatility of Portfolio Investment*, Development studies working papers, No. 129, Turin, Italy, Centro Studi Luca D'Agliano.

_____ (2001): *Regulatory Investment Incentives*, Paris, OECD.

Financial Stability Forum (2000): *Report of the Working Group on Offshore Centres*, Basle.

Frenkel, J., A. Rain and E. Sadka (1991): *International Taxation in an Integrated World,* Cambridge, Massachusetts, MIT Press

Giovannini, A. (1990): Reforming capital income taxation in open economy: Theoretical issues, in H. Siebert (ed.), *Reforming Capital Income Taxation*, Tübingen, Germany, J.C.B. Mohr.

Gordon, R. (1986): The taxation of investment and savings in a world economy, *American Economic Review*, vol. 76, Nashville, Tennessee, American Economic Association.

Haufler, A. and I. Wooton (1999): Country size and tax competition for foreign direct investment, *Journal of Public Economics*, No. 71, Amsterdam, The Netherlands, Elsevier Science Publishers, B.V.

_____ (2001): *Regional Tax Coordination and Foreign Direct Investment*, CEPR discussion paper, No. 3063, London, CEPR.

Huizinger, H. (2001): *Are International Deposits Tax Driven?*, Economic papers, No. 152, Brussels, European Commission.

IBFD (International Bureau of Fiscal Documentation) (1998): *Annual Report 1997-1998*, Amsterdam, The Netherlands.

Kind, H., K. Knarvik and G. Schjelderup (1999): *Competing for Capital in a Lumpy World*, CEPR discussion paper, No. 2188, London, CEPR.

Nielsen, S. and P. Sorensen (1991): Capital income taxation in a growing open economy, *European Economic Review*, vol. 34, Amsterdam, The Netherlands, Elsevier Science Publishers, B.V.

OECD (1997): *Model Double Taxation Convention on Income and Capital*, Paris.

_____ (1998): *Harmful Tax Competition: an Emerging Global Issue*, Paris.

_____ (2000): *Towards Global Tax Cooperation: Progress in Identifying and Eliminating Harmful Tax Practices*, Paris.

_____ (2001): *Corporate Tax Incentives for Foreign Direct Investment*, Paris.

Plasschaert, S. (ed.) (1994): *Transnational Corporations: Transfer Pricing and Taxation*, London, Routledge.

Razin, A. and E. Sadka (1994): International fiscal policy coordination and competition, in F. van der Ploeg, *The Handbook of International Macroeconomics*, Oxford, U.K., Blackwell.

Sen, P. and S. Turnovsky (1990): Investment tax credit in an open economy, *Journal of Public Economics*, vol. 42, No. 3, Amsterdam, The Netherlands, Elsevier Science Publishers, B.V.

Slemrod, P. (1990): Optimal taxation and optimal tax systems, *The Journal of Economic Perspectives*, vol. 4, No. 1, Nashville, Tennessee, American Economic Association.

Sorensen, P. (1990): Optimal capital taxation in a small capital-importing country, in V. Tanzi (ed.), *Public Finance, Trade and Development*, Detroit, Michigan, Wayne State University Press.

Stern, N. and D. Newbery (eds.) (1985): *Taxation in Developing Economies*, Washington, D.C., World Bank.

Tanzi, V. (1996a): *Taxation in an Integrating World*, Washington, D.C., The Brookings Institution.

_____ (1996b): *Globalization, Tax Competition and the Future of Tax Systems*, IMF working paper, No. 141, Washington, D.C., International Monetary Fund (IMF).

_____ (1998): *International Dimensions of National Tax Policy*, paper presented at the United Nations Expert Meeting on International Economic and Social Justice, New York.

Tanzi, V. and H. Zee (1999): Taxation in a borderless world: The role of information exchange, in B. Wiman (ed.), *International Studies in Taxation*, The Hague, Kluwer Law International.

UNCTAD (United Nations Conference on Trade and Development) (1995): *Incentives and Foreign Direct Investment*, Geneva.

_____ (2001): *World Investment Report 2001. Promoting Linkages*, Geneva.

United Nations, Department of Economic and Social Affairs (DESA) (2001): *United Nations Model Double Taxation Convention between Developed and Developing Countries*, New York.

United States Congress, JCT (Joint Committee on Taxation) (1999): *Overview of Present-Law Rules and Economic Issues in International Taxation*, Washington, D.C.

Zee, H. (1998): Taxation of financial capital in a globalized environment: The role of withholding taxes, *National Tax Journal*, vol. 51, No. 3, Washington, D.C., National Tax Association.

_____ (2000): *Retarding Short-Term Capital Inflows through Withholding Tax*, IMF working paper, No. 40, Washington, D.C., IMF.