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Profit Shifting: Drivers and Potential Countermeasures

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Abstract

In trying to explain the drivers of global profit shifting by MNEs we investigate industry-specific variation in profit shifting and identify determinants thereof. Using the ORBIS database we show that intangible asset endowment of subsidiaries and the complexity of MNE groups explain aggregate profit shifting trends and tend to drive industry specific results. We find that subsidiaries with a high intangible to total asset ratio have a semi-elasticity of 1.2 compared to 0.78 for low intangible affiliates, suggesting a significantly larger sensitivity to CIT rate changes. Similarly, subsidiaries belonging to more complex MNE groups have a higher semi-elasticity (1.11) than those that are part of less complex entities (0.81). Moreover, we incorporate country-specific transfer pricing mitigation measures (documentation requirements) into our analysis. We find significant non-linear mitigation effects, which vary depending on the intangible endowment of subsidiaries and complexity of MNE groups. On average, the estimated profit shifting among MNE subsidiaries in our sample is reduced by 60 percent four years after the introduction of mandatory documentation requirements. The findings of our research provide initial insights on the relative profit-shifting risk associated with different sectors of MNE activities which may support the design of anti-avoidance approaches and the allocation of scarce analytical and enforcement resources.

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1 Introduction

In the context of the European sovereign debt crisis, potential tax base erosion through profit shifting by Multinational Enterprises (MNEs) has become a prominent public policy concern, making headline news and turning into a priority area for international policy coordination.[1] A growing body of evidence, comprehensively analyzed by Heckemeyer and Overesch (2012), indicates that MNEs do indeed minimize their tax obligations by shifting profits from high to low tax jurisdictions. Studies typically show that pre-tax profitability of affiliates is decreasing in a jurisdictions tax rate or tax differential with economies hosting other firms in the same MNE group. These findings seem to hold over different periods in the last two decades and using a range of public and private information sources at the national, regional and global level (Hines and Rice, 1994; Huizinga and Laeven, 2008; Weichenrieder, 2009; Maffini and Mokkas, 2011).

While transfer pricing needs to be analyzed looking at both managerial and tax optimization objectives, opportunities to make use of the relocation of assets or aggressive transfer (mis)pricing in the case of R&D based intangibles (Grubert, 2003) and the ease of locating intangibles in low tax subsidiary jurisdictions (Dischinger and Riedel, 2011), the ownership structure of subsidiaries (Weichenrieder, 2009), and the location of parent companies (Dischinger and Riedel, 2010) have been shown to impact profit shifting behavior. Another potential driver of an MNE's profit shifting opportunities is the regulatory framework in host or parent countries. Particularly, the absence of transfer pricing regulations or lax enforcement of the arms length principle for related party transactions is likely to be associated with aggressive pricing strategies for profit shifting (Bartelsman and Beetsma, 2003; Beuselinck et al., 2009; Lohse and Riedel, 2012).

This paper aims to add to existing research on profit shifting behavior in two ways: First, it investigates industry-specific variation in profit shifting and identifies determinants thereof. Using the ORBIS database and drawing on earlier approaches (Huizinga and Laeven, 2008; Dischinger and Riedel, 2010; Maffini and Mokkas, 2011), we use a panel of approximately 16,000 MNE subsidiaries to analyze global profit shifting trends. We show that intangible asset endowment of subsidiaries and the complexity of MNE groups explain aggregate profit shifting trends and tend to drive industry specific results. Second, we incorporate country-specific transfer pricing mitigation measures (documentation requirements) into our analysis and find a significant, though lagged, dampening effect on

[1] See OECD (2013): Base Erosion and Profit Shifting.

aggregate shifting behavior. These findings support and extend the observations of earlier studies, by using a global dataset and by focusing on the introduction of documentation requirements, a narrow but straightforward proxy for the enforcement of transfer pricing provisions at the national level. Moreover, we take advantage of the differentiation of profit shifting channels to show how the effectiveness of documentation rules differs across sectors.

