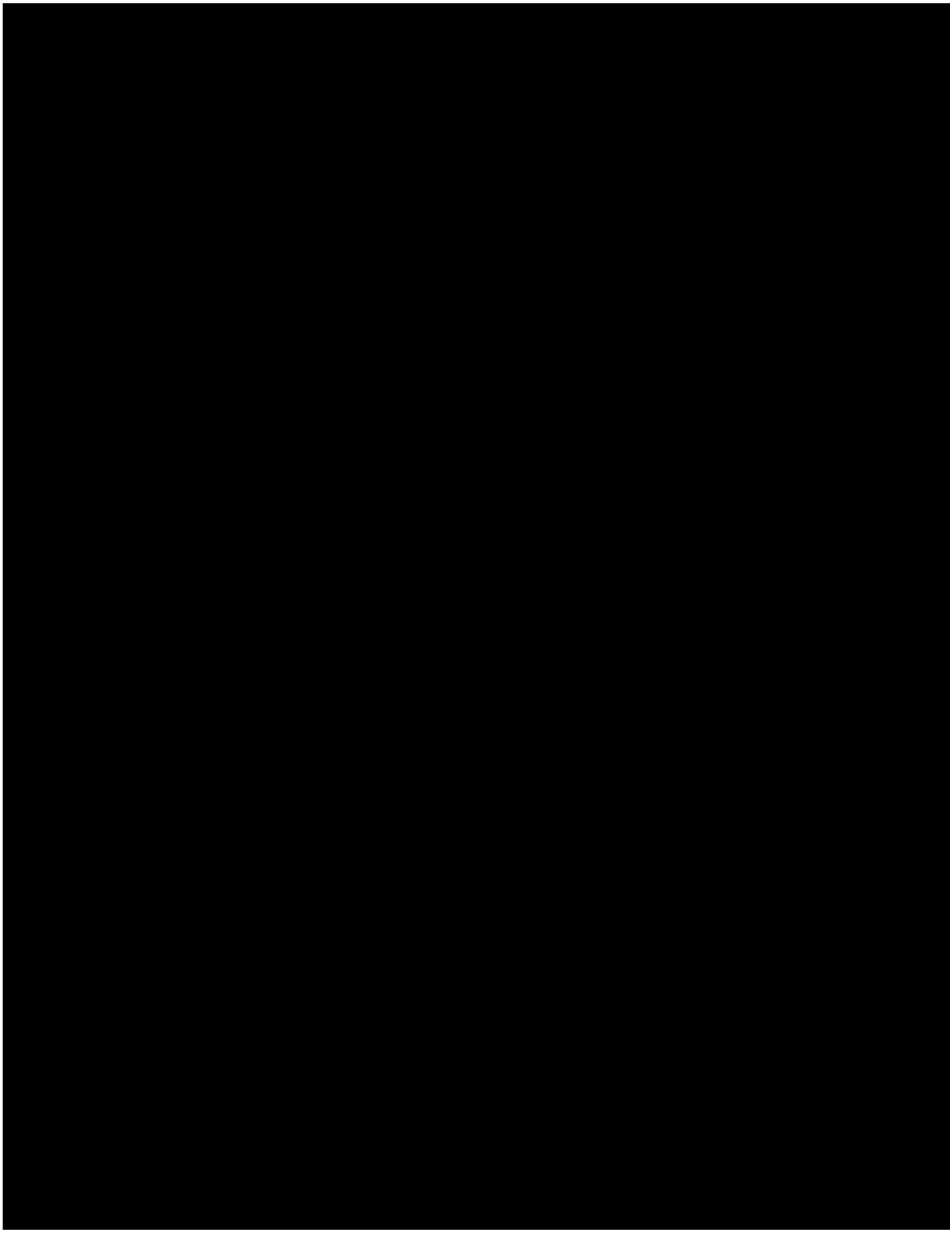

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At A Cost: The Real Effects of Thin Capitalization Rules

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Abstract

Thin capitalization rules (TCRs) aim to mitigate profit shifting by multinational corporations (MNCs) but, by raising the cost of capital for affected affiliates, can also negatively affect real investment. Exploiting unique panel data on multinational companies in 34 countries during 2006-2014, we estimate that the size of this adverse investment effect can be large, and dependent on the statutory corporate tax rate and the tightness of the safe-haven ratio. Negative investment effects are more pronounced for highly-levered firms for which TCRs are more likely to be binding.

