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On the implications of introducing cross-border loss-offset in the European Union

Zarko Y. Kalamov[a,*], Marco Runkel[a,b]

[a]School of Economics and Management, University of Technology Berlin, Straße des 17 Juni 135, Berlin, Germany
[b]CESifo, Germany

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ABSTRACT

This article investigates a tax competition model where countries compete for capital and profits of multinational enterprises (MNEs) through statutory tax rates and cross-border loss-offset provisions, which allow a transfer of foreign subsidiaries' losses to the parent company. A joint implementation of full cross-border loss-relief is welfare maximizing, because it ensures production efficiency and no profit shifting in equilibrium. Local governments choose zero level of the loss-relief in a noncooperative equilibrium, if only capital is mobile and relax the loss-offset, when MNEs engage in profit shifting. Therefore, allowing multinationals to undertake international tax planning activities may be welfare-improving in our model.

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1. Introduction

The current system of taxation of multinational enterprises (MNEs) in the European Union is Separate Accounting, where profits are taxed in the country where the multinational declares them. The European Commission has proposed a joint augmentation of this Separate Accounting system by a cross-border loss-offset under which losses of foreign subsidiaries of a multinational firm reduce taxable profits of this firm's headquarter in another country. Such a common loss-offset provision should be a first step toward the implementation of a common consolidated corporate tax base (CCCTB) where multinationals' taxable profits (and losses) are first consolidated and then allocated back to the member countries for tax purposes according to a certain apportionment formula that reflects the relative economic activities in the member states (European Commission, 2006a). While the public finance literature has analyzed thoroughly the welfare consequences of a move from Separate Accounting to the CCCTB, it has largely neglected the implications of a move toward Separate Accounting with cross-border loss-relief.

Furthermore, a unilateral introduction of cross-border loss compensation, where only single countries grant loss-offset provisions but others do not, is rarely observed in reality. Only four countries in the EU allow multinational firms to reduce domestic tax liabilities using losses of foreign subsidiaries: Austria, Denmark, France and Italy (European Commission, 2006a).

This article views the cross-border loss-offset as a tax competition instrument. We show that countries, that compete with other countries for both mobile capital and profits of MNEs, grant general loss-offset provisions. However, countries which compete only for real investment find it optimal to prohibit the loss compensation. Thus, we provide an argument that may help explain the diverse behavior of member states of the European Union. Additionally, we show that a joint introduction of a loss-offset mechanism, in the way proposed by the European Commission, eliminates the distortions arising from the current tax code and is welfare-improving.

The paper analyzes a model of n symmetric countries, each of which hosts a MNE with subsidiaries in all countries. MNEs may shift profits from one country to another. Local governments set corporate

* Corresponding author.
E-mail address: zarko.y.kalamov@tu-berlin.de (Z. Kalamov).

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tax rates and the degree of cross-border loss-offset in order to attract investment and profits from each MNE. The cross-border scheme allows a parent company to use foreign subsidiary's losses to reduce its tax liability, but no transfer of losses in the opposite direction is permitted. This is the mechanism supported by the European Parliament (2008).[1]

This paper is the only one, to our knowledge, that investigates the endogenous choice of the degree of cross-border loss-offset in a tax competition setting. The main contribution of the article is in deriving the conditions under which local governments choose to allow for a cross-border transfer of losses. Furthermore, we show that a coordinated increase of the loss compensation is welfare-improving.

We obtain three main results. First, from the viewpoint of a social planner, it is optimal to allow for full loss-offset. The rationale for this policy is that currently domestic subsidiaries are allowed to pool their profits and losses which, in the absence of cross border loss-offset, creates a differential treatment of domestic and foreign subsidiaries by the countries' tax codes.[2] This differential treatment stimulates (i) domestic investment (thus creating production inefficiency) and (ii) shifting of profits abroad (because these profits may not be taxed there due to the higher probability of incurring losses). By introducing cross-border loss-offset, the social planner ensures that domestic and foreign subsidiaries are treated identically by the tax code. Thus, there is production efficiency in equilibrium and no profit shifting occurs.