Our analysis is relevant for the academic and public policy discourse for two related reasons. With the share of intangibles at the subsidiary level and MNE group complexity, we identify two important drivers of profit shifting behavior. In addition, the breakdown of shifting trends across industries informs the ongoing debate on the erosion of tax bases and provides additional information that may support the design of anti-avoidance approaches and the allocation of scarce analytical and enforcement resources.[2]

The paper proceeds as follows. Section 2 outlines the research questions and summarizes the related literature. In the following sections we present the data and empirical approach (3), and findings (4). Section 5 concludes.

2 Research Hypothesis and Background

In very general terms, our core hypothesis is that MNEs operating in industries and countries with more opportunities and incentives to shift profits post a lower share of earnings in their subsidiaries operating in high tax jurisdictions. To investigate this premise, we look at a range of potential industry- and country-specific determinants.

2.1 Identifying Industry Trends and Drivers

The first part of our analysis aims to uncover the determinants of profit shifting by exploiting industry characteristics.[3] In particular, we test whether the share of intangibles of affiliates and the complexity of the production process (cross-industry activities covered by an MNE group) explain variations in profit shifting.

Our emphasis on intangibles, a key source of growth and competitiveness for MNEs, is based on the insight that the valuation of trademarks, copyrights and patents for tax or

[2]Similar to sector and sub-sector analysis which is commonly used to inform domestic tax administration risk assessment studies.

[3]For an early approach differentiating industries see Bartelsman and Beetsma (2003).

other purposes is a dauntingly difficult task.[4] Their intangible nature makes the allocation and pricing of these assets highly flexible, opening opportunities for tax minimization. The transfer of intangible ownership or licensing arrangements are thus key areas for transfer pricing valuations and disputes. It poses many practical challenges that are at the focus of ongoing coordination efforts at the international level.[5] In an early study, using data on U.S. companies, Grubert (2003) identified an association of the volume of intercompany transaction and associated profit shifting opportunities with parent R&D intensity. In addition, Karkinsky and Riedel (2009) showed that patent allocation is affected by the corporate tax rate differential across European MNEs. Importantly, Dischinger and Riedel (2011) find that the allocation of intangibles at the subsidiary level can be partly explained by tax rate differences, and that this allocation corresponds to a larger sensitivity of affiliate profitability to the tax difference. Building on these findings, we test more generally whether the relative endowment of a subsidiary with intangibles provides an opportunity driving profit-shifting activities across key industries.

Driven by increasing international specialization, the transfer pricing implications of business structures and supply-chains, which tend to include both related and third-party suppliers, have been a focus area of recent policy discussions.[6] Tax planning opportunities linked to the complexity of MNE groups are difficult to standardize. Requirements for local presence, for instance, tend to result in local income tax obligations. On the other hand, the complexity of supply-chains may in itself increase profit shifting opportunities by adding both to the number and, maybe more importantly, variability of internal cross-border transactions. The administrative costs and duration of transfer pricing audits, which require in-depth understanding of the specific economic context, are likely significantly higher in a more complex cross-sector scenario. Motivated by recently conducted policy analyses by the OECD and UN on industry value chain segmentation,[7] our paper attempts an initial assessment on the effect of MNE segmentation across industries on profit shifting.

2.2 Capturing the Enforcement of the Arm's Length Principle

Over the last two decades, governments have increasingly responded to the threat of corporate tax base erosion through transfer mispricing by introducing provisions to regulate

[4] For a recent overview on intangibles and growth see Andrews and Serres (2012).
[5] OECD Revised Guidance in June 2012 http://www.oecd.org/tax/transfer-pricing/50526258.pdf
[6] The OECD extended its transfer pricing guidelines regarding business restructurings in 2010.
[7] OECD (2012) and UNCTAD (2013).