JEL Classification Numbers: H25, H87, F23

Keywords: debt shifting, multinational investment, corporate tax policy, thin capitalization rules

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I. Introduction

Intra-company borrowing and lending is one of the common channels through which multinational companies (MNCs) shift profits between countries to minimize their overall tax liability. Indeed, MNCs can finance investments in high-tax countries by debt to enjoy interest deductions there at a high corporate income tax (CIT) rate, while the interest received can be taxable in low-tax countries where intra-company loans are issued. Debt shifting thus reduces the total tax liabilities of the MNC group without affecting its overall debt exposure or bankruptcy risk. Empirical evidence confirms that internal capital structures of MNCs respond strongly to CIT rate differentials, both in developed and developing countries (Weichenrieder and Windischbauer (2008), Buettner and others (2012), Huizinga, Laeven, and Nicodeme (2008), Altshuler and Grubert (2003), Desai, Foley, and Hines (2004), and Fuest, Hebous, and Riedel (2011)).

To limit international debt shifting, many governments have implemented so-called thin capitalization rules (TCRs). These generally specify a threshold for the ratio of internal debt relative to equity–commonly referred as the "safe-haven ratio"–beyond which interest expenses are no longer deductible from the corporate tax base. By discouraging excessive tax-motivated debt shifting, TCRs can raise the effective tax burden on MNCs and protect domestic corporate tax revenue. Empirical evidence (Overesch (2009), Buettner and others (2012), and Blouin and others (2014)) confirms that TCRs have indeed reduced debt shifting by MNCs.

However, TCRs can also raise the cost of capital for investments in affiliates that are restricted in their deductibility of interest. As a result, MNC investment could decline in response to the introduction or the strengthening of TCRs, thus mitigating its benefits, especially if these multinational investments yield positive productivity spillovers to local firms (Andrews, Criscuolo, and Gal, 2015). This paper explores to what extent MNC investment responds to TCRs. To that end, we use a micro-level dataset containing rich information on MNC affiliates in 34 countries during 2006-2014. This is combined with information on the introduction date of TCRs and an indicator of their strictness in limiting internal debt.

In line with these predictions, we find that the introduction of TCRs reduces MNC investment. At an average CIT rate of 27 percent, a TCR reduces investment of multinational affiliates by 20 percent, on average. This effect depends critically on the CIT rate in the country where the

TCR is introduced, and is stronger at higher CIT rates, a finding that is consistent with Buettner, Overesch, and Wamser (2018). We uncover the differential effects of TCRs in two other dimensions. First, the negative effect of TCRs on investment increases non-linearly in the firm leverage ratio. Intuitively, only those affiliates with an internal debt ratio above the safe-haven ratio would be directly affected by TCRs and thus most likely respond. Second, we find that TCRs with a stricter safe-haven ratio have more pronounced effects in reducing MNC investment. A one standard deviation increase in the *TCRScore* would increase the marginal effect of the CIT rate by about two thirds in countries with a TCR.

Our results add to a small but growing literature on the real effects of anti-avoidance regulations, including transfer pricing regulations (De Mooij and Liu (2020)), thin capitalization rules (Buettner, Overesch, and Wamser (2018)), and Controlled Foreign Company (CFC) regulations (Clifford (2019); Prettl (2017)). Our paper is most closely related to Buettner, Overesch, and Wamser (2018) who explore the impact of TCRs and other anti-avoidance regulations on investment and employment for German-based MNCs between 1996 and 2007. They find that introducing a typical thin-capitalization rule or making it more tight exerts a significant adverse effect on FDI and employment. We expand the analysis by focusing on MNCs that are headquartered in over 60 countries between 2006 and 2014, a period during which efforts to tackle profit shifting have been elevated across countries. Moreover, we uncover important heterogeneity in the investment effects of TCRs.

The rest of the paper is organized as follows. Section II provides an overview of TCRs across countries. Section III presents our empirical specification and provides summary statistics of our data. Section IV presents the results. Finally, Section V concludes.

