Why countries differ in thin capitalization rules: The role of financial development

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Abstract

The purpose of thin capitalization rules is to limit multinational firms’ possibilities of engaging in tax planning via debt shifting. This paper analyzes the optimal design of thin capitalization rules in the presence of financial frictions when a host country, in the first stage, chooses the type of thin capitalization rule and then, in the second stage, decides about the strictness. We show that welfare under a safe haven rule is higher than under an earnings stripping rule if firms are not able to manipulate the interest rate on internal loans. Welfare, however, can be higher under an earnings stripping rule if firms are able to manipulate the interest rate on internal loans. We also show that the optimal level of internal interest deductions decreases with the financial development of the host country. Our results are consistent with countries’ actual policy choice.

1. Introduction

Because multinational enterprises (MNEs) can pursue several strategies to shift profits from high-tax to low-tax countries many countries are concerned about the erosion of their tax base.¹ For this reason, the OECD has launched an Action Plan about base erosion and profit shifting (OECD, 2013). One of these actions (Action 4) in the final report (OECD, 2015) calls for the best practices in the design of rules to prevent base erosion through the use of interest expense. Yet, there is not much known about the welfare effects of different types of thin capitalization rules.

In practice, thin capitalization rules vary in two dimensions across countries. A first differentiator is the type. The common way of introducing a thin capitalization rule is to implement a safe haven rule which disallows the tax deduction of interest payments to related parties if internal debt exceeds a specified debt-to-equity ratio. Recently, however, some countries switched to a system of either a pure earnings stripping rule (Finland, Germany, Italy, Norway, Portugal and Spain), which restricts tax deductibility if internal interest payments exceed a certain fraction of an affiliate’s EBITDA, or a mix between both (Denmark, Japan and the United States).² Interestingly, all countries that switched to an earnings stripping rule are developed countries.

Second, they differ in the generosity of internal interest deductibility. Table 1 shows unconditional average deduction allowances for internal interest expenses, expressed as debt-to-asset ratios, for groups of countries in different stages of financial development.³ It shows that, as the financial development of a country improves, tax deductions for internal interest payments become less

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¹ One of these strategies is the excessive use of internal debt. Empirical evidence for such tax planning behavior is given inter alia by Desai et al. (2004), Mintz and Smart (2004), Huizinga et al. (2008), Egger et al. (2010) and Moen et al. (2011).

² For a description of thin capitalization rules for most OECD and EU countries see Gouthière (2005) and Dourado and de la Feria (2008) respectively.

³ Following the literature (Arezki and Brückner, 2012; Chinn et al., 2014; von Hagen and Zhang, 2014), the level of financial development is measured by domestic credit to the private sector as a percentage of GDP (credit-to-GDP ratio).

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three studies reform in the year 2001. Overesch and Wamser (2010) additionally exploit changes in the German tax reform in the year 2004. All use of internal loans. In a similar vein, Blouin et al. (2014) use data on foreign U.S. a payments. In the theoretical literature Hau Buslei and Simmler (2012) investigate the e rules reduce a of their thin capitalization rules besides beggar-thy-neighbor policies on which the literature has focused so far.

Table 1

<table>
<thead>
<tr>
<th>Financial development</th>
<th>Average deduction allowance for internal interest expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0.93</td>
</tr>
<tr>
<td>Moderate</td>
<td>0.87</td>
</tr>
<tr>
<td>High</td>
<td>0.83</td>
</tr>
<tr>
<td>Very high</td>
<td>0.72</td>
</tr>
</tbody>
</table>

* The four categories of financial development are defined as follows: Low (credit-to-GDP ratio: 0–40%), moderate (40–80%), high (80–120%), very high (120+%). There is a total number of 116 countries in our sample ranging from a minimum credit-to-GDP ratio of 4.1% (Afghanistan) to a maximum credit-to-GDP ratio of 202.8% (Denmark), with a median of 44.4% (Paraguay).