transfer pricing based on the arms length principle and by strengthening the capacity of audit staff. Notably, from 1994-2011, the number of countries requiring detailed reporting of related party transactions has increased more than tenfold from 5 to more than 70 (World Bank 2013). In a first attempt to capture country specific transfer pricing legislation effects, Bartelsman and Beetsma (2003) report country response coefficients, explaining some of the differences with the strength of transfer pricing regimes. The authors account for the existence of transfer pricing provisions, documentation guidelines and specific penalties linked to transfer pricing. However, limited variation among the observed countries' enforcement practices in their panel limits the usefulness of these initial findings. Beuselinck et al. (2009) follow a similar intuition, using a binary score for a range of transfer pricing regulations, including documentation requirements. More recently Lohse and Riedel (2012) used a more sophisticated scoring system which is presented in Lohse et al. (2012) and captures the existence of transfer pricing regulation, including the extend of documentation obligations in the legislation. Similar to these earlier efforts we assess the effect of regulatory measures on profit shifting activities. As opposed to creating an index of the strength of transfer pricing regimes, we solely focus on the introduction of mandatory transfer pricing documentation requirements. We chose this narrow approach as a proper assessment of transfer pricing risks - guiding enforcement efforts - initially requires filling information gaps on transactions with associated parties. The introduction of documentation requirements is therefore commonly assumed to have a strong signaling and compliance effect on multinationals and can be interpreted as a proxy for actual administrative enforcement of the arms length principle. In line with this observation, we assume that the introduction of an obligation to prepare detailed information on internal transactions and to document a company's transfer pricing policy, significantly reduces profit shifting through mispricing. Additionally, we expect the effect of these requirements to differ (i) over time given that tax administrations take time to build up capacity in using the information they obtain through mandatory documentation and (ii.) for sectors, given that tax administrations may initially focus on simple targets such as distributor margins or management fees and industries with more complexity and opportunities may be less deterred by documentation requirements.

3 Estimation Approach, Information Sources and Sample Selection

3.1 Sample Selection

Our firm-level micro data on MNEs is extracted from the ORBIS database, commercially offered by Bureau Van Dijk (BvD). The database offers administrative information for more than 50 million private companies globally. The data is collected by national institutions based on legal requirements, and compiled and standardized by BvD.[8] The database provides information on parents and global subsidiaries, allowing for the construction of a comprehensive MNE panel. We use the following variables reported in ORBIS: Fixed assets, fixed intangible assets, total assets, sales, EBIT, number of employees, cost of employees. We cover the time period from 2003-2011, providing nine years of firm specific information. In order to classify MNE groups, we start with the immediate ownership indicated in ORBIS dropping all parent observations (and associated subsidiaries) with consolidated accounts, as we require information on the specific activities of each parent and subsidiary.

Table 1 depicts our sample selection. We select all parents owning a foreign subsidiary with at least 50% of its shares, which amounts to around 42,048 immediate parents owning 138,115 subsidiaries (domestic and foreign). Our analysis is focused on subsidiaries only. Approximately 5000 of the companies in the subsidiary sample are also parents. We eliminate these from our sample but add them again as part of our robustness checks. We limit our sample to observations in OECD member states, though this still includes global information on the tax differences for each MNE group. Moreover, our analysis requires basic accounting information for all MNE groups, meaning that all basic variables need to be available for at least 3 years, profitability of subsidiaries in a given year, and sufficient country and industry coverage. This selection criterion reduces our sample by more than 60 percent, possibly resulting in a bias as incomplete accounting information may be correlated to less transparent corporate governance and more aggressive tax optimization.[9]

[8] See OECD 2010 for a comprehensive summary.

[9] Such a bias would likely result in an underestimation of findings on aggregate profit shifting.

