

# Company tax reform with a water's edge<sup>☆</sup>

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## Abstract

This paper analyzes the effects of switching from a corporate tax system based on separate accounting (SA) towards a system in which two countries form a formula apportionment (FA) union while a third country sticks to SA (water's edge). Our analysis draws a positive picture on the water's edge regulation. In the short-run, for given tax rates, the transition from SA to FA is likely to reduce profit shifting from the FA union to non-FA tax havens. In a long-run tax competition analysis, we find a negative water's edge externality under FA that tends to be less detrimental than the profit shifting externality under SA and may offset other externalities under FA.

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## 1. Introduction

At an international level, corporate income taxation is based on the separate accounting (SA) principle. Profits of a multinational enterprise (MNE) are assigned to the state where they accrued using standard accounting methods. It is well documented that MNEs take advantage of this

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legislation and distort transfer prices and the debt-equity structure to shift income from high-tax to low-tax countries and to reduce their overall tax burden (e.g. Hines, 1999). Owing to such profit shifting activities, corporate tax policy causes a fiscal externality as governments have an incentive to reduce their corporate tax rates in order to attract profit from abroad and improve the national tax base. The negative effect on the tax bases of other countries is ignored and governments tend to engage in a race-to-the-bottom with inefficiently low tax rates (e.g. Mintz, 1999).

At a national level, several countries tax multiregional companies applying a formula apportionment (FA) regime instead of SA. Under FA, the corporate income of a multiregional company is consolidated and allocated to the tax regions according to a certain formula, for example, a combination of the corporation's capital, payroll and sales shares in the respective region. Prominent examples of FA systems are the corporate taxation on state and province level in the US and Canada, respectively, and the German local business tax ("Gewerbesteuer").<sup>2</sup> Moreover, the [European Commission \(2001\)](#) proposed to replace the SA principle by a FA regime within EU-borders. Due to the consolidation of tax bases, the central advantage of FA over SA is usually seen in the abolishment of the MNEs' profit shifting incentives and, in consequence, the erasement of the fiscal externality mentioned above (McLure, 1980; Mintz, 1999).

This argument implicitly supposes that the headquarters and affiliates of MNEs are located in countries joining the FA union. In reality, however, many MNEs headquartered in a FA union run subsidiaries in countries outside the union. Given the growing importance of international (intra-firm) trade and FDI, this connection between a FA union and the outside world is not a minor issue. FDI of US multinational companies, for example, amounted to 2063 billion US dollars in 2003, FDI of Canadian and German MNEs to 312 and 718 billion US dollars, respectively (OECD, 2004). Similarly, if the EU introduces FA, the outside connection to non-EU countries will be substantial as a large part of the member countries' FDI is located outside Europe.

The borders of a FA union are called "water's edge", a concept shaped in the US 20 years ago when world wide corporate income consolidation was abandoned in response to protests from non-US states, mainly concerning double taxation issues. Subsequently, profit has been consolidated within US borders only and affiliates overseas have been taxed according to SA. The water's edge consolidation is also part of the European FA proposal. Thus, if the EU decides to form a FA union, European MNEs will stay linked to non-European affiliates by means of SA. This implies that shifting channels to countries outside the FA union will remain open. Politicians and economists therefore expressed reservations that shifting to affiliates located in countries outside a FA union may undermine the aim of FA. For example, [McLure and Weiner \(2000\)](#) state that "...world-wide unitary combination might need to be considered as an option for..." solving the limitations of the water's edge.

The aim of this paper is to investigate the taxation of MNEs under SA and FA in the presence of a water's edge. We develop a model with three countries. Each country hosts a MNE with a headquarter in the home country and subsidiaries in the other two countries. A MNE decides on investment in each of its entities and may shift profit by transfer pricing methods. Profit shifting is assumed to entail a convex concealment cost. Within this framework, we analyze the effects of a transition from a pure SA system to a system in which two countries form a FA union and the third country sticks to SA. In the FA union, tax bases are consolidated and apportioned to member countries according to the MNEs' relative investment and sales shares. The analysis is carried out under a short-run perspective, defined as a situation where corporate tax rates are fixed, and a long-run perspective where governments engage in tax competition.

<sup>2</sup> While the US and Germany apply consolidation across companies of a group, in Canada consolidation is only applied to dependent branches. For our purpose, this distinction is immaterial.

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