

# The Effect of Thin-Capitalization Rules in Europe – An Empirical Study of European Multinationals

*by Herman Ellefsen and Jesper Torstensen*

**We examine how rules against thin capitalization – high debt to equity ratios – affect the capital structure of European multinational corporations. In most tax codes, interest payments on debt can be deducted from firms' taxable income while the opportunity cost of equity cannot. This favours debt financing and may have undesirable consequences. A growing number of countries have implemented thin-capitalization rules to cope with this problem. We study the impact of these rules in 37 European countries for the years 2004-2014. In line with prior studies, our results indicate that a tightening of so-called safe haven rules reduce total debt levels of multinationals. However, we only find support for this in high-tax countries. We also find substantial differences in firms' tax rate sensitivity of total debt for different tightness levels of the rules.**

Corporations face a trade-off between costs and benefits of debt when deciding on capital structure. One of the benefits is that interest payments on debt normally can be deducted from taxable income. Hence, firms have incentives to finance their investments using debt rather than equity. At least three problems are related to this. First, multinational corporations are able to exploit tax advantages more aggressively than domestic firms. This gives multinationals a competitive advantage. Second, these tax-avoiding schemes curb countries' ability to raise corporate tax revenues. Third, in the wake of the 2008 financial crisis, it has become clear that firms' preference for debt financing may play a key role in large macroeconomic disasters.

To cope with these potential problems, a growing number of countries have implemented so-called thin-capitalization rules. Specifically, about 58% of our selected European countries employed thin-capitalization rules in 2004. This increased to almost 70% in 2014. Typically, thin-capitalization rules (TCRs) disallow tax deduction of interest payments to related parties if debt levels exceed a specific debt-to-asset ratio. This should reduce both the amount of and the tax rate sensitivity of debt for restricted firms. The most recent international research literature on this topic suggest that TCRs are effective in reducing internal debt levels of multinational corporations. It is, however, not clear that the imposition of these rules is beneficial for the imposing countries.

Findings in the empirical literature indicate that firms avoid taxation of interests by substituting external for internal debt when facing TCRs. The reason is that the rules apply to internal debt under most TCRs, while interests on external debt is fully deductible. The total effect of TCRs on total debt and tax revenues is then reduced. Furthermore, a larger proportion of external debt relative to internal debt increases firms' risk of bankruptcy, all else equal. For these reasons we argue that governments essentially should worry about total debt rather than focusing solely on internal debt.

We have examined how TCRs affect the capital structure of European multinationals by using the Amadeus database. We combine this database with information on statutory tax rates from 37 European countries and information on these countries' TCRs. We adopt a similar investigation technique as one used in a study by Buettner, Overesch, Schreiber and Wamser from 2012. They study the effect of thin capitalisation rules on German multinationals. Buettner and co-authors define two different indicators that enables them to capture both how an introduction, and a tightening, of the rules affect the debt level of firms.

We study 355,000 affiliate-year observations for the period 2004-2014. Our results indicate that TCRs reduce total debt-to-asset ratios by approximately 1 – 1.9 percentage points when a country implements a safe haven rule of 1.5:1. A safe haven rule of 1.5:1 indicates that firms cannot deduct interest payments from their tax base if the share of debt exceeds 150% of their equity or assets. We also find that tighter TCRs make European multinationals less tax sensitive. Compared to a situation where no restrictions are present, the rules diminish tax sensitivity of European affiliates by about 36%.