Table 1: Sample Selection

Step	Description	Affiliates	Observations	Percentage of Step(x-1)	Percentage of Step 1
1	Downloaded	176,924	1,636,776	100.0	100.0
2	Subsidiary sample	138,115	1,243,035	75.9	75.9
3	Remove parents	133,175	1,198,575	96.4	73.2
4	Basic accounting information	51,811	466,299	38.9	28.5
5	>90% total ownership	40,172	361,548	77.5	22.1
6	Poor data removal	34,379	309,411	85.6	19.0
7	Positive profit	17,793	88,296	28.5	5.4
8	OECD	16,106	80,455	91.1	4.9
9	>10 Affiliates	16,081	80,369	99.9	4.9

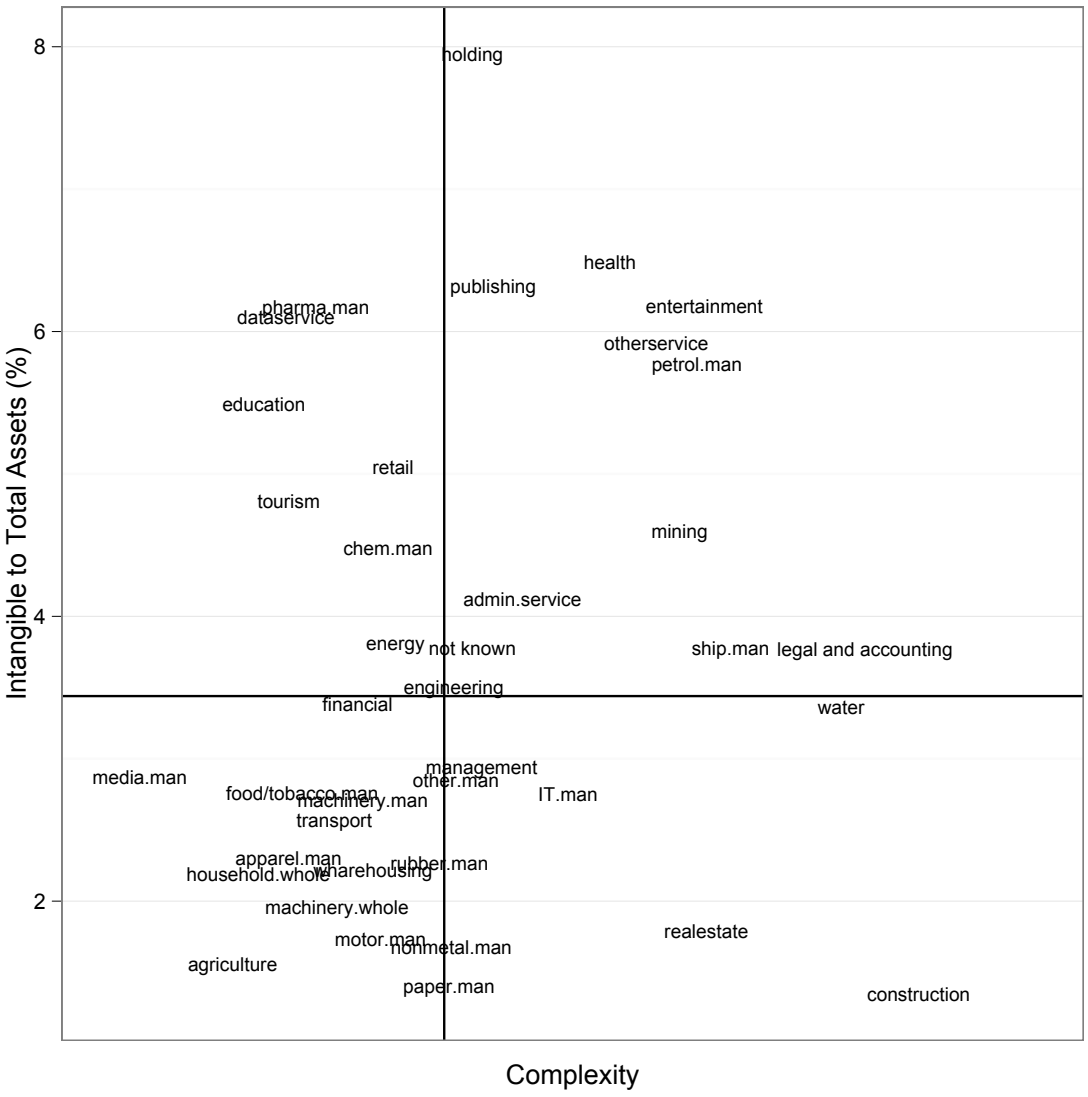
Notes: Step 3 - remove parents that are also part of the subsidiary sample. Step 4 - three years information on EBIT, cost of employees and fixed assets available. Step 5 - minimum of 90% ownership in the chain from parent to affiliate. Step 6 - exclude affiliates having zero cost of employees, negative fixed, total, or intangible assets. Step 7 - exclude observations where EBIT, cost of employees or fixed assets are negative. Step 9 - exclude countries and industries having ≤ 10 affiliates.

