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International Tax Cooperation and Capital Mobility

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The international mobility of capital and the geographical dispersion of firms have clear advantages for the growth and modernisation of the region. They also create fundamental challenges for national tax authorities. Modern principles of capital taxation for the open developing economy indicate the need to find the correct balance between the encouragement of private investment and the finance of social infrastructure, both of which are necessary for sustainable growth. This balance can be sub-optimal where countries compete for inward investment by granting tax incentives or exercise conflicting principles in determining the tax base. The current practice of international taxation indicates that fiscal authorities in Latin America and the Caribbean could attain a more equitable share of capital tax revenue without depressing investment and growth. This might be achieved 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.

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Introduction

Globalisation involves increasing freedom of capital movement: both for firms from industrialised 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 maximise government income and minimise 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. OECD member governments have thus 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 liberalisation of capital movements, but are also chronically burdened by fiscal deficits, external debt and inadequate infrastructure.

Current international taxation arrangements pose particular problems for three main reasons: first, the difficulties in acquiring the potential fiscal resources generated by both foreign and domestic trans-border firms; second, the economic costs of tax competition between developing countries in order to attract foreign investment; and third, the consequences of the inability to tax residents' overseas assets for capital flight and social equity. Despite these problems, tax payments by foreign investors represent a major source of fiscal resources for the region: some US$ 15 billions 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 in international tax cooperation – tax competition, conflicting principles for determining the tax base, and double taxation treaties - are outlined in Section 2 below. Section 3 then addresses the economic principles that underpin policy discussions of the dilemma for an open economy that needs to both encourage private investment and finance social infrastructure. Section 4 looks at international taxation in practice, 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 5.

2. The Institutional Framework for International Tax Cooperation

Capital mobility has transformed national tax policy. Present national tax systems were designed in a post-WWII environment of trade protection, capital and labour immobility when very different rates of direct and indirect tax were feasible – but this is no longer the case (Tanzi 1996a, 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 on dividends (and capital gains) recipients is sufficient. Further, if savings are to be stimulated, it is often suggested that consumption only 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 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 the domestic corporation tax rate in the face of integration to 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 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 the Latin America and Caribbean region – as other developing economies - attempt to attract foreign investment through tax incentive policies in an attempt to compensate for local distortions and inefficiencies, or to simply 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 even where successful, involve significant fiscal costs.[1] In consequence, both the OECD and the EU have recently adopted non-binding instruments for dealing with potentially harmful preferential tax regimes, and it is recognized that the association of non-OECD countries with these is important.

Reducing regulatory uncertainty is just as important to investing firms as the particular concessions or incentives that a treaty may contain. Tax incentives appear to be regarded by multinational firms as a 'windfall gain', and not 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 unchanged.

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

[1] See Plasschaert (1994) and Blomstrom (2001), as well as Section 4 below.

different implications for developing countries. The OECD Draft Taxation Convention/ Model Tax Conventions (OECD, 1997) is based on residence taxation; while the United Nations Model Double Taxation Convention between Developed and Developing Countries (UN 1980, 2000), which is based on source (or '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, even the full taxation of these assets held abroad by residents of developing countries 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. 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' security holdings 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 balance between maximising their share of revenues and maintaining a climate that attracts FDI. This involves 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 last instance. 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 (i.e. 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 the incorporation of offshore holding companies. The use of these schemes is detrimental to both the home and host country through reduced tax revenues and distorted investment inflows.

The number of double taxation agreements (DTTs) has thus increased rapidly in recent decades, and there are now some two thousand such treaties in existence, as Table 1 below indicates. 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). DTTs were originally established between developed countries, but the recent expansion, is both with and between developing countries: 34 percent between developed and

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

developing countries, and a further 17 percent between developing countries. They clearly follow the course of the Bilateral Investment Treaties (BITs) that establish corresponding investor protection disciplines.

Double Taxation Treaties and Bilateral Investment Treaties

	1980	1990	2000
DDTs	700	1150	2118
BITs	200	400	1941

Source: UNCTAD (2001)

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 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 avoidance. 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 to attract foreign investment as such, but rather the administration of assets and tax revenue.[3] In consequence, short of a comprehensive multilateral tax agreement, reconsideration of tax credits within existing DTTs would be desirable; as would the application of the US '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 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.

3. 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 that received by residents – in other words, 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

[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: 3).

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

taxes on the location of capital – that is 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 will equalise the gross rate of return on capital and thus allocate world capital (but not savings) efficiently; while universal application of the source principle will allocate world savings (but not capital) efficiently by equalising 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 held 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 international cooperation) then capital income taxes as a whole become undesirable. In sum, the traditional result from the optimal tax literature is thus "that small open economies should adopt no source-based taxes and that capital income taxes should be eliminated altogether if countries cannot enforce residence-based taxes" (Bovenberg, 1994:118).