II. Thin-Capitalization Rules

Debt shifting refers to the common strategy used by MNCs to excessively borrow in high-tax countries where interest expenses are deductible, with loans extended from the MNC parent or affiliates in low-tax countries where interest income is part of the corporate tax base.[1] By strate-

[1] A more extreme case of debt shifting is "earnings stripping", where the debt is not subject to tax in the recipient country.

gically arranging their internal debt structure in this way, MNCs can reduce their global tax liability without changing the overall debt exposure of the group. Empirical evidence confirms that the debt-to-capital ratio of MNC affiliates is highly responsive to international tax rate differentials (Altshuler and Grubert (2003); Buettner and others (2012); Desai, Foley, and Hines (2004); Huizinga, Laeven, and Nicodeme (2008), among others), and that the effect of tax rate differential on the debt ratio of MNC affiliates is larger in developing economies than in developed economies (Fuest, Hebous, and Riedel, 2011).

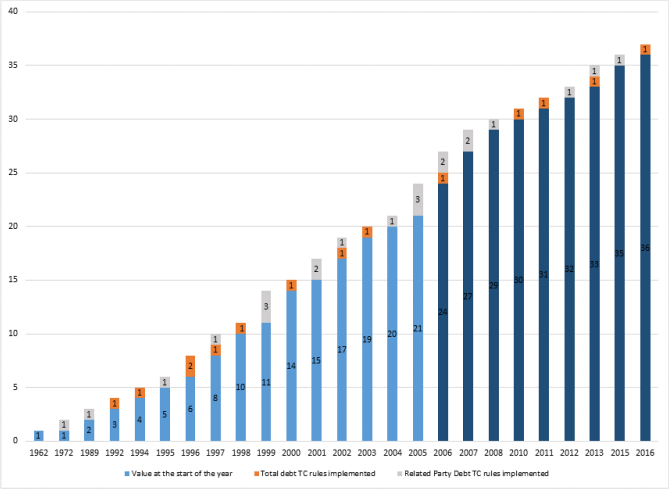
Many countries have adopted thin capitalization rules (TCRs) to counteract the negative impact of tax-motivated debt shifting on domestic tax revenue (Figure 1). Instead of full denial of interest deductibility, TCRs are partial restrictions that deny interest deductibility beyond a certain fixed level of debt or interest. The rules define a threshold for the ratio of internal debt and equity, commonly referred to as the safe-haven ratio.[2] If internal debt exceeds the threshold, any interest deduction above the threshold is denied. The safe-haven ratio is informative of the tightness of the TCR, as the higher this ratio is, the less internal debt is denied from interest deduction. TCRs also vary widely across countries in the strictness of their enforcement(Blouin and others, 2014). For example, in some countries, the rules trigger an automatic disallowance of interest deductions. Other countries may allow for some discretion in the application of TCRs, using the debt ratio of similar but unrelated firms to determine whether interest deductibility is limited. Existing empirical evidence confirms that TCRs are indeed effective in restricting debt-shifting of MNC affiliates by constraining their internal leverage (Blouin and others, 2014; Buettner and others, 2012), and in reducing total leverage of the MNC group if targeted at the total debt ratio of the company group(De Mooij and Hebous, 2018; IMF, 2016).

A database of the IMF's Fiscal Affairs Department (FAD) provides information on three key aspects of TCRs in 62 countries: (1) the introduction year of the policy, (2) whether the TCR restricts interest deduction for only related-party debt or for all debt, and (3) the safe-haven ratio that determines whether an interest deduction is denied.[3] Our empirical analysis captures the im-

[2]Some countries define the threshold in terms of net interest expenses over income, consistent with OECD guidance under the BEPS Action 4 on interest deduction limitations.

[3]In general, the safe-haven ratio can be based on a fixed debt-equity ratio, a fixed interest earning ratio ("earning stripping rules"), or an arm's-length ratio. In our sample, all safe-have ratios are based on a fixed debt-equity ratio.

Figure 1. Number of Countries with Thin Capitalization Rules (TCRs)



Notes: This figure plots the number of countries with newly-introduced TCRs that restrict the total debt of the company group (top orange bar) and the related-party debt of the company group (top grey bar). The bottom blue bar denotes the number of countries with existing TCRs during 1962-2016, and in particular during the sample period of 2006-2016 (dark blue bar). Seven countries introduced TCRs to restrict related-party debt during 2006-2016: China (year of introduction: 2008), Czech Republic (2007), Finland (2013, with effective implementation in 2014), France (2007), Greece (2010), Norway (2014) and Sri Lanka (2006).