3.2 Industry Classification

We rely on the European Classification of Economic Activities (NACE) for the ordering of MNEs across sectors. The starting point for our classification of an MNE groups industry is the industry assignment of each affiliate provided in the ORBIS database. Generally, we aggregate industries at the first level of the alphabetical NACE codes. For sectors, such as manufacturing, where our sample includes more than 1000 MNEs at the first level, we also differentiate activities at the second and/or third level in the NACE hierarchy. Moreover, we group all affiliates designated as holding, head office activity, trust, funds and similar financial entities[10] together in a single holding category and discard those industries with less than 10 multinationals in our sectoral analysis. For all affiliates across our sample we differentiate a total of 40 industries (see Annex 2). A simple descriptive analysis of our data presented in Figure 1 below, reveals noticeable differences in both intangible endowments of affiliates across different sectors as well as a major variance in the complexity of the MNE groups these affiliates belong to.

[10]This category may include internal financing companies.

Figure 1: Industries by Intangibles and Complexity

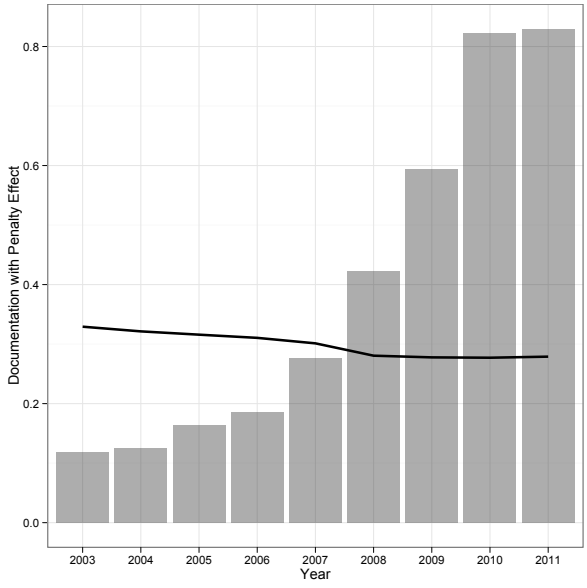


The axis labeled *Complexity* depicts the logarithm of the number of different 2-digit NACE codes within a MNE group. The axis labeled *Intangible to Total Assets* depicts the ratio of intangible to total assets in percent. Thick lines depict median.

3.3 Documentation Requirements

Our information on the introduction of documentation rules is taken from several sources, including the Transfer Pricing Guide of the International Bureau of Fiscal Documentation (IBFD), transfer pricing country summaries prepared by PricewaterhouseCooper, Ernst and Young, Deloitte, and KPMG, as well as country assessments in transfer pricing journals. An overview of our country classification based on these sources is provided in the Annex. Reflecting the increasing importance of transfer pricing regulation, the share of observations in our sample that has been covered by documentation rules has risen from 12 percent in 2003 to about 80 percent in 2011.

Figure 2: Documentation Requirements with Penalty Effect in the Sample



Notes: Bars depict share of observations located in jurisdictions with documentation requirements. Black line depicts average tax rate of observations.