Second, we find that investment in foreign subsidiaries increases with more generous cross-border loss-relief, because the transfer of losses raises the expected return on foreign investment. Therefore, unilateral introduction of the loss-offset exerts a positive externality on the other countries. The increased foreign capital demand raises the interest rate and lowers domestic investment. As a result, a positive loss-offset rule reduces domestic tax revenues both directly (through the losses transferred by the MNE) and indirectly (through lower domestic investment). Hence, if only capital is mobile, the loss relief is not employed in the decentralized equilibrium. Third, allowing for profit shifting in the decentralized economy, we find that the amount of profits an MNE shifts from the parent company to foreign subsidiaries falls when the cross-border loss relief is relaxed, because of the possibility to shift losses in the opposite direction. This is a counteracting negative externality, which increases the equilibrium loss-offset above zero. Therefore, we find that allowing for profit shifting activities of multinational firms reduces the gap between the first-best and the decentralized loss-relief and can be welfare-improving. To the best of the authors' knowledge, Hong and Smart (2010) is the only other article to derive a utility enhancing role for profit shifting. They find that international tax planning reduces the tax rate sensitivity of investment, which increases equilibrium tax rates.

Our analysis is related to two strands of literature. The first investigates the introduction of cross-border loss transfer in the European Union. The second deals with the implications of tax asymmetries for investment and profit shifting behavior.

The literature on cross-border loss-relief is relatively scarce. Gérard and Weiner (2003) and Gérard (2005) study tax competition in a setting with an exogenously given degree of symmetric loss-offset provisions. They find that the ability to transfer losses mitigates competition in statutory tax rates. However, in contrast to our analysis they do not derive the first-best or the equilibrium decentralized levels of loss-relief.

The closest to our article is the paper of Haufler and Mardan (2014), who analyze the effect of an introduction of cross-border loss-offset on the equilibrium tax rates, when countries compete for real investment. They find that tax competition is intensified, if a government bases the tax rebate for foreign subsidiaries' losses on its own tax rate. On the other hand, if the loss-relief is based on the tax rate of the country in which the foreign subsidiary resides, then tax competition is mitigated by a relaxation of the loss-relief. Similar to Gérard and Weiner (2003) and Gérard (2005), Haufler and Mardan (2014) do not consider the optimal loss-offset provision from the viewpoints of a social planner and local governments. This is the main topic of our analysis.

Niemann and Treisch (2005) investigate the impact of the "deduction/reintegration method", which was introduced in Austria in 2005, on MNEs' investment decisions. They find that real investment in foreign subsidiaries is in general favored by loss-offsets, unless the parent does not have enough profit to absorb foreign losses. Nevertheless, they neglect the welfare implications of loss compensation and also treat the loss-offset provision as exogenously given.

The literature on tax asymmetries focuses mostly on asymmetric treatment of profits and losses of a single firm.[3] The current article contributes to the literature by analyzing an asymmetry in the treatment of losses of domestic and foreign subsidiaries. We find that it favors domestic investment and reporting of profits abroad and, thus, leads to distortions in the world allocation of capital and profits.

Creedy and Gemmell (2011) investigate asymmetric treatment of own profits and losses, when firms engage in loss shifting in order to minimize their tax payments. They show that higher asymmetry discourages loss shifting, i.e. it reduces the behavioral effect on tax revenues following tax rate hikes. Our model predicts that profit shifting is lower under a lower asymmetry in the treatment of home and foreign losses, i.e. when the parent is able to use a greater proportion of foreign losses to lower its tax liability. The reason is that loss shifting to the parent company is a substitute for transferring profits abroad.

The rest of the paper is organized as follows. Section 2 describes the model and derives the firm behavior. As a benchmark Section 3 investigates the Pareto efficient corporate tax rate and loss-relief. Section 4 determines the degree of cross-border loss-offset in a decentralized setting. Section 5 discusses the policy implications and Section 6 concludes.

2. The model

We consider a tax competition model with n countries, indexed by $i, j, l = 1, \dots, n$. Country i hosts a MNE that we denote by MNE_i and that has subsidiaries in all jurisdictions $j = 1, \dots, n$. Additionally, country i is populated by a single resident, who is assumed to be risk neutral.

All MNEs produce a homogeneous consumption good using capital k and a fixed amount of an intermediate good $\bar{z}$. MNE_i invests capital k_i^j in country j with total capital demand of MNE_i denoted

[1] The mechanism is called "deduction/reintegration method", because once the foreign subsidiary becomes profitable, the home government recaptures the loss-relief. The purpose is to avoid a double use of losses. We have left away this characteristic of the mechanism, because it is not essential to the results.

[2] In 2006, domestic loss relief within a group of companies (parent and subsidiary) was available in 18 EU countries. However, only 4 member states allow for loss-offset between a domestic parent and a foreign subsidiary (European Commission, 2006b).

[3] The implications of tax asymmetries for investment are investigated by Altshuler and Auerbach (1990), Auerbach (1986), Devereux (1989), Mayer (1986). Panteghini (2001a,b) analyzes neutrality of asymmetric tax functions. More recently, Edgerton (2010) estimates investment responses to tax incentives in a setting with tax carry-backs and carryforwards.

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