pact of TCRs in two measures: (1) a discrete indicator TCR_{kt}, which takes the value of one for all years following introduction of some TCR on internal debt in country k. Seven countries in our dataset introduced TCRs on related-party debt during 2006-2014. These include: China (year of introduction: 2008), Czech Republic (2007), Finland (2013, with effective implementation in 2014), France (2007), Greece (2010), Norway (2014) and Sri Lanka (2006); and (2) a measure for the tightness of the TCRs ($TCRScore$) based on the safe-haven ratio, following the existing literature (see, e.g., Buettner and others (2012) and Merlo, Riedel, and Wamser (2020)):

$$TCRScore_{kt} = \frac{\sigma_{kt}}{1+\sigma_{kt}}, \tag{1}$$

where σ_{kt} denotes the safe-haven ratio between internal debt and equity. If interest deduction is completely denied so that the safe-haven ratio is 0, $TCRScore_{kt}$ takes the value zero. If the safe-haven ratio becomes very large and the limitation is not binding for most firms, the $TCRScore_{kt}$ converges to a value of one. Overall, the higher the $TCRScore$ is, the smaller the scope of the

TCR in limiting internal debt. In our dataset, the value of the *TCRScore* ranges between 0.5 and 0.8 during the sample period of 2006-2014.

III. Empirical Specification and Data

A. Theoretical consideration and empirical specification

We expect TCRs to affect MNC investment through two channels. First, a denial of interest deductibility directly raises the cost of capital for those affiliates with a debt level exceeding the safe-haven ratio. Hence, a TCR will ceteris paribus reduce investment in those affiliates. Second, in response to the TCR the MNC may replace debt by equity finance to avoid international double taxation. Indeed, if interest is no longer deductible in the host country, the investment return would be taxed twice: in the host country as well as in the home country where the interest received will be taxable. Even though the replacement of debt by equity could reduce the overall tax burden, it would still come along with a rise in the cost of capital. TCRs thus unambiguously reduce investment.

The magnitude of the average investment effect will depend on the strictness of the TCR (which determines how many firms will be directly affected) as well as the CIT rate in the country of the affiliate. Indeed, the higher is the CIT rate, the more the cost of capital will rise due to the introduction of a TCR for affected affiliates. Hence, we expect a positive interaction effect on investment between the CIT rate and the TCR. An alternative interpretation of this positive interaction is that, if profit shifting is reduced due to the introduction of a TCR, real investment will become more responsive to CIT rates. The following two hypotheses capture these predictions:

(a) Hypothesis 1. TCRs reduce investment in affiliates of MNCs; this effect rises in the CIT rate and in the strictness of the TCR.

(b) Hypothesis 2. As TCRs affect those with debt-to-capital ratio above the safe-haven ratio, the negative investment effect of TCRs will increases in the leverage ratio of MNC affiliates. Our main specification to test these hypotheses take the following form:

$$Investment_{ikt} = a_i + d_t + \beta_1 CIT_{kt} + \beta_2 TCR_{kt} + \beta_3 CIT_{kt} \times TCR_{kt} + \beta_{\mathbf{x}} \mathbf{x}_{ikt} + \beta_{\mathbf{z}} \mathbf{z}_{kt} + \varepsilon_{ikt}, \qquad (2)$$

where the dependent variable $Investment_{ikt}$ denotes current-year investment spending I_{ikt} in fixed tangible assets divided by lagged capital stock in tangible assets $K_{ik,t-1}$ by affiliate i in country k in year t. CIT_{kt} is the statutory corporate income tax (CIT) rate, and TCR_{kt} is a dummy indicator that takes the value of one for all years following the introduction of TCR on internal debt in country k in year t. The key variables of interest are the CIT rate CIT_{kt}, the dummy for the introduction of a TCR TCR_{kt} and the interaction term between them. Given that CIT raises the cost of capital, we expect β_1 to be negative. As TCRs are also expected to increase the cost of capital for MNCs if CIT rates are positive, Hypothesis 1 implies that we expect coefficient β_3 to be negative as well. To address Hypothesis 2, we split the sample into quartiles based on average leverage ratio prior to TCR introduction. If TCRs mainly affect MNCs with high levels of internal debt, we would expect larger responses in the top quartiles. However, an important caveat in our leverage ratio variable is that it refers to total debt to capital ratio, as ORBIS does not distinguish between internal and external debt. To the extent that internal debt and total debt are highly correlated, our leverage ratio measure should still reflect the degree of internal debt despite the measurement errors.