3.4 Estimation Approach

Our basic estimation approach is summarized by

$$\ln(\pi_{it}) = \alpha + \beta_1 CitDif + \delta X_{it} + \rho_t + \nu_i + \epsilon_{it}.$$

Our main measure of reported profits π is Earnings Before Interest and Taxes (EBIT), thus excluding intercompany financing decisions.[11] The variable $CitDif$ specifies the differential of the statutory Corporate Income Tax (CIT) rate between the subsidiary and the rest of the MNE group. This variable is the main indicator of profit shifting behavior and its coefficient is expected to take a negative value. A vector of control variables is depicted by X_{it}, including the main input factors such as fixed assets, cost of employees, the MNE's aggregate assets, and country factors such as GDP, GDP per capita, the unemployment rate, and corruption based on the World Bank control of corruption index. Finally, we include industry year effects (ρ_t), and firm specific fixed effects (ν_i).

In subsequent specifications, we introduce affiliate and MNE specific variables. A variable denoted IntTotAs, depicts the ratio of intangibles to total assets held by a subsidiary. We obtain information on intangibles from the ORBIS database, which collects this information from publicly available sources. The value of intangibles in our sample could thus be affected by differences in the underlying country-specific accounting standards; particularly in Austria, Denmark and Germany, where self-created intangibles are not recognized on the balance sheet.[12] Another variable, denoted COMPLEX, categorizes the number of sectors covered by each MNE group (taking the 2nd level of the NACE classification as a reference). Both variables are interacted with the tax differential in order to assess their effect on tax driven profitability. We expect both to increase profit shifting tendencies.

In addition, we introduce DOC, a variable representing the number years since mandatory documentation requirements have been introduced. We only capture situations where the lack of documentation has an effect on penalties, i.e. when multinational affiliates or parents are penalized for not preparing comprehensive documentation, or where the preparation of documentation helps shield taxpayers from penalties or reduces their amount (as is the case for instance in Australia, the U.K., and Italy). This classification follows

[11] Heckemeyer and Overesch (2012) find that transfer pricing is the main profit shifting channel.

[12] Our robustness checks illustrate, however, that these differences do not substantially alter our findings (See: Table 5 in the Annex). For a detailed discussion of the balance sheet item intangible fixed asset see: Dischinger and Riedel (2011)

the assumption that documentation disclosure requirements and a link of documentation preparation to the penalty regime provide a strong incentive, likely changing taxpayer behavior. To take account of the incentive for tax administrations to protect their domestic tax base, we only capture documentation rules for subsidiaries where a risk of outward shifting exists, i.e. the variable takes the value zero when the tax differential is negative. We model the impact of documentation requirements with a quadratic time trend starting with the year of introduction of these provisions in order to allow for the expected non-linear effect.

4 Empirical Results

4.1 Aggregate findings

Our results are depicted in Tables 2 and 3 below. The first specification in table 2 illustrates the extent of profit-shifting in our sample. In line with findings reported by Heckemeyer and Overesch (2012) in a recent meta-study, we find a significant negative coefficient with a semi-elasticity of 1.02. This implies that an increase in a jurisdictions Corporate Income Tax rate by one percentage point results in an average decrease of subsidiary EBIT by 1.02 percent. As expected, our subsidiary input variables (fixed assets and cost of employees) as well as the aggregate assets held by the whole MNE group are explaining changes in EBIT across our sample.

In specification 2 and 3 we display our findings on the drivers of profit shifting. The second column presents the effect of the ratio of intangibles over total assets held by a subsidiary. The interaction term is negative with a magnitude of 3.34 and significant at the five percent level. This finding indicates a higher semi-elasticity of profits derived from intangibles at the subsidiary level. The coefficient of IntTotAs is highly significant and negative. This is due to the variable being defined as a ratio, with total assets in the denominator capturing effects of the capital stock.

