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*The Future of Globalization:*

*Tax Competition and Trade Liberalization*

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**The Future of Globalization:  
Tax Competition and Trade Liberalization**

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## *Summary*

This paper presents some recent findings in the literature on tax competition and the political economy of trade, and discusses interesting policy implications from these intertwined fields pertaining to globalization. A basic message that emerges from early contributions is that tax competition leads to underprovision of public goods and a shift of tax burden from mobile factors (such as capital) to less mobile factors (such as labor). This result, however, is based on models in which the only distortion is the competition for mobile capital through distortionary taxes. The more recent literature has challenged the pessimistic view by showing that in the presence of other distortions (e.g., governments are not benevolent, markets are not perfectly competitive, governments lack commitment, etc.) tax competition may be beneficial and/or does not necessarily reduce tax rates on mobile factors. The empirical evidence on tax competition is somewhat mixed. Although statutory tax rates on various forms of capital have fallen in many countries, tax bases have at the same time been broadened, thereby offsetting the fall in statutory tax rates.

The second part of the study discusses the prospects of trade liberalization. The persistence of trade barriers and the resistance to trade liberalization have both normative and positive explanations. Although free trade increases overall income, governments may not be able to redistribute the gains from trade due to a lack of lump sum taxes. In addition, the ability of politicians to extract rents from lobby groups may be used to promote political agendas that lead to protectionism. This aspect needs to be taken into account when the prospects of regional trade agreements are considered. The net benefit of regional agreements therefore depends not only on trade diversion and trade creation, but also on how trade agreements affect lobbying and the benefits of future multilateral trade negotiations.

# 1. Introduction

Globalization is a process in which national economies become more and more integrated. Economic integration takes place in terms of increasing factor mobility, in particular mobility of capital, and rising volumes of trade in goods. Globalization is a double-edged sword. On the one hand, globalization leads to a more efficient allocation of worldwide resources and thus to higher output and growth. On the other hand, many fear globalization because it disrupts employment patterns, makes incomes more volatile, and threatens the government's ability to redistribute income and to provide public services. The purpose of this study is to evaluate these conflicting claims by providing an overview of the relevant literature in international trade and public finance. The focus is on the implications of tax competition for the functioning of the welfare state and the potential of further trade liberalization.

It is recognized both among academics and policymakers that there are impediments to free trade, and that these obstacles raise questions about the future of worldwide trade and the welfare of both industrialized countries (IC) and developing countries (DC). A number of observations are useful in identifying the frictions.

*First, industrialized countries have low tariff rates on average, but are highly protectionist in a limited number of markets.* Protectionist policies take a number of forms, from tariffs and quantity restrictions as in the textile industry; export subsidies in agricultural products, or the threat of countervailing duties as in the steel industry. Why do ICs protect some markets heavily? Three different explanations for the existence of tariffs are examined: Certain industries are well organized and wield political influence beyond their size. Yet even in the absence of political influence tariffs may play a role, namely when governments lack

commitment power. The third argument is a normative one. Although trade increases overall output, governments may lack tax instruments to distribute the gains to every group in society.

*The second observation relates to the way trade liberalization is conducted.* Until the 1980s or so, most trade liberalization was accomplished in multilateral rounds among ICs (e.g. GATT). More recently, however, the multilateral process in the WTO has been complemented and to some extent replaced by regional trading agreements. Regionalism is not restricted to the industrialized world. The worldwide spreading of regional trade agreements has some people fear that regionalism will stop multilateral trade liberalization. Is regionalism bad? Another characteristic of regional trade agreements is that small countries often form a free trade area with a large country without seemingly getting appropriate compensation for lowering its own tariffs. How much do small countries gain from PTAs with large countries?

*A third observation is that a number of countries' exports, in particular in the developing world, are highly dependent on one or only a few goods.* Often these goods are raw materials whose prices have declined recently and/or are very volatile. In addition, many resource-abundant countries have been outperformed by countries that are similar except for their natural resource endowments. For all of these countries trade appears to be a mixed blessing. Why is this so and how can it be fixed? The development of tax systems in developing countries and the management of risk are key in making future trade liberalization successful.

Many of the problems related to trade, as outlined above, are echoed in the discussion on the desirability of capital mobility. Different from the trade literature, however, is the fact that

‘protectionism’ in the sense of closing borders to capital flows are very difficult and costly, and even undesirable. Thus, of particular concern is the fear that openness may limit the scope for taxation and the ability to redistribute income among citizens as well as restrict the provision of public goods. In other words, if regions compete to attract mobile capital, the outcome of such competition could be a reduction in tax rates and public expenditure. This means that *even if governments act in the best interest of their countries, tax competition may be harmful since the fiscal externalities that arise from it lead to inefficiently low provision of public goods*. It is therefore important to identify under which conditions tax competition may be harmful.

A different perspective on tax competition is taken by the public choice literature, which argues that tax competition may benefit countries and improve welfare through a reduction in wasteful government spending.<sup>1</sup> This literature sees bureaucrats and politicians as rent-seekers who are not exclusively maximizing the welfare of voters. If government officials personally benefit from the budget they control, they have incentives to pursue activities that expand the welfare state beyond the desired level.<sup>2</sup> There is substantial evidence for rent-seeking by government officials in many countries, as signified by the number of charges and convictions over corruption and pocketing of government owned cash.<sup>3</sup> *The importance of the public choice literature depends on how widespread rent-seeking activities are, the damage they do to the economy, and how increasing economic integration affects rent-seeking.*

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<sup>1</sup> See, for example, Brennan and Buchanan (1980) and Edwards and Keen (1996).

<sup>2</sup> See e.g., Niskanen (1971).

<sup>3</sup> Another type of rent-seeking behaviour that rarely finds its way into courtrooms relates to ‘perks’ such the hiring of relatives and friends, fancy offices, business lunches, and fringe benefits.

The rise in trade and capital mobility is driven by many forces. Increasing capital mobility is to some extent the result of policy decisions in the early 1980s. Many countries became convinced that the complicated and very costly procedure of approving every application of foreign exchange was not feasible, partly due to the volume of applications, and partly due to the lack of information necessary to assess each application. The liberalization of foreign exchange laws that followed implied free mobility of capital between those countries that abolished their foreign exchange controls (i.e, virtually all OECD countries by the early 1990s). Competition for mobile capital is intensifying not only as a result of capital account liberalization however. Due to significant advances in communication and transportation technologies as well as a shift toward pro-market thinking around the world after the end of the Cold War, the costs of doing business abroad have declined.

To some extent the rise in trade can be explained by a reduction in politically created trade barriers through multilateral negotiations such as GATT/WTO, regional free trade agreements such as NAFTA and the Internal Market of the EU, and sometimes by unilateral trade liberalizations. Similar to the case of higher capital mobility, increasing trade is not only the result of policy choices however. Transportation costs both at sea and via air have declined and make it easier for exporters to penetrate foreign markets. In this paper we mostly refer to trade liberalization as a policy induced process, but it should be understood that the same issues can arise from falling transportation costs. Trade liberalization involves a change in relative output prices, which occurs also when transportation costs fall differentially for various goods.

The purpose of this paper is not to provide a comprehensive review of the entire literature on tax competition and the political economy of trade (which would be more like a book-type

undertaking), but rather to present and discuss some recent ideas on these topics that have some interesting policy implications pertaining to globalization. We start out in section 2 by reviewing some of the most relevant findings in the tax competition literature. Section 3 deals with the issues described above on the political economy of trade. Overall conclusions, based on both the literature on tax competition and the literature on trade liberalization, are offered in section 4.