Our empirical analysis takes into account other firm-, industry-, and country-specific characteristics as follows. The vector a_i denotes firm fixed effects that control for unobserved heterogeneity in firm-level productivity and parent-company characteristics.[4] The vector d_t denotes year fixed effects to capture the effect of aggregate macroeconomic shocks that are common to all affiliates in our sample over time. The vector X_{ikt} denotes other important non-tax determinants of investment at the firm level, including proxies for firm size, its growth prospect, the degree of financial constraints and profitability.[5] The vector Z_{kt} denotes a set of time-varying country characteristics in the host countries, including GDP per capita, GDP growth rate, population, and unemployment rate. Our preferred specification also includes industry-year fixed effects and country-industry

[4]Firm fixed effects subsume host-country fixed effects (given that affiliates do not change their location), controlling for time-invariant differences across host countries that may affect the location choice of multinationals. These considerations could include, for example, perceived average quality of governance during the sample period, common language and/or former colonial ties with the home country, and geographical distance between the home and host country.

[5]Specifically, **Sales** equal operating revenue. **Sales growth rate** equals the ratio between current-year and previous-year operating revenue minus 1. **Cash flow rate** is current-year cash flow divided by lagged capital stock. **Profitability** is calculated as EBIT divided by sales. All ratio variables are winsorized at top and bottom 1 percentile to minimize influence of outliers.

fixed effects to account for potential heterogeneity in investment across economic sectors in a specific country and year. ε_{ikt} denotes the error term.

B. Data

Our data set is an unbalanced panel of 397,216 observations for 75,154 unique companies in 34 countries for the years 2006 to 2014. It is constructed using unconsolidated financial statements of non-financial, non-utility affiliates that are part of a multinational group in the ORBIS database provided by Bureau van Dijk. A company is defined as a MNC affiliate if its ultimate parent company is in a different country and owns at least 50% of its shares. Macroeconomic variables are taken from World Economic Outlook database of the IMF. Data on tax rates are taken from the Oxford University CBT Database. Table 1 displays descriptive statistics of the key variables in the estimation sample.

IV. Empirical Results

(a) Average Effects of TCRs. Table 2 presents the estimation results on the average effects of TCRs on investment by MNC affiliates. In the first four columns, the dependent variable is investment per dollar fixed tangible asset. Column (1) includes firm-level controls, while column (2) adds country-level controls, and column (3) adds industry-year and country-industry fixed effects. In columns (1)-(3), the estimated sign of the coefficient on the CIT rate is negative, consistent with a higher CIT dampening MNC investment by increasing their cost of capital. The estimated sign of the coefficient on the interaction between the CIT rate and the dummy indicator TCR_{kt} is negative and statistically significant when controlling for country-level characteristics in columns (2) and (3). This supports Hypothesis 1 that the TCR negatively affects investment and that this effect rises in the CIT rate. There is no significant effect of TCR on investment in countries with zero CIT, as indicated by the coefficient of the standalone TCR dummy. Quantitatively, the negative effect of a TCR on MNC investment is strong. Evaluated at an average CIT rate of 27 percent, for example, a TCR reduces the investment rate by 0.11. Evaluated at the mean asset level of $21.3 mil, this corresponds to a reduction in investment by 20.8 percent. This effect is stronger

Table 1. Summary Statistics

Variables:	Mean	Std Dev	Median	P10	P90
Firm-level variables:					
Investment spending (in log)	12.33	2.54	12.43	9.08	15.43
Fixed tangible assets (in log)	13.84	2.56	13.97	10.45	16.99
Investment rate (Inv_t/K_{t-1})	0.53	1.29	0.16	-0.05	1.22
Operating revenue (in log)	8.00	9.01	7.13	6.11	8.15
Cash flow rate	2.92	9.79	0.45	(0.44)	7.90
Profitability	0.07	0.15	0.06	-0.04	0.21
Sales Growth Rate	0.03	0.27	0.01	-0.25	0.32
Leverage Ratio	0.65	0.30	0.64	0.29	0.94
Country-level variables:					
CIT rate	0.27	0.05	0.28	0.19	0.33
Population (million)	36.25	26.25	45.98	5.40	63.71
Unemployment rate (%)	10.06	5.58	8.24	5.23	19.85
Exchange rate (rel to USD)	37.78	181.62	0.75	0.65	7.65
GDP per capita (constant USD thous)	39.76	20.10	42.25	14.65	59.55
GDP growth rate (%)	0.23	2.70	0.60	-3.58	2.84

Notes: this table provides the descriptive statistics for the main variables in the regression estimation sample during 2006-2014. All ratio variables winsorized at the top and bottom 1 percent.

at high CIT rates. For instance, at a CIT rate of 40 percent, MNC investment would fall by 37.7 percent.

