Development and Effectiveness of Controlled-Foreign-Company Rules: Empirical evidence from European multinational companies

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Measures that can limit tax base erosion and profit shifting by multinational companies (MNCs) have been high on the agenda in many countries and international organizations in recent years. Controlled foreign company rules (CFC rules), thin-capitalization rules, and transfer pricing rules are three such anti-tax-avoidance measures that have become popular. We study the development of CFC rules, their effectiveness, and how CFC rules interact with thin-capitalization rules and transfer pricing rules. Analyzing a large sample of MNC-affiliates in Europe, we find that a parent country's CFC rules have a negative and statistically significant effect on an affiliate's leverage and that an increase in the strictness of CFC rules is associated with a further decrease in leverage. This suggests that CFC rules make internal lending as a profit shifting channel less attractive for MNCs. We also find that thin-capitalization rules and transfer pricing rules are effective in limiting profit shifting activities.

CFC rules aim to prevent profit shifting from a firm's home country to low-tax jurisdictions by taxing the income of a firm's foreign affiliate. If certain criteria are met, income of the foreign affiliate is added to the tax base of the parent and, therefore, this income is taxed at the tax rate of the parent's country of residence. Thin-capitalization rules restrict the amount of interest that can be deducted when calculating a company's taxable profit. Safe-harbour rules and earnings stripping rules are two ways of defining thin-capitalization rules. Under safe-harbour rules, the maximum amount of debt is specified by a fixed debt-to-equity ratio. Interest expenses are tax deductible for the debt only up to this amount. Under earnings stripping rules, the maximum amount of interest expenses that can be deducted is related to EBITDA or a similar variable. EBITDA is earnings before interest, taxes, depreciations, and amortizations. Transfer pricing rules determine conditions for how to price intra-group transactions. Although these measures – CFC rules, thin-capitalization rules, and transfer pricing rules – share a common goal of limiting abusive profit shifting and protecting the domestic tax base, they should be regarded as complementary policies rather than substitutes.

We study the development of CFC rules and assesses whether CFC rules have an effect on the capital structure of European MNCs. In addition, we examine how CFC rules interrelate with thin-capitalization rules and transfer pricing rules.

We start by reviewing the development and design of CFC regimes in Europe, the US, and Canada in the years 2000 to 2015. This review allows us to quantify and code the strictness of CFC rules in each country during the period we study. Next, we create a panel data set of European companies with parents headquartered in Europe, the US, or Canada, 2004-2015, and merge information on historical ownership structures from the Orbis data base with financial data from the Amadeus data base. We use these data together with our data on CFC rules in a regression analysis. The dependent variable is an affiliate's total debt-to-asset ratio and the independent variables of prime interest represent CFC rules and other anti-tax-avoidance measures. In order to reduce potential omitted variable bias, we add firm-level and country-level control variables as well as year dummies and industry and parent fixed effects.

The obtained results suggest that a parent country's CFC rules have a negative effect on an affiliate's total debt-to-asset ratio and that an increase in the strictness of CFC rules is associated with a further decrease in leverage.

We also find that the effect of CFC rules on capital structure depends on a country's corporate income tax (CIT) rate, and in particular, that the total debt-to-asset ratio is less responsive to changes in the strictness of CFC rules for higher levels of the CIT rate. Assuming that CFC rules are not perfectly binding, a potential explanation is that a high CIT rate implies that it is more valuable to preserve the volume of profit shifted. Therefore, companies might be more willing to incur concealment costs in order to reduce the taxable income base in a high-tax country.

When assessing whether the effect of CFC rules on capital structure depends on the tightness of a country's thin-capitalization rules, our results suggest that the magnitude of the effect of CFC rules on leverage is relatively lower in countries where thin-capitalization rules are implemented. However, the effect of CFC rules remains statistically significant when we control for thin-capitalization rules, suggesting that the two sets of rules are complementary.

Similarly, we find that the magnitude of the effect of CFC rules on capital structure does not change substantially when we control for transfer pricing rules. The estimated coefficients on the explanatory variables representing CFC rules remain statistically significant, and the total effect on an affiliate's leverage remains negative.

We also assess whether the Cadbury-Schweppes case has weakened the effect of CFC rules on the capital structure of European MNCs. In 2006, the European Court of Justice (ECJ) issued a landmark decision in the Cadbury-Schweppes (C-196/04) case, stating that the application of the UK CFC rules may be in conflict with the freedom of establishment principle that underlies the EU law. In response to the Cadbury-Schweppes case, member states of the European Economic Area (EEA) have implemented changes in their CFC rules so that, within the EEA, the rules can be applied only to wholly artificial arrangements. We observe that, relative to the years preceding the case, the magnitude of the effect of CFC rules is substantially lower in the period after the case. However, the estimated coefficients remain statistically significant, and we argue that the role of CFC rules in corporate decision making should not be disregarded.

In order to assess the robustness of our results, we have tried substituting the effective CIT rate for the statutory CIT rate. The results suggest that the effectiveness of CFC rules does not depend on how an affiliate's CIT rate is defined. As tax savings depend on the statutory rather than the effective CIT rate, we can justify the use of statutory CIT rates in our main regressions.

As mentioned, we also perform analyses that allow us to draw conclusions about the effects of other anti-tax-avoidance measures on an affiliate's leverage. We model thin-capitalization rules, distinguishing between safe-harbour rules and earnings stripping rules, and transfer pricing rules. We find that safe-harbour rules have a statistically significant negative effect on an affiliate's leverage, indicating that limitations on interest deductibility, defined in terms of a safe-harbour debt-to-equity ratio, lead to a decrease in leverage. In contrast, we find that earnings stripping rules, i.e. rules that specify the maximum amount of interest that can be deducted relative to an earnings measure, have a positive effect on leverage. This may seem counter-intuitive, but earnings stripping rules may lead to changes in a company's transfer pricing decisions. Instead of decreasing its debt level, a company might respond to earnings stripping rules by reducing the mispricing of interest rates on internal debt or other input factors. This increases earnings and therefore allows the company to shelter an even larger amount of debt. Hence, earnings stripping rules may indeed be effective in reducing profit shifting, but achieve this reduction in a different way than the other thin-capitalization policy measures. Finally, we find that the effect of transfer pricing rules on an affiliate's leverage is also statistically significant and similar to that of earnings stripping rules.

Overall, our results suggest that CFC rules, thin-capitalization rules, and transfer pricing rules are effective in limiting profit shifting activities by European MNCs. We believe that a further assessment of the economic significance of anti-tax-avoidance policy measures will help bridge the gap between econometric analysis and actual policy implications.