## **2. Tax competition - theory and empirical evidence**

The well-known term ‘voting with one’s feet’ originates from the first tax competition model and dates back to Tiebout (1956). The Tiebout Hypothesis is that households will sort themselves among jurisdictions according to their preferences for the mix of taxes and public expenditures. In the ensuing equilibrium, the provision of public goods is efficient in the sense that a central authority cannot reallocate households among jurisdictions without making anyone worse off. This requires that there is a large enough number of jurisdictions for each individual to find its preferred tax-expenditure mix. The Tiebout model can easily be extended to a model where regions compete to attract mobile firms, and where the tax rate reflects the cost of providing public investment goods to firms. As in the Tiebout model, the outcome of tax competition leads to an efficient outcome in the sense that the marginal benefit of providing public inputs are equalized to the marginal cost.<sup>4</sup>

The Tiebout Hypothesis has been questioned, not least because it relies on a number of restrictive assumptions. Among these is the assumption that the government can collect a non-

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<sup>4</sup> For a recent model as well as a survey of this literature see Wellisz (2000).

distortionary “head tax” from each resident equal to the cost of providing her with the preferred level of public goods. Other underlying assumptions are the absence of scale economies in public goods provision, and the large number of jurisdictions in order to obtain efficient sorting of individuals. The inclusion of firms in the Tiebout model does not rely on milder assumptions and also requires the use of non-distortionary taxes to ensure an efficient location of firms. In reality, the taxation of capital is inefficient and the sorting mechanisms required by the Tiebout model are not in place. The departure from the idealized settings of the Tiebout model implies that competition to attract mobile capital leads to fiscal externalities among countries that are at the heart of the analysis in modern models of tax competition.

## **2.1 The ‘standard’ tax competition model**

The term tax competition is used in the literature to describe how capital taxes are set by independent governments that do not cooperate, and the effect of tax setting on national tax bases. The early contributions consider a country with many identical regions each playing host to competitive firms producing a single output by means of a nationally fixed stock of mobile capital and an immobile factor fixed in supply. The latter could be interpreted as land or labor, and may give rise to pure profits. It is assumed that each region’s supply of a public good is financed entirely by a tax on capital employed within its borders (source tax). Tax policy affects the distribution of the country’s (world) capital stock. A fundamental insight is that a rise in the capital tax rate of one region benefits other regions by increasing their capital supplies and, hence, their revenues. Put differently, a tax increase in one region causes a positive externality for other regions. However, the government in each region neglects these

externalities since it is only concerned with the welfare of its own residents. The end result is that taxes are set too low resulting in underprovision of public goods. An increase in all tax rates at the same time by a small amount would increase public goods supplies and welfare in all regions.<sup>5</sup>

An obvious way to alleviate the fiscal externalities that arise from competition over capital would be to impose capital controls that effectively closed each region's border to factor mobility. However, this is not an attractive option to consider due to the administrative costs involved and problems of implementation. Furthermore, capital controls can be shown to be detrimental to welfare in a more general setting. The literature has considered several extensions of the base model.

*Expenditure Competition* The fiscal externality does not depend on the assumption that governments choose tax rates (and government spending adjusts to balance the budget). More realistically, one could argue that not only tax rates, but also the public goods levels could serve as strategic variables in the analysis of tax competition. It turns out that if regions engage in expenditure competition, where tax rates adjust to reflect the chosen budget level, the equilibrium level of public goods is even lower than in the models where the tax rate is the strategic variable.<sup>6</sup>

*Variable supply of capital* A more appealing modification of the standard model is to allow the world stock of capital to be variable in supply, since taxation of capital potentially could have a detrimental effect on household savings behavior. Indeed, allowing for an endogenous supply of capital has the effect of reducing the amount of capital that flows out of a country

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<sup>5</sup> See e.g. Zodrow and Mieszkowski (1986) and Wilson (1986).

<sup>6</sup> See Wildasin (1988).

that increases its tax rate. The consequence of this is that the arising fiscal externality is less pronounced than under an assumption of fixed capital supply. However, the fiscal externality still remains, leading to wasteful tax competition through reductions in tax rates and public expenditure.

*Multiple tax instruments.* In reality governments have several tax instruments at its disposal. Allowing a tax on the immobile factor and assuming it suffices to finance the provision of the public good eliminates the problem at hand. Such a tax would be lump sum in nature and implies zero taxes on capital everywhere. As argued above, however, lump sum taxes are typically not available. More realistic is the assumption that production is undertaken by immobile, but elastically supplied labor and mobile capital. Since capital is infinitely elastic in supply from the viewpoint of a small open economy (region), whereas the elasticity of labor supply is finite, the optimal policy is to set a zero tax on capital and collect all tax revenue from labor income. Even in this case regions will set the tax rate too low and collect too little tax revenue.<sup>7</sup> The mechanism at play is that a raise in the labor tax in one country reduces domestic labor supply and demand for capital. As a consequence, the amount of capital available for the other regions increases and drives up the productivity of labor and thus labor supply. This positive externality implies that all countries could be made better off by a joint increase in the tax on labor income. The absence of such a coordinating effort means that tax rates on capital and labor are too low and the public good is underprovided.

The shift of tax burden on less mobile factors for efficiency reason has important distributional implications. Individuals differ in the composition of their income. Typically higher income individuals receive a larger share of income from capital, whereas low-income

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<sup>7</sup> See Bucovetsky and Wilson (1991).

individuals obtain income mainly from labor. Tax competition tends to make low-income people worse off, which may explain the opposition to integration of global capital markets.

*Foreign (absentee) ownership* Another modification to the standard model is to allow firms to be owned by foreigners. This amounts to an assumption that the return to the fixed factor is shared among domestic and foreign residents. Since the capital tax is capitalized into the return to the fixed factor, the burden of the tax is shared among foreign and domestic residents. This gives rise to a tax exporting effect. If the return to the fixed factor was solely collected by foreigners the incentive for tax exporting would induce regions to increase their tax rates in order to capture all returns derived by foreigners. In reality there is a mixture of home and foreign ownership, which means that allowing foreigners to collect some of the returns to the fixed factor dampens the incentive to compete for capital. In this sense, integration of international capital markets is beneficial. The main message of harmful tax competition, however, remains intact.<sup>8</sup>

*Double taxation* The basic tax competition result is derived under the assumption that capital is taxed only at source. This is often motivated by the fact that foreign source income is difficult to monitor for domestic governments. An exception is the taxation of corporate income, in particular dividends distributed from a foreign subsidiary (located in the capital importing country) to its parent company (in the capital exporting country). In this case, typically both the host government of the subsidiary and the government of the parent tax the dividend income. The issue becomes one of double taxation rather than too little taxation. Whether tax rates are too high or too low in equilibrium, however, depends on the precise nature of double taxation relief offered by the capital exporting country and the extent to

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<sup>8</sup> For a recent contribution see e.g. Huizinga and Sørensen (1998).

which the country discriminates between domestic and foreign source income. Bond and Samuelson (1989) show that under a tax credit system, in which the capital exporting country uses different tax rates for domestic and foreign income, tax rates are so high that all capital movements are eliminated. By contrast, Janeba (1995) proves that the result is not robust when tax discrimination is not feasible. The tax rate of the capital exporting country declines to zero in equilibrium. Yet the equilibrium is not efficient because the tax of the capital-importing country distorts the world allocation of capital.

*Public Input goods* The early works on capital tax competition shows that tax rates are set too low in the competitive tax equilibrium in order to finance public *consumption* goods. These studies mostly neglect the fact that the public sector also provides public *input* goods. The distinction between these two types of goods is important to note. Public input goods, in contrast to public consumption goods, reduce the private costs of production or increase the marginal productivity of capital. Hence, the net 'fiscal' burden of a given tax is lower from the perspective of an international mobile investor. One main result is therefore that in equilibrium too much of a given government budget is spent on public inputs and too little on public consumption goods (Keen and Marchand (1997)).

The inefficient bias toward public input spending appears to be at odds with the conventional wisdom that emphasizes the importance of good infrastructure to attract foreign investment. There is no contradiction however. It is true that good infrastructure facilitates the flow of investment, but at the same time it is possible that too much is spent when all regions compete.