This result is based on four assumptions: (i) that capital is perfectly mobile; (ii) that government can freely tax immobile factors of production - labour in particular; (iii) that there is no tax offset in the home country for capital tax paid in the host country; and (iv) 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 international capital mobility means that the supply of capital is infinitely elastic, so 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 industrialised countries for foreign direct investment can lead to resource and location rents being expropriated by multinational firms. This justifies the OECD and EU measures taken 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 capital income 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 *et al*, 1991). In consequence, countries resort in practice to source-based capital income taxes in the face of feasibility constraints, which explains why the results obtained from the theory of optimal taxation have not been applied in practice (Slemrod, 1990). Finally, of course there is 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 neutralise the effect of the source-based tax on investment behaviour by allowing firms to expense 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 neutralised by a tax deduction for new saving. In addition the intergenerational impact of both tax forms 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) to achieve the desired balance (Nielsen and Sørensen, 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 (Sørensen, 1990).

International tax arbitrage does none the less set 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 and tax systems are not harmonised 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 equalisation of the marginal productivity of investment across countries (i.e. the residence principle). No further gains can be made from tax harmonisation and inter-governmental coordination is not necessary. None the less, some countries (e.g. the US) or groups of countries (e.g. the EU) are in fact ‘large’ in the sense that they can design their fiscal policies with a view to their effects on world prices. The 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 EU)

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 to developing country regions such as Latin America or the Caribbean.

None the less, it is also clear (and reflected in modern endogenous growth theories) that the provision of 'infrastructure' – in the form not only of roads but also of education, health, research and even law – is also essential to growth. Some form of taxation must finance this infrastructure, but there are social limits to 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 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 to believe that capital is not entirely mobile (i.e. indifferent to location) due to 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 et al (1999) who find the positive source tax required to be levied on capital in order to capture the positive externality that arises from agglomeration. The existence of trade costs and scale economies mean that investors are attracted by larger markets, which then require less tax incentives to attract investment than otherwise (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 workers (Andersson and Forslid, 1999).

Appendix B examines the analytics of this problem in 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 is reduced, or that of competitors for inward investment, 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 before, it also raises the public stock. The optimum value of the tax rate depends on the marginal productivity of the two forms of capital.

The policy implications 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 equalised 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, to chase the corporation tax rate downwards will reduce national income *even more*.

In sum there are sound reasons well grounded in economic theory to believe that capital income taxation is justified and that a residence-based tax system would be best for the world as a whole, so long as it were based on inter-governmental coordination of both rates and enforcement. In the absence of such coordination, source-based capital income taxes are a second-best solution for developing countries in particular, and their distorting effects on investment can be ameliorated by appropriate tax design – particularly domestic reinvestment offsets and international tax credits.

4. 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). On the assumption 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 (loc. cit), but there is no evidence on the fiscal revenue accruing to host or home countries from this activity.

On the tax paid or payable on portfolio holdings of debt and equity there is little statistical evidence 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 US in absolving withholding tax on foreign residents earning interest income on portfolio investments in 1984 (OECD, 1998). Non-residents investing on the US stock market face no capital gains tax, although they pay US tax on dividends accruing.

The US decision subsequently forced all other industrialised countries to follow suit. While industrialised countries may be able to tax their residents' overseas capital gains, the tax infrastructure of many developing countries prevents this. However, the US Subscribers to the OECD Multilateral Convention on Mutual Administrative Assistance in Tax Matters in 1988, and thus information on such holding is shared with other OECD governments – but not 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 authority.[5]

The focus of empirical research, therefore, has been on the taxation of income earned by foreign affiliates, and in particular those of US firms because the Department of Commerce publishes uniquely detailed data. Appendix A summarises these figures to show how effective tax rates vary between regions, countries and over time. We may assume that these figures are representative of all foreign affiliates. Table A.1 appears to indicate that the effective tax rate paid in the Latin America and Caribbean region as a whole is well below that for any other region of the world. However, as Table A.2 shows, this is almost entirely due to the effect of the 'low-tax' countries in the Caribbean, South and Central America having rates similar to those in Europe although lower than Asia. Moreover, as Table A.3 demonstrates, there has been a general downward trend in tax burdens in the major economies of the region – the average for Argentina, Brazil, Mexico and Venezuela declining from 50 percent in 1983-6 to 25 percent in 1993-7. Finally, as Table A.4 illustrates, 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. In sum, the problem is one of the 'location' of corporate income as much as the tax rate itself or the location of production as such.

