



# The taxation of foreign profits: A unified view<sup>☆</sup>

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## ABSTRACT

This paper synthesizes and extends the literature on the taxation of foreign source income in a framework that covers both greenfield and acquisition investment, and a general constraint linking investment at home and abroad for the multinational by introducing a cost of adjustment for the mobile factor. Unless the cost of adjustment is zero, the domestic tax on foreign-source income should always be set to ensure the optimal allocation of the mobile factor between domestic and foreign assets and should follow the classical rules in the literature; national optimality requires the deduction rule, and global optimality requires the credit rule. Only in the zero-cost case does exemption become optimal. Allowances can be set so as to ensure that domestic and foreign asset purchases are undistorted by the tax system: this requires a cash-flow tax on domestic investment in the greenfield case, and a cross-border cash flow tax on foreign investment in both cases. These basic results extend to various extensions of the model, notably: (i) when a profit-shifting motive is present; and (ii) to some extent, when a corporate income tax is in place. The introduction of tax administration costs into the model can explain the empirical trend towards the use of the exemption regime.

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## 1. Introduction

For many years tax policy in the US as well as the UK seemed at least partly to follow the logic of conventional international tax theory by taxing foreign source income according to the tax credit system, although both limited the size of the tax credit. Other countries like Germany and France, however, chose to exempt foreign source income fully or almost fully from domestic taxation. But in one of the most striking trends in corporate taxation in recent years, there has been a significant switch to exempting foreign-source income from taxation. According to PwC Worldwide Tax Summaries, out of 37 high-income countries, 19 had an exemption system in 1998, rising to 27 in 2008<sup>1</sup>. None of these 37 countries switched from exemption to a credit or other system during this period.

This trend appears to conflict with classical results in the theory of international taxation, which states that countries should tax the

foreign source income of multinational firms according to the foreign tax credit system to make sure that the allocation of capital in the world economy is undistorted (Richman, 1963). This result is based on the idea that, under the foreign tax credit system, firms will ultimately pay the same tax, irrespective of the investment location, so that their location choices are not distorted if corporate tax rates differ across countries,<sup>2</sup> achieving so-called capital export neutrality (CEN).

However, the “old” view that the exemption system is inferior to the tax credit system has been challenged by Desai and Hines (2003, 2004). Their main argument is that a large part of international investment nowadays takes the form of mergers and acquisitions, a type of investment largely neglected by the “old” view. They emphasize the fact that merger and acquisition investment implies a change in ownership, rather than the location of physical capital. But the ownership of assets is distorted if different potential owners, who are located in different countries, are taxed differently. Desai and Hines argue that capital ownership neutrality (CON) requires that all potential owners of an asset face the same tax burden, irrespective of their country of residence, and that this requires an exemption from tax of foreign source income.<sup>3</sup>

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<sup>1</sup> We thank Johannes Voget for providing us with this data-set.

<sup>2</sup> A second key result in the theory of international taxation states that, from a national perspective, it is optimal to tax foreign source income according to the full taxation after deduction principle (Feldstein and Hartman, 1979). However, this leads to a suboptimal outcome from a global point of view.

<sup>3</sup> The term capital ownership neutrality was introduced by Devereux (1990) in a slightly different context.

Becker and Fuest (2010) extend and refine Desai and Hines' argument by observing that once a multinational has made an acquisition, it also faces the problem of how to allocate a scarce resource between the existing company and the new acquisition. They consider two polar cases. They find that the exemption system is optimal from a national as well as a global perspective if foreign acquisitions of multinational firms do not affect domestic activities. But they argue that in the opposite polar case, when the number of acquisitions abroad reduces the number at home one-for-one, exemption is no longer optimal: it leads to overinvestment in the low tax country and underinvestment in the high tax country. Moreover, in this case, neither the tax credit system nor the full taxation after deduction system can restore global or national optimality.<sup>4</sup>

There is no doubt that the “new view” of taxation of foreign-source income in an environment in which FDI takes the form of acquisitions is an important step forward. But existing papers are based on rather different assumptions regarding the corporate tax system under consideration, the impact of foreign investment on domestic economic activity and the type of foreign investment – greenfield versus acquisitions. This makes it difficult to draw systematic conclusions for purposes of tax policy. This paper attempts to reconcile and extend the different results and approaches in the literature by analyzing the optimality of taxes on foreign source income in a model which encompasses most of the models in the literature, both “new” and “old”.

Our model extends the literature in several ways. Firstly, existing models usually take the tax base as given and focus on tax rates. Instead, we consider the design of tax rates and tax bases simultaneously, and we show that this is of key importance for understanding the optimal taxation of foreign source income. Secondly, we develop a model which includes both greenfield and acquisition investments as special cases. Thirdly, rather than assuming that foreign investment either reduces domestic investment one-for-one or does not affect domestic investment at all, our approach also includes intermediate cases, as is explained further below.