*Public goods spillover effects* A third consideration that may mitigate the underprovision of public goods is the possibility that locally provided public goods have spillover effects across regions. Many types of public expenditure may affect utility in other regions. For instance, a reduction in national CO<sub>2</sub>-emissions may improve the international environment, publicly sponsored R&D efforts may benefit other countries through the transfer of technologies or ideas; a reduction in unemployment at home through expansive fiscal policies may reduce the unemployment abroad by increasing the demand for foreign goods, etc. By allowing for such spillover effects in the tax competition model one introduces a second source of undersupply, namely that of free-riding. Each region expects that other regions spend resources on the common good. Intuitively, one might therefore expect the underprovision of public goods to be further aggravated. However, it turns out that this is not necessarily so. The reason is that spillover effects reduce the incentive to compete over capital since it becomes irrelevant who has the capital and supplies the goods. However, large spillovers increase the strength of the free riding problem and can therefore only reduce the undersupply of public goods but not alleviate it.<sup>9</sup>

*Large regions.* The highly stylised model of competition over capital among many small regions is certainly valuable, but it is not the only description of the conditions under which competition for capital can occur. A realistic expansion of the standard model is to assume competition among regions that are large enough to influence the equilibrium after-tax return to capital. The literature models the outcome of such competition by assuming that each region sets its tax rate by assuming that the tax rates of the other regions are fixed (i.e., Nash behavior), but realizes that the equilibrium outcome depends on the action of itself and the other regions. Compared to a situation with many small countries competing for capital, the

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<sup>9</sup> See e.g. Bjorvatn and Schjelderup (2001)

outcome of competition among a limited number of large regions is less severe since part of a tax increase by one region is capitalized into that region's after tax return to capital. These theories indicate that if tax competition among small countries drives tax rates to zero, equilibrium tax rates will be positive if large regions compete. Nevertheless, tax rates are too low in equilibrium (Bucovetsky and Wilson 2001).

*Small vs. large region.* The literature models differences in size by assuming that each household owns a unit of capital, but that regions differ by population size (only). Per capita levels are therefore the same in each region, and imply that capital will not move between regions unless taxes differ. In this setting the literature finds that the small region has an incentive to underbid the large country. Since the large region is a large demander in the international capital market, a reduction in its tax rate ( $t$ ) will increase the after-tax return to capital ( $r$ ) substantially. The movement of capital across regions depends on the cost of capital, that is,  $r+t$ , which means that a reduction in  $t$  has a modest effect on the cost of capital. As a result, the large country has weak incentives to bid for capital. In contrast, the small country cannot affect the after-tax return on capital and a reduction in its tax rate will therefore lower the cost of capital by a large amount. An important result is that if the small country is sufficiently small, it sets a lower tax rate than the large country and attracts an over proportional share of the total capital stock. By doing so it 'wins' the competition for capital in that it can obtain higher per capita utility in equilibrium (Bucovetsky (1991) and Wilson (1991)). The result has interesting policy implications, as small countries may do relatively well in an integrating world. It should be noted, however, that the outcome is still inefficient.

## 2.2 Tax competition in the presence of other distortions

Most of the literature on tax competition, as reviewed so far, finds that mobility of capital leads to downward pressure on tax rates and hence to underprovision of public goods. The specific set of assumptions modifies how strong the fiscal externality is, but as long as governments maximize the welfare of a representative citizen it appears that tax rates are always too low. Put differently, when countries are symmetric, each region would be better off without mobility of capital. This need not be the case when other distortions are present, as the following discussion indicates.

*Commitment Problems* When governments lack commitment power, mobility of firms can lead to lower equilibrium tax rates, like in the traditional literature, but this may be efficiency enhancing. In Janeba (2000) a multinational firm has to invest in capacity before production can take place. If the government lacks commitment power and taxes the firm only after the firm has made its investment (and before output is produced), a standard time-consistency problem arises: Once the firm has made its sunk investment, the government levies a high tax rate, which - when anticipated by the firm - leads to no investment because the firm is unable to recoup its investment cost. The problem is quite different if the firm has the option to invest in multiple countries even when all of them lack commitment power. By holding in several plants more capacity than necessary to serve the market, the firm can induce tax competition for capacity utilization. If tax rates come sufficiently down, the cost of investing in excess capacity are recouped. Lack of government commitment is a particular problem for developing countries. The possibility to invest in several countries is an endogenous response by multinational firms to overcome lack of commitment and make investment possible. Yet, the overall outcome is not efficient because too much capacity is built.

*Competing for firms* The contributions in this genre assume competition between regions over large increments of capital, a large firm, say, or a whole industry (agglomerations). The underlying assumptions about country differences drive the outcome of tax competition. For example, Haufler and Wooton (1999) study tax competition between two countries trying to attract a foreign-owned monopolist. The existence of trade costs and scale economies means that the firm prefers to locate in the large market where it is able to charge a higher producer price. The locational preference for the large country means that the taxing authority in this country is able to attract the firm at a lower cost than the small country. Haaparanta (1996) investigates a subsidy game between two countries that seek to attract inward foreign direct investment in order to alleviate domestic unemployment. In his model differences in national wage levels determine the outcome of tax competition. In Black and Hoyt (1989) regional differences in a non-labor cost component is the crucial component in a subsidy game between two regions trying to attract firms. Typical for these contributions is that although one region emerges as the 'winner' of the competition for firms, there is a downward pressure on tax rates. However, this does not necessarily lead to zero taxes.

*Agglomerations and tax competition* New trade theory provides a different view on the outcome of tax competition under economic integration. These studies use models of monopolistic competition to explain trade in similar products. Production is undertaken by use of labor and capital in the presence of scale economies. Tax competition does not lead to equal tax rates between regions and the region that is the host to an industry (agglomeration) has an advantage. Since firms in the agglomeration earn a return above the average, the host country can tax away part of the return without driving the industry away. These theories

indicate that any country playing host to an agglomeration can have higher taxes on capital than other countries and that countries may gain from tighter economic integration.<sup>10</sup>

*Imperfect Competition* Capital mobility may lead to higher tax rates when markets are imperfectly competitive. This is shown by Janeba (1998) by reconsidering the strategic trade policy problem of Brander and Spencer (1985). Brander and Spencer show that if two firms, each located in a different country, compete by exporting to the world market, each government has a unilateral incentive to subsidize its firm's exports. The subsidy basically acts like a commitment device to expand the firm's market share. Since both governments have the same incentive, however, the two countries end up in an inefficient subsidy race. Janeba uses this framework, but allows firms to choose the location of production. The location decision depends on the subsidies (or taxes) offered by both governments. When governments cannot discriminate between the two firms, the noncooperative equilibrium entails zero subsidies/taxes because neither government wants to subsidize the other firm. Thus mobility of firms leads to lower subsidies (or higher taxes) than in the case without mobility and both countries prefer the new outcome if consumption of the good is mostly outside the two countries. Yet the outcome with mobility is not efficient because in an oligopolistic market output is either too high in the absence of consumer surplus considerations or too low when consumer surplus matters.

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<sup>10</sup> See Ludema and Wooton (2000) and Kind, Midelfart Knarvik, and Schjelderup (2000).

## 2.3 Political economics and tax competition

The public choice literature challenges the notion that competition to attract capital is harmful. The basic idea is that competition reduces the rent-seeking activities of government officials and may force a more efficient use of public funds. The literature can be divided into two categories. The first group of papers does not take into account electoral systems or re-election concerns. Rather, re-election concerns are implicitly assumed by modelling governments as partly benevolent and partly Leviathan. Hence, government officials are concerned in part with maximizing the public sector or by diverting some tax revenue for own consumption. Most of these papers find the outcome of tax competition on tax rates, public expenditures, and welfare to be ambiguous. In essence, the outcome of tax competition depends on an assessment of the relative strength of Leviathan versus Benevolence (see e.g. Edwards and Keen (1996) and Rauscher (1998)). Making the weights given to these effects endogenous seems to be an important task. One would expect such an exercise to show that taxes would fall due to the competition over capital. Lower taxes and tax revenue, however, may not be negative. If the rents that government officials lay their hands on decrease more than tax revenue, the provision of public goods as well as voter utility would presumably increase.