To put these estimates into perspective, we can compare them to the impact of changes in the cost of capital (CoC) on investment. The empirical literature suggests that this elasticity ranges between -0.25 in Chirinko, Fazzari, and Meyer (1999) and -1 in e.g. Hassett and Hubbard (2002). For our analysis, we need to distinguish between two groups of multinationals. First, those multinationals for whom the TCR is not binding, the cost of capital will not change. For those facing a binding restriction, however, the rise in the cost of capital can be inferred from subtracting the costs of capital on equity and debt-financed investment. Following the standard cost of capital formula and parameter values based on (Devereux and Griffith, 2003), we find that the cost of capital for a firm that is faced with a restriction would thus increase by 67 percent from 0.026 to 0.0435 following the introduction of a TCR. With an elasticity ranging between -0.25 and -1, investment would fall by between 16 and 67 percent in the affected firms. The average effect

should be smaller since not all firms are affected. Our average impact of 20.8 percent thus seems more consistent with a relatively high elasticity found in the literature.

Conversely, the CIT rate exerts a negative investment effect, the size of which depends on the presence of a TCR. Based on results in column (3), a one-percentage point increase in the CIT rate would reduce the investment rate by 0.00692 in countries with no TCR. Evaluated at the mean asset level, this implies a 1.2 percent reduction in MNC investment in these countries. For countries with a TCR, a one-percentage point increase in the CIT rate would reduce the investment rate by 0.014 (=0.00692+0.00686), equivalent to a reduction in MNC investment of 2.4 percent in countries with TCRs. The results remains quantitatively similar when controlling for potential effects of transfer-pricing regulations on MNC investment in column (4), and when using log investment as the dependent variable in column (5). The magnitude of the estimated effect of the TCR on multinational investment is comparable to that in Buettner, Overesch, and Wamser (2018), who find that the tax-rate sensitivity of FDI is about twice as large as in the unrestricted case.

(b) Differential Effects of TCRs. The estimated coefficients in Table 2 represents the average effect of TCRs on investment by all MNCs in the sample. Following discussions in Section II, the effect of TCRs is likely to vary in firm's leverage ratio as well as in the scope of TCR in limiting internal debt. Whether these rules are binding or not would matter for the effectiveness of TCR. In this respect, our findings should be interpreted as conditional correlations across the distribution of firm leverage. Table 3 presents the differential results of the TCRs by distinguishing the effect of TCR in each quartile of average leverage ratio. For countries that implemented TCR in the sample period, the leverage ratio is based on pre-TCR values. We look at the quartile of leverage ratio rather than the level itself as the latter is more endogenous to the implementation of TCR and any anticipation effect, presumably. Column (1) shows that the negative investment effect of TCRs is more pronounced for highly-levered firms. In particular, TCR has no significant effect in the bottom quartile, while the size of the coefficient increases, albeit non-monotonic, in higher quartiles of the leverage ratio. Specifically, a one-percentage point increase in the CIT rate would reduce the investment rate by 0.0068 in countries with no TCR. Evaluated at the mean asset level, this implies a 1.2 percent reduction in MNC investment in these countries. For coun-

Table 2. Investment Responses to TCR: Main Results

Dependent variable:	Investment per $ fixed asset				Log Investment
	(1)	(2)	(3)	(4)	(5)
$CITRate_{kt}$	-1.835**	-0.770*	-0.692*	-0.693*	3.457
	(0.708)	(0.391)	(0.369)	(0.368)	(2.131)
$CITRate_{kt} \times TCR_{Related,kt}$	-0.298	-0.709***	-0.686**	-0.686**	-1.734*
	(0.360)	(0.256)	(0.251)	(0.252)	(0.912)
$TCR_{Related,kt}$	-0.061	0.079	0.074	0.074	0.363
	(0.075)	(0.047)	(0.044)	(0.044)	(0.232)
$log(Sales_{t-1})$	-0.159***	-0.162***	-0.166***	-0.166***	0.179***
	(0.015)	(0.014)	(0.014)	(0.014)	(0.015)
Cash flow per $ fixed asset	0.033***	0.033***	0.033***	0.033***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$Profitability_{t-1}$	0.175***	0.159***	0.156***	0.156***	0.154***
	(0.056)	(0.058)	(0.057)	(0.057)	(0.043)
$Sales\ growth\ rate_{t-1}$	0.063***	0.059***	0.063***	0.063***	0.040**
	(0.017)	(0.015)	(0.015)	(0.015)	(0.019)
TPR_{kt}				0.009	
				(0.082)	
Firm FE	Y	Y	Y	Y	Y
Year FE	Y	N	N	N	N
Host Country Controls	N	Y	Y	Y	Y
Industry-Year FE	N	Y	Y	Y	Y
Country-Industry FE	N	N	Y	Y	Y
Adjusted R^2	0.318	0.319	0.319	0.319	0.806
No. observations	397,216	397,132	397,132	397,132	322,095