In our model, foreign investment by a domestic multinational firm is in two steps. The first is the purchase of an immobile asset in the foreign country, initially owned by a foreign household, and can be understood as choosing the location of production. This asset may be interpreted as a piece of land or an existing firm. Following Desai and Hines (2003) and Becker and Fuest (2010), we allow for the multinational to have an ownership advantage relative to the seller i.e. it can produce more output from the asset.<sup>5</sup> Conceptually, the only difference between greenfield and acquisition investments is that the foreign corporate tax rate is capitalized into the price of the firm, but not into the greenfield asset. This brings out the central role of tax capitalization very clearly, in contrast to other models, where greenfield investment is often viewed as the allocation of capital to a production function. Of course, there may be other differences between greenfield and acquisition investments – in particular, they may create different spillovers for the host country, and we consider this extension in Section 5.3.4.

The second step is to combine the immobile asset with a continuously variable, internationally mobile, factor of production, and can be understood as choosing the *scale* of production. The recent literature on the taxation of foreign profits has shown that it is of central importance whether foreign investment affects domestic economic activity, and we allow for this in a simple and empirically relevant way, by means of introducing a cost of adjustment for the mobile factor. Specifically, the

multinational has an initial stock of the mobile factor, which it can allocate to assets at home or abroad. But, in addition, it can hire additional amounts of the mobile factor, at the cost of incurring a convex cost of adjustment in addition to the market price of the factor. In the limiting case where this cost of adjustment is zero, there is no link between domestic and foreign production (Becker and Fuest's “variable management capacity”). In the other limiting case where the adjustment cost becomes very large, there is a one-to-one trade-off between domestic and foreign projects (Becker and Fuest's “fixed management capacity”).

We first consider the case where governments can choose the tax rate and the tax base, including the size of the initial allowance. This brings out the main features very clearly. In the general case where there is some positive cost of adjustment of the mobile factor, our main findings are as follows. The government has two kinds of instrument; the statutory tax rate on foreign-source income, and allowances on domestic and foreign asset purchase. It turns out that for both national and global optimality, there is a simple and robust assignment of instruments to targets. First, the domestic tax rate on foreign-source income should be set to ensure the optimal allocation of the mobile factor between domestic and foreign assets. The setting of the tax rate follows the classical rules in the literature; national optimality requires the deduction rule, and global optimality requires the credit rule. Second, the initial allowances should be set so as to ensure that domestic and foreign asset purchases are undistorted by the tax system. This requires a cash-flow tax on domestic investment,<sup>6</sup> and a cross-border cash flow tax on foreign investment.<sup>7</sup>

Implementation of a cash flow tax on domestic or outbound flows is relatively straightforward: in either case all real expenditures would be deductible from the tax base, and the corresponding income would be taxed at the same rate. However, there is a difference in the required tax rate. For national optimality, the deduction rule implies that the cross-border cash flow tax should be set at the same rate as the domestic tax. But global optimality requires the rate of the cross-border cash flow tax to depend on the tax rate of the foreign country – that is, on the destination of the outbound investment. In practice this would give an incentive for firms to route investment through a high tax country, and governments would need anti-avoidance rules to prevent this.

It may be objected that our model, taken literally, predicts that all countries should choose something other than an exemption regime; that is, that they should levy some positive tax on foreign source income. A first explanation of why we instead see a trend towards exemption systems, which we address in Section 4.4, is the cost of tax administration; it seems reasonable to suppose that an exemption system has a lower cost of administration. If the cost of moving skilled labour or capital between different subsidiaries of a multinational is also falling over time, our model predicts that the efficiency loss from choosing exemption would also fall, explaining an increasing use of the exemption system.

A second possible explanation for the increasing use of exemption systems is that parent companies of multinational corporations may find it possible to move their residence for tax purposes (although they may face a tax charge in doing so). We do not address the incentive to switch the location of the parent company, although our model could be extended in this direction. With this additional feature, it is intuitively clear that the greater the mobility of the parent, the lower would be the optimal tax rate on foreign source income. Further, if this mobility is increasing over time, then this could also help explain the trend towards exemption.

Our analysis includes a number of extensions of the baseline model. Here, we mention two of the most important ones. First, we show that our results also hold in a variant of our model where the multinational

<sup>4</sup> Becker and Fuest (2010) show that national optimality can be achieved in this case by allowing the firm to deduct the cost of the acquisition against tax in the first period, and then applying the deduction rule to foreign-source income in the second period. This result is a special case of our Proposition 2 below.

<sup>5</sup> We follow these contributions in abstracting from residence based taxes on capital income at the personal level. In the context of taxing foreign source income the role of these taxes is discussed in Becker and Fuest (2011), Devereux (2000, 2004), Gordon (2011), Ruf (2012) and Wilson (2011).

<sup>6</sup> A qualification is that in the acquisitions' case, no allowance should be granted as the acquisition price is already adjusted by the corporate tax rate.

<sup>7</sup> This was first pointed out by Keen (1993).

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