Gordon and Wilson (2001) provide a different angle on tax competition by assuming that residents initially set taxes, while rent seeking government officials thereafter decide on the distribution of expenditures. Hence, residents face the problem of providing incentives (salaries) to government officials that curb rent-seeking activities and induce benevolent behavior. Government officials cannot be ousted from office for poor performance through elections. They can, however, be fired if they spend more of their budget on perks than in

other regions (yardstick competition). Another mechanism that serves to induce benevolent behavior is that residents can “vote with their feet” if they are displeased with the performance of government officials. A central property of this model is that influx of immigrants increases the tax base and leaves more room for rent seeking, but in order to attract immigrants in the first place, government officials must offer a ‘preferred package’ of public goods. Gordon and Wilson (2001) find that if residents can move between regions, competition to attract households reduces wasteful behavior by government officials, and increases public expenditure and resident utility. The increase in public expenditure comes at a cost. The equilibrium tax rates are above the rates that would be chosen by residents if regions could coordinate their tax policy, and public goods may still be underprovided.

The second part of the literature models tax competition in the presence of voting and there are different approaches to how this is done. Persson and Tabellini (1992) study a two-country model where each government levies a source tax on mobile capital to finance government transfers. This model generates the usual effect. A fall in the cost of investing abroad (i.e., increasing competition) puts downward pressure on tax rates. At the same time, however, there is a second, political effect in place since policy is chosen by a policymaker who represents the preferences of the median voter. Tax competition is shown to make the median voter select a more leftist government, whose distributional preferences call for higher taxes on capital, and this partly mitigates the tendency of tax competition to lower taxes on capital.

Biglaser and Mezzetti (1997) study how regions compete to attract large firms. Their starting point is the observation that some US states seem to offer ‘tax packages’ to firms that often

exceed the ‘economic value’ of firm’s instate investment project.<sup>11</sup> They assume that when preparing a bid, legislators take into account both the public’s interest and the bid’s impact on their probability of re-election. The competition among regions follows the rules of an English auction.<sup>12</sup> Since politicians value their re-election, their bid for investments is distorted away from the value of the project to voters and may result in an inefficient location of firms in the sense that legislators give away too much of the taxpayers money in order to attract firms.

The political economy literature therefore cautions the conclusion from earlier research, although existing work doesn’t completely overhaul previous insights, partly because economists haven’t explored this area as much.

## **2.4 The empirical evidence for tax competition**

Although the early models of tax competition suggest that taxes on mobile capital should fall, refinements of these models in general dampen the downward trend of taxes, and in some cases show that taxes may even increase. Investigation of statutory tax rates show that they fell in the 1980s and 1990s seemingly supporting the hypothesis that countries compete over capital. Sørensen (2000), for example, shows that in OECD countries average tax rates on retained income fell from 51.1 percent in 1985 to 38.1 percent in 1999. One should, however, be careful when interpreting such numbers since recent tax reforms in OECD countries have combined cuts in statutory tax rates with measures to broaden the tax base. Furthermore, data

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<sup>11</sup> A prominent example is the Alabama state, which competed with 30 other states over a new Mercedes Benz factory. Alabama ended up offering Mercedes a package worth 330 million dollars for a plant expected to cost 300 million dollars.

<sup>12</sup> Note that a benevolent legislator’s bid in an English auction is the same as the total value of the firm.

show that corporate tax revenues have been stable over the years both as a share of GDP and as a share of total tax revenue.<sup>13</sup> Taken at face value, these numbers suggest that the competitive pressures affecting taxes on mobile capital are weak. However, data also show that for the OECD countries, the overall tax burden over time has increasingly fallen on labor, indicating that governments try to shift the burden of taxation towards less mobile factors of production.<sup>14</sup> It is also generally accepted that portfolio investments are more mobile internationally than foreign direct investments, and the sharp drop in statutory tax rates can be interpreted as fierce competition over portfolio investments. Further empirical studies are necessary to assess the degree and effects of tax competition.

Empirical studies on tax competition suffer from lack of good data. The corporate tax, for example, falls on both mobile and immobile activities, and it is difficult to get data that disentangle the two from each other. It is also difficult to find data that separates corporate income tax revenues from revenues arising from taxing portfolio capital. Other problems pertain to the large variation over time in the way tax bases are defined across countries.<sup>15</sup>

In examining evidence for tax competition one can look for direct or indirect evidence. Indirect evidence is if studies show that firms' location decisions are sensitive to changes in taxes on capital. If this were the case, welfare maximizing governments would lower their taxes in order to attract capital. A number of studies have examined indirect evidence for tax competition. The general conclusion from this literature is that the allocation of capital is very sensitive to tax policies.<sup>16</sup>

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<sup>13</sup> See Chennels and Griffith (1997) and Bond and Chennels (2000).

<sup>14</sup> See Sørensen (2000).

<sup>15</sup> For a discussion of these problems in more detail see Devereux and Griffith (2001).

<sup>16</sup> See Hines (1999) for a full review of this literature

The direct evidence in support of tax competition is more fragmented. For the US and European countries there is support for the hypothesis that local governments compete.<sup>17</sup> Interdependent tax setting has been shown to arise from expenditures in one jurisdiction that affect neighbouring jurisdictions (for example money spent on reducing pollution); from ‘yardstick competition’ where voters in one region judge politicians in other regions in order to assess how their own politicians perform; and from competition to attract mobile capital.

The evidence in support of tax competition among countries (as opposed to cities or regions) is less conclusive and the number of studies is scant. Chennels and Griffith (1997) calculate effective and implicit tax rates for the period 1979-1994. They attempt to verify predictions from theory indicating that; (i) small countries set a lower tax on capital than large countries, (ii) the tax difference between small and large countries depends on the degree of openness, and finally, (iii) capital importing countries set their tax rates at (or below) a dominant capital exporter. They do not find support for any of these hypotheses. Devereaux, Lockwood and Redoano (2001) construct countries’ reaction functions by using ‘forward looking’ effective tax rates. They find evidence to suggest that correlation between statutory and average tax rates among countries, but not marginal tax rates. Their study concludes that there is evidence for international tax competition. Finally, Besley, Griffith and Klemm (2001) analyze empirically if the tax setting behavior of OECD countries is interdependent. Their study asks if taxes on mobile factors are lower than on immobile factors, and if interdependency in tax setting is greater between countries where capital is more mobile (say within the EU). Their findings support both hypotheses.

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<sup>17</sup> Brueckner (2001) provides a survey of these findings for the US, while Murdoch, Sandler and Sargent (1997) provides a cross country study of European countries.

Table 1 shows that during the last two decades taxes on capital income have fallen substantially both for large and small countries, which is consistent with the hypothesis that there is competition over capital. However, two interesting implications should be observed from Table 1. The first is that top personal tax rates have also fallen the last decade suggesting two possible trends at work; a trend towards more competition for capital, and an overall decline in tax rates. Disentangling the two is difficult, not least because base broadening effects need to be considered as well. The second implication of Table 1 is that the fall in corporate tax rates is larger for small countries than for large countries and that small countries now have lower corporate income tax rates. The latter finding is in accordance with the prediction from the tax competition literature that small countries will set lower taxes than large countries, since small countries perceive their tax base to be more tax elastic.

**Table 1: Statutory tax rates on capital income**

	Tax on retained corporate income (%)			Top personal tax on interest income (%)		
	1985	1999	Change 85-99	1985	1999	Change 85-99
Average small countries (<20 mill.)	49.1	31.9	-17.2	52.6	36.3	-16.4
Average large countries (>40 mill.)	48.2	40.0	-8.2	41.9	31	-10.9

Source: Sørensen (2000). *Small countries in the sample are:* Denmark, Finland, Norway, Sweden, Belgium, Netherlands, Luxemburg, Ireland, Portugal, Austria, Switzerland, and Australia. *Large countries are:* Spain, Italy, France, Germany, U.K., USA, and Japan.