Conover and Nichols (2000) confirm earlier findings that US firms do engage in income shifting worldwide on a large scale, although they did respond to the 1986 Tax Reform Act by bringing income back to the US. The same is true of European OECD member firms; where extensive transfer pricing and tax-induced capital restructuring (e.g. intra-firm debt) take place despite the OECD Model Tax Convention and the OECD Transfer Pricing Guidelines which call for the application of market prices to intra-firm transactions (Bartelsman and Beetsma, 2000). Work on US data by Artschuler and others (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 the residence principle maximises their tax take. Developing countries typically favour the source principle because they host 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 industrialised countries follow worldwide income taxation systems that depart from

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[5] The detailed statistics published by the US Treasury on foreign holdings of US financial assets (principally bank deposits and government bonds) are not helpful here: first, because it included the operating balances of banks in the region, including central bank reserves; and second, because much of the assets are held via offshore accounts.

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

pure residence or source principles. The US, for instance, taxes both foreign income of US 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 – that is, the tax rate varies according to the country of destination. Furthermore, the US currently applies different rules to foreign income taxation by US residents depending on whether operations are carried out directly by US persons (e.g. through a foreign branch) or indirectly, through a foreign corporation.

In the former case, foreign income is currently taxed in the US. In the latter, foreign income is only taxed upon distribution to US persons. This implies 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.

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

The type of multinational company most likely to be swayed in its location decision by levels of taxation will be those multinationals driven by short-term cost-minimisation, and tending to emphasise low value-added production. Long-term profit-maximising multinationals 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. Tax breaks are viewed as a 'windfall' gain that is considered (and claimed) only after more relevant criteria have been satisfied. Moreover, although the justification for tax incentives may be the desire to generate technological externalities, in practice the ability of a developing economy to realise these gains depends upon the prior existence of sufficient enterprise capability and a skilled workforce – and thus in all probability fairly high taxes (Blomstrom, 2001).

A further problem associated with this issue is that of offshore financial centres. 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]

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

The Financial Stability Forum (FSF, 2000) addressed the issue of Offshore Centres (OFCs) from the point of view of systemic instability in international capital markets. Those OFCs unable or unwilling to adhere to international supervisory standards (weak supervisory practices and/or no cooperation and transparency) pose two serious problems: (i) prudential concerns for the effective supervision of international financial intermediaries; and (ii) market integrity concerns relating to the effectiveness of international enforcement efforts in respect of illicit activity and abusive market behaviour.[8]

Finally, foreign portfolio investment has recently become subject to a variety of taxation measures intended to act as capital controls on inflows or outflows in a number of emerging markets. Although this paper addresses the direct taxation of income from foreign assets rather than indirect (i.e. turnover) taxes on asset transactions[9], it should be observed that withholding taxes on asset income can have a similar dampening effect as although the base is smaller the rate is much higher (Zee, 2000). Such a tax can be designed to provide an incentive to foreign investors holding assets of longer maturities, or to hold 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 do so via offshore vehicles in order to avoid tax.

5. New Policy Issues for Latin America and the Caribbean

From the point of view of developing country revenue authorities, 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 thus necessary to ensure far more comprehensive information exchange within existing treaties than is currently the case – particularly in relation to assets in the US. Such measures, however, become ineffective if offshore centres are used as transfer pricing points as well as for tax avoidance. In consequence, absent a comprehensive multilateral tax agreement, reconsideration of tax credits within existing DTTs would be desirable; as would the application of the US 'pass-through' principle to tax havens.

Either the source or the residence principle could provide a basis for an effective system of international tax co-operation, if it were applied uniformly. Tanzi (1996a, b, 1998) thus argues that the time has come for some sort of world tax organisation; but not to impose/collect taxes (politically infeasible) but rather to support national authorities. Such an organisation would (a) exercise surveillance on tax systems worldwide; (b) provide a policy forum; (c) resolve disputes on tax competition; (d)

[8] The FATF published a report ('Non-Cooperative Countries and Territories.') listing 15 jurisdictions which failed to meet international anti-money laundering standards: including the Bahamas, Cayman Islands, St. Kitts & Nevis, St Vincent & Grenadines, Dominica and Panama as well as Israel, Lebanon, Liechtenstein, Philippines and Russia. However, in 19 June 2000 the OECD announced that six jurisdictions, including Bermuda and the Cayman Islands, had made commitments to eliminate harmful tax practices by the end of 2005, embracing international tax standards for transparency, exchange of information and fair tax competition.

[9] But see FitzGerald (1999) for an extensive discussion of this topic.

exercise moral pressure on free riders; (e) gather tax statistics; (f) communicate best practice; (g) develop codes of conduct in 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 EU as a result of current efforts to harmonise 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 measures (many of whom already have observer status at the OECD) would be a logical and technically feasible step.