Notes: This table reports estimation results of the effect of the thin capitalization rules on investment by multinational affiliates, based on eq.(2). Standard errors reported in parentheses are robust, corrected for clustering at the country level. ***, **, * denotes significance at the 1%, 5% and 10% levels, respectively.

tries with a TCR, a one-percentage point increase in the CIT rate would reduce the investment rate by 0.014/0.018/0.013 in the second/third/fourth quartile. This implies that the semi-elasticity of MNC investment with respect to the statutory CIT rate is 2.5, 3.1, and 2.3 for those in the 2-4 quartile of leverage ratio in countries with TCRs. Alternatively, evaluated at the mean CIT rate of 27 percent in the sample, an introduction of TCR would reduce MNC investment by 0.6, 12.2, 21,7 and 9.8 percent in the 1-4 quartile of leverage ratio, respectively.[6]

[6]We used alternative definitions of leverage quartile indicators based on the initial value and average value of firm leverage in the sample period, respectively, and the findings are very similar.

Next, we analyze the differential effects of TCRs in the scope of the safe-haven ratio. As the value of the *TCRScore* decreases in the strictness of the TCR, we expect a positive coefficient when interacting *TCRScore* with the main policy variable. This is indeed the case in column (2), as the coefficient on the $TCRScore_{kt} \times CIT_{kt}$ is positive and significant at the 5 percent level, while the coefficient on the main interaction between the TCR_{kt} and CIT_{kt} remains negative and significant at one percent. When combined, the results suggest that for one standard deviation increase in the *TCRScore* (of 0.17, which roughly corresponds to an increase in the safe-haven ratio of 1:1 to 2:1), the marginal effect of the CIT rate would increase by about two thirds in the presence of a TCR.

V. CONCLUSIONS

The analysis in this paper shows that the introduction of a TCR has a negative effect on MNC investment. The effect rises in the statutory corporate tax rate. It also rises in the degree of leverage of an MNC affiliate, as well as in the strictness of the safe-haven ratio of the TCR. The results are important for the current policy debate on international taxation. For instance, the negative investment effects from TCRs can make governments more reluctant to introduce them unilaterally or encourage them to adopt more lenient regulations in order to mitigate adverse effects on investment.

Table 3. Investment Responses to TCR: Heterogeneous Effects

Differential Effects of TCR in: Dept var: Investment per $ tangible asset	Leverage Ratio (1)	TCR Scope (2)
CIT_{kt}	-0.681*	-0.145
	(0.366)	(0.515)
TCR_{kt}	0.073	-0.962
	(0.044)	(0.706)
$TCR_{kt} \times CIT_{kt}$		-41.310***
		(13.933)
$TCRScore_{kt} \times CIT_{kt}$		55.031**
		(20.513)
$TCR_{kt} \times CIT_{kt} \times Q1_i$	-0.292	
	(0.369)	
$TCR_{kt} \times CIT_{kt} \times Q2_i$	-0.721***	
	(0.235)	
$TCR_{kt} \times CIT_{kt} \times Q3_i$	-1.074***	
	(0.218)	
$TCR_{kt} \times CIT_{kt} \times Q4_i$	-0.632**	
	(0.231)	
Firm FE and Firm-level Controls	Y	Y
Host Country Controls	Y	Y
Industry-Year FE	Y	Y
Country-Industry FE	Y	Y
Adjusted R^2	0.319	0.313
No. observations	397,132	325,102

Notes: This table reports estimation results of the heterogeneous effects of the thin capitalization rules on investment by multinational affiliates. Standard errors reported in parentheses are robust, corrected for clustering at the country level. ***, **, * denotes significance at the 1%, 5% and 10% levels, respectively.

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