**2.5 Tax coordination**

A final question pertains to international coordination of tax policy and if such coordination can alleviate the effects of competition. Assuming that tax competition leads to lower taxes on

capital and reduces welfare, a group of countries (like the EU) as a whole can gain from reaching an agreement on harmonizing taxes even if the rest of the world does not follow suit. The gain from the harmonization effort will then depend on the strategic response from countries outside the agreement. Konrad and Schjelderup (1999) show that harmonization among a subset of countries increases welfare for all countries (i.e., both within and outside the harmonizing coalition) if tax rates are strategic complements. Strategic complementarity means that harmonizing tax rates by increasing the rate to a common level among the coalition partners triggers a tax increase by the countries not part of the harmonizing coalition. Huizinga and Sørensen (2000) demonstrate that a tax increase in a EU tax haven will increase welfare in the rest of the EU, even if there exists a tax haven outside the EU. Finally, Sørensen (2000, 2001) carries out numerical simulations that indicate a gain to all EU countries if they coordinate their tax policy and increase capital tax rates. His simulations are shown to hinge on the basic result provided by Konrad and Schjelderup (1999).

One may question whether countries are able and willing to harmonize tax rates. If this is not possible, perhaps for political reasons, alternative coordination strategies may be considered. For example, the OECD (1998) proposed that countries should abandon attempts to attract very mobile tax bases through the use of preferential tax rates. The literature has analysed the proposal by comparing a situation in which each government is allowed to use differential tax rates on mobile and less mobile tax bases, including the extreme situation where no preference is allowed. Janeba and Peters (1999) show that linking tax rates for two tax bases leads to higher tax revenues because the linkage prevents heavy competition for the more mobile base. By contrast, Keen (forthcoming) derives the opposite result and argues that linkage can induce competition for the mobile tax base to spill over to competition for less mobile bases. The apparent contradiction is resolved by Janeba and Smart (2001) who show

that the effects of linking tax rates depends on the elasticity of a tax base with respect to unilateral tax changes and the elasticity of a tax base under a coordinated tax change. Empirical work is necessary to ultimately decide whether a case for restricting tax preferences can be made, although preliminary results indicate that some restriction on tax preferences may be justifiable.

The case of Ireland is an interesting example to examine the pros and cons from using tax preferences. Until recently Ireland had a low corporate tax rate of 10% for manufacturing and financial services, while the tax rate on other firms was much higher. This policy is often mentioned as one of the major reasons why Ireland successfully attracted so much foreign capital over the last decade. Since most of Ireland's manufacturing is foreign owned, the policy effectively targets internationally mobile businesses. Pressure from the European Union has led the Irish government to replace its dual-rate structure with a general rate of 12.5% for most corporate income. This may lead to more competition over less mobile capital depending on how other countries will respond.

### **3. The political economy of trade policy and trade liberalization**

The discussion on capital mobility and the possible detrimental effects to welfare of competition among countries to attract scarce capital is closely related to the issue of whether free trade is desirable. In both cases, it is mobility across borders that creates a potential problem. The thinking of economists on free trade is in sharp contrast to public opinion. While most economists agree that in most circumstances free trade is beneficial, public

opinion sees free trade as a threat to individuals' employment and income. Hence, public opinion is much more inclined to use protectionist policies. As will be clear from our discussion below, recent work by economists sheds new light on the use of protection on normative and positive grounds.

### **3.1 The Gains from Trade Argument Revisited**

To understand some new ideas on trade protection, it is useful to briefly review the traditional argument for free trade. In a small open economy with perfect competition in all markets a move from autarky to free trade makes consumers better off. The gains from trade are twofold: Trade allows consumers at world prices to attain autarky utility more economically, while firms can produce greater output. The latter gives consumers higher income and allows them to achieve higher utility (see Dixit and Norman, 1980).

The argument for free trade hinges on two assumptions: First, it abstracts from market power that would occur if a country were large enough to influence international prices. In reality some countries do have market power, but at the same time public opinion's call for protection is not restricted to large countries. The second assumption (perfect competition) rules out arguments for strategic trade policy (Brander and Spencer, 1985) when international markets are dominated by few firms, sometimes called "national leaders." Unilateral export subsidies increase a country's market share and overall welfare. This argument has been subject to criticisms on grounds that (i) all countries have such incentives, which may lead to an inefficient subsidy race, (ii) the government may open the door for lobbying with the result that the 'wrong' sectors would be protected, and (iii) the government may not have enough

information about industries to correctly target the right industries and set the export subsidy at the right level.

These criticisms are for the most part well taken. In addition, strategic trade policy cannot explain well why certain competitive industries are heavily protected. In the following the focus is instead on the fact that a move from autarky to free trade, or more generally any trade liberalization, makes some individuals better off and some worse off. Trade liberalization changes relative output prices. From the Heckscher-Ohlin-Samuelson model it is well known (i.e. Stolper-Samuelson Theorem) that an increase in the relative price of a good raises the real factor price of the factor that is intensively used in its production, but lowers the real factor price of the other factor of production.

The Stolper-Samuelson theorem seems highly relevant for unskilled workers in ICs. If trade liberalization with DCs lowers the relative price of unskilled-intensive goods, unskilled workers are hurt, while skilled workers are better off. In other words, trade liberalization poses a distributional problem. The traditional response by economists is that those who are hurt can be compensated because trade increases overall output. If the government controls lump sum taxes (first best world), trade liberalization can always be made Pareto-improving. In essence, efficiency issues can be separated from distributional concerns.

In reality, governments do not have lump sum taxes at their disposal. Taxing activities to redistribute income to others involves distortions because taxpayers try to avoid the tax. Does in a second-best world with distortionary taxation the separation of efficiency and equity still hold? Alternatively, can trade liberalization be made beneficial for everyone? Drawing on a famous result in second-best optimal taxation, the so-called production efficiency theorem

(Diamond and Mirrlees, 1971), Dixit and Norman (1980, 1986) argue that it can be done. The second-best optimum can be achieved with commodity and income taxes only. Trade intervention is not necessary.

The Dixit and Norman view has been challenged recently by pointing out that in the presence of skill differences, say unskilled and skilled workers, the government must be able to condition the tax system on the skill level (Naito 1996, Guesnerie 2001, Spector 2001). Such conditioning, however, is unlikely, as the government typically does not have complete information about skills. Rather the government observes income levels and is therefore forced to use a single income tax system. Under this modified set of assumptions, Naito and Guesnerie show that the optimal second-best tax system involves the use of tariffs, that is, the separation of efficiency and equity issues fails. Furthermore, Spector shows when governments are allowed to optimally intervene, but without use of tariffs, free trade is better than autarky if world prices are either very different or very similar to autarky prices. More generally, implementing a Pareto improvement in a small open economy is difficult because the government has no influence over the pre-tax distribution of wages. In a small open economy gross wages, and factor prices more generally, are determined in world product markets when production is diversified

The policy implications of these findings are at least twofold. The first is that trade liberalization does not occur automatically even if trade increases a country's total income. Gaining popular support requires that the government is able to redistribute the gains from trade to all groups. Yet a lack of instruments may prevent this from happening. A second implication is that trade liberalization should become easier, the more developed a country's tax system is. Trade liberalization produces winners and losers. Compensations of losers

requires that the governments is able to use its tax and transfer system for this purpose. The results by Naito, Guesnerie and Spector suggest that even tax systems in ICs may be insufficient to accomplish this, but surely the tax system in developing countries is even less capable. In many DCs the income tax system is underdeveloped. Poor people in particular often do not pay income taxes, sometimes because they are illiterate, sometimes because the government lacks the administrative capability. Governments in DCs have reformed their tax systems by substituting a VAT for tariffs as a way to raise government revenues more efficiently. Income tax systems are underdeveloped, however, as is indicated by the small fraction of the population that pays income taxes as well as the wide use of in-kind rather than cash transfers.