One reason why financially less developed countries implement more generous thin capitalization rules could be that the lack of access to external finance creates a need to use internal sources of funds to finance investment. Empirical evidence suggests that financing frictions also play an important role for multinational firms. Desai et al. (2004) find that MNEs shift scarce resources to affiliates in countries with a weak financial development and that internal debt substitutes three quarters of the reduced external loans induced by the weak development of the local capital market. Büttnet et al. (2009) confirm these results using data on German multinationals. Egger et al. (2014) find higher tax-sensitivity of internal debt financing compared to previous research because they do not only take into account the tax incentive of internal debt usage but also non-tax incentives.

Importantly, adverse local capital market conditions can have serious drawbacks on growth and development (Rajan and Zingales, 1998; Beck et al., 2000) international trade flows (Manova, 2008) but also the decisions to export (Manova, 2013), to import and to which destinations to export (Muûls, 2015). Reducing these distortions by adjusting institutions takes time and is therefore not possible in the short-run. More generous deduction rules for internal interest payments can alleviate a firm’s financing constraint and boost investment also in the short-run.

To the best of our knowledge this is the first paper which analyzes the optimal design of thin capitalization rules in a setting with credit market frictions. To pursue this question, we set up a model in which some affiliates in a host country face a financing constraint which confines their investment below the first-best level. When deciding about the optimal thin capitalization rule, the government of the host country has to weigh the benefits from increased investment by financially constrained firms against increased profit shifting by financially unconstrained firms. The government decides upon the optimal thin capitalization rule in a two stage process. In the first stage, the government chooses the type of the thin capitalization rule, i.e. either a safe haven rule or an earnings stripping rule. In the second stage, it determines the strictness of the thin capitalization rule.

We show that, under a safe haven rule, welfare is higher than under an earnings stripping rule when MNEs have to charge the market interest rate on internal loans, i.e. the arm’s length principle strictly applies. This reason is that the earnings stripping rule favors [discriminates] financially unconstrained [constrained] firms more than a safe haven rule which results in lower aggregate investments and more intense profit shifting. However, when MNEs are able to charge a different interest rate than the market interest rate on internal loans, welfare under an earnings stripping rule can be higher if the host country’s financial development is sufficiently high and tax revenues are more important than firms’ profits. The reason is that a safe haven rule only restricts the amount of internal debt whereas the earnings stripping rule restricts the value of internal interest payments. Hence, this model is the first to provide an answer to why countries differ in the type of thin capitalization rule.

We also show that the optimal level of internal interest deductions is positive when the financial development of a country is sufficiently weak and is higher the worse the financial development of the host country. The reason is that a lenient thin capitalization rule relaxes the finance constraint which leads to higher aggregate investments. This prediction of the model is consistent with the figures shown in Table 1. Thus, the model also offers a novel explanation for why countries differ in the strictness of their thin capitalization rules besides beggar-thy-neighbor policies on which the literature has focused so far.

Our paper can be related to two strands of the literature. The first strand analyzes the effects of thin capitalization rules on multinational firm behavior. The literature on thin capitalization rule is almost exclusively empirical. Büttnet et al. (2012) use data on German foreign affiliates in OECD countries and find limitations of the tax deductibility of interest expenses effectively reduce the use of internal loans. In a similar vein, Blouin et al. (2014) use data on foreign U.S. affiliates and find that tighter thin capitalization rules reduce affiliates’ debt-to-asset ratios. Weichenried and Windschhauer (2008) and Wamser (2014) exploit the German tax reform in the year 2001. Overesch and Wamser (2010) additionally exploit changes in the German tax reform in the year 2004. All three studies find that a tighter thin capitalization rule reduces debt-to-equity ratios significantly. Drefler and Scheuering (2012) and Buslei and Simmler (2012) investigate the effects of a change from a fixed debt-to-equity ratio to an earnings stripping rule in Germany in the year 2008. They find that the introduction of the new rule lowered firms’ debt-to-assets ratios and their net interest payments. In the theoretical literature Haufler and Runkel (2012) have so far been the only study which analyzed thin capitalization...
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