Information provision alone by industrialised country tax authorities would improve the situation. Since the information is collected in any case, in order to levy dividend taxes, the ultimate cost might not be overwhelming. This option would require confidence in the administrative capacity, independence and discretion of the tax authorities of even 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 FTAA as a counterpart to the property rights established under the proposed investment provisions.

The European Community proposal for the taxation of cross-border interest payments, the 'withholding tax directive' shows that a measure of this nature is feasible (EC, 1998). Even opponents agree that in principle withholding taxes are justifiable because they are neutral for investors properly declaring their tax liability elsewhere, but unless universally applied would simply lead to the shifting of the formal location of income payments. Progress in the European proposals – albeit 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 that that operates 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 may be provided by the drive for better co-ordination among national tax authorities to tackle organised 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 the EU) allows for gains from coordination *within* the region permitting both greater revenues and greater inward investment, without global coordination (Haufler and Wooton, 2001). Indeed in recent years as investment incentives in industrialising countries have tended to move towards the 'regulatory domain' in terms of market access,

environmental protection and labour standards, these too have required greater cooperation in order to avoid a 'race to the bottom' (FitzGerald, 2001). Further, a regional arrangement that makes national rates 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 thus 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 (Sadka and Tanzi, 1992).

In sum, pressure for effective international cooperation to facilitate income tax collection is increasing. The increasing mobility of capital across national borders poses serious problems for national fiscal authorities committed to taxing income from wealth. Co-operation 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 – particularly EU 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 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 permitting joint actions could increase the fiscal resources available to the region. Further benefits would stem from this, including disincentives to capital flight, increased fiscal and macroeconomic stability, and greater resources available for poverty alleviation.

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Appendix A Statistics on Income Tax Paid by US Affiliates

Table A.1 Income and Taxation of US Affiliates Worldwide, 1998

US $ billion	Reported Income	Cost of Sales etc	Foreign Income Tax	Net Income	Effective Income TaxRate*	Other local tax paid
All countries	2115	1937	41	137	23%	112
of which:						
Canada	248	233	5	10	33%	7
Europe	1208	1102	22	84	21%	73
LAC	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

*Foreign Income Tax /Gross Income; Gross Income = Net Income + Foreign Income Tax
Source: Author's calculations on the basis of US Commerce Dept figures

Table A.2 Income and Taxation of US Affiliates in LAC, 1998

US $ billion	Reported Income	Cost of Sales & other expenses	Foreign Income Tax	Net Income	Effective Income TaxRate	Other local tax paid
All LAC	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: as above

Table A.3 Income and Taxation of US Affiliates in selected LAC countries*, 1998

US $ billion	Reported Income	Cost of Sales & other expenses	Foreign Income Tax	Net Income	Effective Income TaxRate	Other local tax paid
All LAC	245.1	217.8	4.6	22.7	17%	14.4
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%	-
BWI	11.7	7.6	0.2	3.9	3%	-

* Those reporting over US$ 10 bn in income by the subsidiaries
Source: as above

Table A.4 Reported Average Income Tax Burdens in Selected Countries, 1983-97

Foreign Income Tax/Gross Income (%)	1983-86	1988-91	1993-97
Argentina	24	27	30
Brazil	48	49	21
Chile	54	11	21
Mexico	71	36	31
Venezuela	54	44	23

Source: as above

Appendix B A Simple Model of Capital Income Tax in the Open Economy

This note sets out 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 maximise welfare when capital can move abroad.

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

$$Y = AL^{a} K^{b} J^{g} \qquad (1)$$

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

$$r = \frac{\partial Y}{\partial K} = \boldsymbol{b}.L^{a} K^{b-1} J^{g} \qquad (2)$$

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

$$K = \left\{ \frac{\boldsymbol{b}.L^{a} J^{g} (1-t)}{r^{*}(1-t^{*})} \right\}^{\frac{1}{1-b}} \qquad (4)$$

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:

$$Y = \left[AL^{a} J^{g} \left\{ \frac{\boldsymbol{b}(1-t)}{r^{*}(1-t^{*})} \right\}^{b} \right]^{\frac{1}{1-b}} \qquad (5)$$

From (4) 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 maximisation.

However, for this conclusion to hold, 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 the previous years' 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 RHS of (5) 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

$$Y = AL^{a}\{tr\}^{g} K^{b+g} \qquad (7)$$

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

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

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 maximised, found by differentiating (7) with respect to *t*

$$T = \frac{g}{\boldsymbol{b}+g} \qquad (9)$$

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 equalised 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*.