Some policies in ICs can be viewed as addressing the lack of instruments problem. For example, tertiary education is often fee-based and complemented by government subsidies (e.g., student loans). Yet government subsidies tied to acquiring education are themselves distortionary and redistributive. A subsidized student loan, for instance, induces more people to attend school than otherwise would do. This is inefficient unless education generates externalities for society that are not incorporated by individuals. In addition, government subsidies to those who become skilled through education tend to favor those who in the end have higher incomes, and hence have a regressive bias (for a more detailed analysis of (optimal) government intervention in a small open economy with heterogeneous skills see Janeba 1999).

### **3.2 Trade Protection, Lobbying, and the Lack of Government Commitment**

It has been recognized for a long time that politicians are not benevolent dictators but are subject to political pressure and may display politically opportune behavior. Politicians do not pursue policies for the sole purpose of maximizing the well being of the average citizen. Yet even if they do, tariffs may emerge as policy outcome. The latter point is made by Staiger and Tabellini (1987) who argue that free trade is not necessarily a time-consistent policy. To see this, consider a small open economy subject to terms of trade shocks. After the shock, labor reallocates between sectors (at a cost) to arbitrage wage differences. Assuming that the government wants to make the income distribution more even, a crucial insight is that the government's optimal policy before the labor reallocation differs from the optimal policy after workers move. Before workers move, trade protection is very costly because it prevents the restructuring of industries. By contrast, after workers have moved away from the industry with the adverse shock, protection is a relative efficient redistribution instrument precisely because it provides no disincentives for reallocation. The problem, however, is that the incentive to implement a protectionist policy after workers make their decision where to work is anticipated by workers. In equilibrium, fewer workers move and more protection is granted than if the government were able to commit. In other words, the optimal ex ante policy is usually time-inconsistent.

Staiger and Tabellini compare also a time-consistent tariff policy with a time-consistent production/consumption subsidy. The conventional wisdom ranks the latter higher than the former (see the production efficiency theorem above). However, the ranking can be reversed when time-consistent policies are compared. Since tariffs are more distortionary than production subsidies when implemented unexpectedly, tariffs will be used less in equilibrium.

Tariffs are then preferred over production subsidies if the gains from redistribution are relatively small. More generally, the analysis suggests that government commitment plays a crucial role for the success of trade liberalization. DCs that have unstable governments and lack credibility are prone to use protectionist policies. Against this background, regional and multilateral free trade agreements may provide these countries commitment power that they would otherwise lack.

Political pressure appears to be very relevant in the context of trade policy. Interest groups manage to influence the setting of protectionist policies. Politicians are constrained in their favors they may give to organized interest groups or in their ability to appropriate resources for themselves by their concern over being reelected. Policymakers face a trade-off between reelection concerns and the benefits received from special interest groups. Understanding the policymaker's trade off has important consequences for the level and structure of protection, as the work by Grossman and Helpman (1994,1995) shows. Lobby groups compete for influence over trade policies by offering contribution schedules to policymakers in exchange for a certain policy. The policymaker has a dual objective and maximizes a weighted sum of social welfare and total contribution from lobbies. The objective function can be seen as a short cut for the trade-off described above. The net welfare of a lobby group in a certain industry equals the sum of the labor income and output produced in that industry, the fraction of the voting population that shares in the rents and consumer surplus in the industry, minus the contributions made to politicians.

Several results are obtained. First, in a small open economy tariffs and trade subsidies are used. In particular, organized industries (i.e., those who have formed a lobby group) are

protected by tariffs (if the country is an importer) and export subsidies (if an exporter), while unorganized industries face import subsidies in the first case and export taxes in the second. A lobby has to pay in order to prevent other lobbies, say in an import competing industry, from raising the price of imports goods relative to other goods.

Moreover, tariffs and subsidies are linked in equilibrium to a number of observable characteristics. The tariff is higher, the bigger is the ratio of domestic output to imports, and the smaller in absolute value is the import demand elasticity. A similar logic applies to exports. A third result concerns a change in the politician's weight placed on campaign contribution relative to social welfare. A higher weight on campaign contributions makes all tariffs and subsidies larger in absolute value, so that protection becomes more prevalent.

Taken together, these results have a number of interesting policy implications. As emphasized before, the traditional logic that small open economies should not interfere with trade is undermined once politics is taken into account. The Grossman and Helpman approach explains why industries are active in forming lobby groups and which lobby groups are most successful. It has the further implication that trade intervention may be preferable to output subsidies/taxes, a point that came out of the Staiger and Tabellini analysis, but which is in contrast to conventional wisdom. In the lobbying framework the traditional logic is put upside down. Lobbies may prefer the less efficient instrument because under output taxes and subsidies lobbies have to pay more than under trade taxes to achieve the same policy outcome.

The lobbying approach to trade policy appears to have a number of normative implications as well. Recall that more weight on contributions in the politician's objective function leads to

more trade intervention in equilibrium. This suggests that institutional reforms aiming at reducing the influence of lobbies should be successful in fostering trade liberalization. One such reform could be to give candidates running for political office free commercial time on TV, let parties be government funded (perhaps in proportion to votes), and restrict the amount of donations for political campaigns, etc.

While these reform ideas are suggestive, there are also several caveats to keep in mind. For example, many European countries have some of these institutions in place. Nevertheless, protection is widespread in Europe, in particular in such industries as agriculture and energy. Secondly, restricting the donations of lobbies for political campaigns, may in itself induce a bias against newcomers in politics. Challengers to incumbents and conventional ideas may have difficulties in running an effective campaign if they can't mobilize private resources. As a result, political systems of this kind may have a status quo bias.

Grossman and Helpman (1995) provide another reason why lobbying may be beneficial for one country. When countries' trade policies affect international prices, a unilateral increase in the weight on lobby contributions leads to a higher import tariff at home and a lower foreign export tax, that is, a favorable terms of trade effect for the country that experiences the change in political climate. The terms of trade effect can be beneficial for the average domestic citizen because the government is able to commit more aggressively to support the domestic industry. Domestic lobby groups perceive politicians as more receptive to contributions in the sense that the marginal cost of "buying" policy has declined.

### **3.3 Prospects of Trade Liberalization: Unilateralism, Regionalism, and Multilateralism**

The two previous sections explain why even small countries may impose barriers to trade. In contrast, in this section the focus is on the prospects of trade liberalization. Trade liberalization can proceed in three different ways: unilaterally, on a regional basis, and multilaterally. There is consensus that unilateral trade liberalization is usually welfare enhancing in the sense that world output increases, provided that it is done on a most-favored nation (MFN) basis. The interesting question is which factors may limit the process. In addition, there is considerable dispute over the merits of regional trade agreements in a multilateral world, an argument that is discussed below.

Since the end of the Cold War many countries, particularly in the developing world, have opened up their economies for trade and investment unilaterally due to the demise of the socialist model. There is also recognition of failed arguments for protection such as import-substitution policies. Nevertheless, barriers to trade have not been reduced to zero. Several factors limit unilateral trade liberalization.

*Trade Liberalization as Dynamic Political Process* Dixit and Londregan (1995) consider a political-economy explanation and illustrate it with an application to the U.S. textile industry. The key insight is that the political process redistributes incomes on the basis of political characteristics (lobby strength, swing voters, etc.) rather than on the merits of wise economic choices. Consider a declining industry, such as textiles in industrialized countries. The efficient choice would be for workers in that industry to move to a different industry that may offer a higher wage (of course, job mobility is limited by costs of relocation, retraining etc.).

The reallocation of labor generates additional income for the country as a whole. To provide incentives for workers to move away from the declining industries, the additional output could be promised as a lump sum to those who switch jobs. However, politicians do not have the incentive to make such an offer because workers cannot commit to vote for them in the next election after they received the entire payment. Politicians prefer making payments in installments to ensure continuous political support. Yet this creates disincentives for workers to leave the declining industry because once they have left the dying industry, politicians have less incentive to reward past economic choices. In other words, workers are politically powerful only if they stay.

The above logic is explored more generally by Besley and Coate (1998). They consider a two-period economy in which in the first period a costly investment project must be undertaken that generates benefits in the second period. The project increases overall output (like the downsizing of a declining industry above) and therefore should be done on efficiency grounds. A complication arises because voters differ in earning capacity and hence use the tax system also to redistribute income. The political conflict is resolved by elections at the beginning of each period. Besley and Coate show that in this framework the investment project may not be undertaken for three reasons. First, if some individuals need to be compensated in the future (after the gains of the project are realized), current policymakers lack commitment power. The possibility that the future policymaker may differ from today's one, can lead to a rejection of the project. Another possibility for rejection of the project is that the project changes the identity of the policymaker, that is, the current policymaker would be ousted from office. This happens if the investment project alters the earnings profile of the population (like the switch of workers from a declining industry to a different industry).

Finally, the project may change the policy choice done by the future policymaker (even if the identity is unchanged) and an existing majority may oppose a future policy change.

*The Political Economy of a Status Quo Bias* A quite different explanation for the blocking of efficient trade liberalization is offered by Fernandez and Rodrik (1991). The explanation is based on the presence of uncertainty. Consider a policy reform, like trade liberalization, that would increase both the number of good jobs (i.e., the modern industry) and the wages paid in good jobs, while it would lower the wage in bad jobs (i.e., the declining industry). A referendum over the policy reform may fail - even if after the reform a majority of workers have good jobs - when there is uncertainty among bad job incumbents about who will get the good job and will hold the bad jobs. Ex ante all bad job incumbents are identical and make the same expected utility calculation. If the decline in bad job wages is sufficiently strong, all bad job incumbents oppose the policy reform. Clearly, this result depends on the distribution of wage changes in both types of jobs, as well as the number of good and bad jobs after the reform.

Until the 1980's or so trade liberalization was carried out mostly through a multilateral approach within the General Agreement on Trade and Tariffs (GATT). An exception was the European Community. Since then, however, the picture has changed substantially. Regional trade agreements (sometimes called Preferential Trade Agreements PTA) have become widely popular all over the world. An interesting feature of PTAs is that small countries often team up with large countries (e.g., Mexico and Canada with the U.S., Portugal with the EU, etc.). At the face of it, small countries seem to make more concessions and receive little in exchange. This raises the question as to why small countries join PTAs and how well they

serve them. More generally, the question is whether the spreading of PTAs will enhance or stop worldwide trade liberalization.

*The New Regionalism* Consider first the case of small countries making a trade agreement with a large country. The case of Mexico and NAFTA is instructive. Mexico liberalized trade unilaterally before entering NAFTA with the United States. The agreed trade reforms under NAFTA were small relative to the unilateral reforms earlier. Also, since the U.S. had low overall tariffs, it is not clear how much Mexico gained through NAFTA. By contrast, the U.S. gained through Mexico's trade liberalization.

Ethier (1998) argues that the regionalism of the 1990s (called the "new" regionalism) is qualitatively different from the "old" regionalism. The new regionalism takes place in a world with lower average tariffs and much more overall integration. The world is connected not only through trade but also more factor mobility, in particular capital mobility. The question therefore becomes not so much one of distribution of gains within a PTA, but rather one of how much the small country gains relative to other small countries when all of them compete for foreign direct investment. Under a PTA a small country becomes a more attractive location for FDI because it gets zero tariff access to the large market. The increase in FDI is generally considered beneficial due to positive spillover effects. The case of Mexico seems to support this point. Mexico has attracted large amounts of FDI after NAFTA was formed and the FDI flow was also very little interrupted by the Mexican Peso crisis of 1994.

McLaren (1997) takes a more skeptical view based on concerns in Canada in the run up of NAFTA. He points out that a small country may lose all its bargaining power in trade negotiations with a large country if *anticipated* trade liberalization leads the private sector to

undertake costly and irreversible investment in an export sector that will serve mainly the large country. As a consequence, the small country may be worse off than under a situation without a bilateral agreement or even autarky. The reason for this is that after the investment is sunk, it is very costly for the government of the small country to walk away from trade negotiations. The large country exploits this weakness. The traditional benefits of free trade, however, may be large enough to compensate for the loss in bargaining power if the economies are dissimilar enough and the substitutability of goods is high.

*The Political Economy of PTAs* There are other arguments for small countries to enter free trade agreements with larger countries. A popular argument states that a free trade agreement allows politicians in a small country to credibly commit to trade liberalization. Without the external threat of a large country in case the agreement is broken, the country would not be able to sustain free trade, probably because powerful domestic interest groups opposed to trade liberalization would be too influential. This argument appears intuitive at first glance. Maggi and Rodriguez-Clare (1998), however, question its plausibility. Assuming that politicians are not benevolent dictators, politicians lose power relative to interest groups by signing a free trade agreement. For example, if politicians obtain campaign contributions from lobbies opposed to free trade, policymakers forgo these contributions under a free trade agreement. In their formal model, Maggi and Rodriguez-Clare show that the likelihood of a free trade agreement depends on the relative strength of the government and the domestic lobbies. If the government has strong bargaining power, and hence is able to extract large amounts from the lobby in exchange for not liberalizing trade, the government is less likely to agree to bilateral free trade. The opposite is true if the bargaining power is reversed. This leads to the somewhat paradoxical result that countries with strong lobbies may be more likely to agree to trade agreements precisely because policymakers have little to lose.

*PTAs: Building Bloc or Stumbling Bloc?* Apart from the question who benefits in a regional trade agreement, there is perhaps the larger question as to the benefits of PTAs for the world as a whole. In particular, are PTAs a building or stumbling bloc for worldwide trade liberalization? The traditional way to answer the question is to analyze whether in a static framework a trading bloc decreases or increases world welfare. Two opposing effects are at work: A regional trade agreement removes the barriers to trade among member countries. The reduction in price distortions for intra-regional trade is welfare enhancing (trade creation). However, trade is also diverted from more efficient sources if a country now imports from a member country (due to free trade) as opposed to importing the good from an outside country (which is able to produce at lower social cost, but due to external tariffs by the PTA is not the cheapest source for member countries within). PTAs are good if trade creation dominates trade diversion, and vice versa.

Critiques of PTAs have argued that trade diversion might be quite strong. For example, Krugman (1991) shows that welfare is lowest in a three-polar world with North America, EU and Asia as the main trading blocs. While each bloc has zero tariffs within, tariffs are high on inter-bloc trade. Others have taken a more positive view. Perroni and Whalley (1996) point out that the welfare effects of PTAs depend on whether member countries coordinate external tariffs (customs union) or not (free trade area). Also, a customs union between a large and a small country leads to lower external tariffs than the one chosen by the large country alone, thereby making trade diversion less likely. Frenkel, Stein and Wei (1996) show that an important determinant of the welfare effects of PTAs is played by transportation costs. Large transportation costs between regional blocs make it more likely that trade creation effects dominate trade diversion effects.

All of the above papers deal with what are called the static effects of PTAs. The perhaps more important question, as emphasized by Bhagwati and Panangariya (1996), is whether regional trade agreements facilitate or hinder worldwide trade liberalization. This is essentially a dynamic question. Ethier (1998) argues that regionalism should be viewed as a building bloc. Regional agreements help spread the benefits of multilateral agreements and increase the value of the agreements to all participants, which in turn makes further multilateral trade liberalization possible. Levy (1997) takes a more negative view by considering a dynamic political economy model. He shows that bilateral agreements can prevent further multilateral liberalization. The key aspect is whether a bilateral trade agreement raises the welfare of the median voter substantially or not. If it does, then it becomes less likely that the median voter will subsequently agree to further trade liberalization with the remaining countries because her outside option has become better. The reverse is true when the median voter gains only little from a bilateral agreement. In his model, this happens when the countries who are considering the bilateral agreement are very dissimilar.

### **3.4 Making Free Trade Work**

In many cases free trade is beneficial because it increases overall output. To make free trade acceptable for a majority of the population, governments must have the sufficient tax instruments to distribute the gains from trade and political constraints need to be taken into account. Yet, even then problems remain. Two issues are considered here. The first one arises because opening up economies to world markets may lead to or change the volatility of prices

and the exposure to risk that consumers and firms face. The second issue deals with the mixed blessing of natural resource abundance.

*Free Trade and Risky Terms of Trade* Prices of internationally traded goods often fluctuate wildly. Price volatility is not necessarily problematic, provided a country has the proper instruments to deal with risk. Volatile terms of trade are difficult to handle for countries that lack a diversified production structure. Many developing countries produce only one or very few export goods and hence overall income is volatile (even a middle income country like Chile is quite dependent on its main export item copper). Newbery and Stiglitz (1984) show that free trade can be Pareto inferior to autarky if two otherwise symmetric countries do not have perfectly positively correlated shocks to the output of the risky good. Both under autarky and trade there is risk, but the distribution of risk between producers and consumers differs. Under autarky, all risk is borne by consumers, whereas under free trade risk is borne by producers. Yet both groups can be worse off because the shift of production towards less risky activities increases the price of the risky good sufficiently to make also consumers worse off.

The problem could be avoided if producers and/or consumers could insure against the risk from shocks. Yet insurance markets are often plagued by problems of market failure due to asymmetric information, a problem that is compounded in developing countries by the underdevelopment of an insurance industry. In addition, the problem of risky terms of trade could be mitigated if agents in one country could buy stakes in firms of other countries. This requires the development of proper financial markets however.

Yet even industrialized countries with diversified production structures may have difficulties in dealing with external risk. Rodrik (1998) shows both theoretically and empirically that

larger external risk (defined as trade over GDP share times volatility of terms of trade) leads to a larger government sector. A larger government sector provides insurance both by perhaps employing more workers (whose jobs are more secure than in the private sector) and by spending on benefits related to risk mitigation (like unemployment and welfare benefits). In his theoretical model a representative agent demands more government spending as external risk increases. In reality, however, exposure to risk may systematically vary with income or other individual characteristics. In that case increasing the government sector may face political constraints. An additional problem arises if governments find it more difficult to finance government programs. Taxing mobile factors such as capital becomes more difficult when the world integrates more and more, an aspect we discussed at length earlier.

*Free Trade and Natural Resource Abundance* A puzzling observation is that many countries that are abundant in raw materials and minerals have lower GDP per capita and lower growth rates than comparable countries that do not have natural resources. This is surprising as one would expect such countries to take advantage of windfall gains. Although there are examples of countries that have done well (like Botswana due to diamonds trade, Norway due to oil resources), many other countries have not (e.g., oil rich Arab countries). Note that resource rich countries sell most of these natural resources to world markets and hence free trade is part of the story that explains the mixed blessing. Gylfason (2001) shows furthermore that the presence of huge natural resources – natural capital - crowds out other forms of capital in society, notably physical capital, human capital and social capital. Natural rich societies are more prone to corruption and rent seeking activities. The important point here is not that exporting natural resources is bad, but rather that societies with rich natural resources need to adapt their institutions to keep the incentives for its population to save and to invest in human

capital instead of pursuing rent seeking activities for windfall profits from natural resource abundance.

## **4. Conclusions**

The literature on tax competition has incorporated many features of real life. This in turn has made it less straightforward to predict the outcome of tax competition. A good example is the recognition among academics that the public sector also provides public input goods that have a positive effect on firm's performance that may dampen the effect of tax competition. Furthermore, from the political branch of the tax competition literature comes the encouraging message that tax competition may increase welfare. In these models re-election concerns and the 'forces' of competition lead government officials to provide public good 'packages' that better suit the preferences of voters. A reasonable assessment of the literature is therefore that the literature is divided in its view on tax competition; taxes may fall but it is neither always a 'race to the bottom,' nor is a fall in tax rates always bad even when governments maximize the welfare of their own citizens.

The persistence of trade barriers and the resistance to liberalize trade can be traced to a number of different explanations. Trade barriers exist both for normative and positive reasons. Trade increases overall income but governments may not be able to redistribute the gains from trade. Politicians may pursue their own agenda and the ability to extract rents from lobby groups opposing free trade leads policymakers to use protectionist policies. This aspect needs also to be taken into account when the prospects of regional trade agreements are considered. Regionalism has many benefits and should be welcome if trade diversion is not too large and it makes worldwide trade liberalization less likely.

Tax competition for internationally mobile capital and the political economy of trade liberalization are two facets of the debate on globalization. On the face of it, the two debates seem to have little in common. As this study has shown, however, there are interesting parallels and common conflicts in both areas.

1. In a world with lump sum taxation globalization would be much less contentious. Competition for capital would lead to efficient allocations, as hypothesized by Tiebout. Trade would be liberalized because the gains from trade could be distributed so that everyone would be better off. Because lump sum tax instruments are not available, however, increasing economic integration poses political problems. The further development of tax systems in developing countries may make the globalization process easier, although all problems cannot be fixed completely as long as the tax system is distortionary.

2. Tax competition and trade liberalization are intertwined. The recent tax competition literature in the presence of agglomerations and firm spillovers shows that the presence of trade costs influences the identity of the region that attracts the mobile firm and the level of taxation. Similarly, one important benefit for a small country that enters a regional trade agreement with a large country is the derived locational advantage relative to other small countries outside a regional trade agreement in attracting foreign investment from third countries.

The two previous points imply furthermore that many of the results described in this paper rely on the ability of countries to use fiscal policy effectively. For example, free trade is beneficial to all groups of society and will have popular support only if the government is able

and willing to redistribute the gains from trade to all groups. A lack of institutions and thus instruments to effectuate redistribution may prevent trade liberalization. Likewise, the outcome of tax competition may be worse for a country that has little to offer in terms of public infrastructure and investment goods that can positively affect the productivity of firms. The ability to collect tax revenue by the full range of tax instruments, collect it effectively, and put it to good use seems vital as the world economy becomes more integrated. This becomes particularly clear in the case of developing countries who often obtain a large share of tax revenues from trade taxes. This is often due to a lack of administrative capability and high rates of illiteracy that prevent collection of other taxes. Trade liberalization threatens this revenue source and may exacerbate the competition for capital through good infrastructure.

3. Small countries are potentially vulnerable in trade negotiations but may be quite successful in tax competition. Integration of goods and factor markets seems to have different implications for small countries. A small country is not able to influence its terms of trade in both capital and goods market. When competing for capital, being small leads to low capital tax rates. Yet a higher capital-labor ratio may prove beneficial. By contrast, small countries have little bargaining power when negotiating trade liberalization with large countries. This can make trade liberalization more difficult.

4. Lack of government commitment in tax and tariff policy is a potential problem for realizing the benefits of globalization. Lack of commitment turns conventional wisdom upside down. A government may impose tariffs and may prefer tariffs over production subsidies (both of which it wouldn't if it could commit). Regional trade agreements may be useful in obtaining credibility to implement free trade. Yet, politicians may have little interest in doing so if this implies giving up the power to extract rents from lobbies. Similarly, lack of commitment

makes it less likely to attract foreign investment. Multinational firms can overcome this problem by investing in several countries to induce tax competition for capacity utilization. While not efficient, a global world can help overcoming lack of government commitment.

5. Our analysis may suggest that trade liberalization and coordination of tax policies should be negotiated jointly at the international level. Little formal work has been done on issue linkage in international bargaining, and there is no work to our knowledge that does address joint tax and trade policy negotiations. Some insights may be offered nevertheless. Many nongovernmental organization would like to see negotiations on trade liberalizations being linked to labor and environmental standards. Many economists believe that this would be harmful for advancing trade liberalization because agreements on labor and environmental standards appear to be even more difficult. One argument in favor of linkage, however, is the fact that separate agreements on labor and environmental standards – even if agreed upon – lack enforcement power. Trade agreements seem to have more credibility because trade sanctions can be imposed. Linking trade liberalization and standards therefore could help overcoming the lack of enforcement power.

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