In the third specification we try to approach supply-chain complexity by constructing a variable on the industry coverage within the MNE group. The main assumption being that the more complex an MNE structure is, the more opportunities there are to take advantage of profit shifting strategies. This measure is obviously strongly correlated to firm size, but by including total aggregate MNE group assets into our specifications we isolate the effect of complexity. Being negative with a magnitude of 0.09, our coefficient depicts a significant effect of MNE complexity, partly explaining profit-shifting tendencies.

Table 2: Baseline Regression

Dependent: log of EBIT							
Sample	All Affiliates			High Int.	Low Int.	Complex	Simple
Explanatory variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CitDif	-1.02***	-0.9***	-0.9***	-1.2***	-0.78**	-1.11***	-0.81**
	(0.23)	(0.23)	(0.24)	(0.33)	(0.35)	(0.29)	(0.37)
IntTotAs		-1.08***					
		(0.09)					
CitDif:IntTotAs		-3.34**					
		(1.66)					
CitDif:Complex			-0.09*				
			(0.05)				
log(FixAs)	0.06***	0.07***	0.06***	0.07***	0.06***	0.08***	0.05***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
log(CoEmp)	0.38***	0.37***	0.38***	0.43***	0.31***	0.36***	0.4***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
log(IntAs)	0.00	0.01***	0.00	-0.01*	0.02***	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
log(MNE Assets)	0.08***	0.08***	0.08***	0.09***	0.06***	0.07***	0.08***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
log(Gdp/10^6)	-0.07	-0.07	-0.07	-0.22**	0.00	0.07	-0.19**
	(0.06)	(0.06)	(0.06)	(0.1)	(0.09)	(0.09)	(0.09)
GdpPc	4.01***	3.81***	4***	6.03***	1.72	4.13**	4.06***
	(1.17)	(1.16)	(1.17)	(1.61)	(1.91)	(1.75)	(1.56)
Cor	0.00	0.01	0.00	0.04	-0.03	-0.01	0.00
	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)	(0.04)	(0.05)
UnEmpl	-0.01***	-0.01***	-0.01***	-0.01**	-0.01***	-0.01**	-0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Growth	0.02***	0.01***	0.02***	0.02***	0.02***	0.01***	0.02***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Year dummies	✓	✓	✓	✓	✓	✓	✓
# Observations	78,987	78,983	78,987	39,491	39,492	40,383	38,604
# Affiliates	16,036	16,035	16,036	10,017	10,941	7,904	8,132
Adj. R^2	0.06	0.06	0.06	0.04	0.07	0.06	0.06

Notes: Robust standard errors in parentheses. *,** and *** indicate significance at the 10%, 5% and 1% level. First three columns estimate specification for the full sample. Columns $4-7$ reestimate specification of column 1 for subsamples being characterised by above (below) median intangible to total assets ratio (Column 4 and 5) and by above (below) median number of different 2-digit NACE codes within the MNE (Column 6 and 7). MNEA are aggregate assets of the multinational group minus fixed assets of subsidiary.

Columns 4, 5, 6 and 7 depict a re-estimation of specification 1 for different sub-samples. We divide the sample at the median for both high and low intangible subsidiaries as well as for subsidiaries that are part of complex and simple MNE group structures. The results are consistent with our findings, with higher significance levels and magnitudes for the subsets of high intangible and complex subsidiaries. Overall, these findings suggest that there are indeed significant differences in profit shifting behavior, depending on the complexity of MNE groups and the ratio of intangibles of each subsidiary.

4.2 Mitigation Results

Table 3 below summarizes our findings on the effect of documentation rules. The first specification re-estimates the sensitivity of EBIT to CIT changes. The second specification introduces an interaction of the tax difference with the variable capturing the existence of documentation rules. Taking the non-monotonicity of its effects into account, we find that the introduction of documentation rules has initially a negative, but not significant, effect on subsidiary profitability. This result may be partly explained by the additional costs stemming from the need to prepare detailed documentation.[13] The second-order term, however, is positive and statistically significant with a p-value of 0.003. This indicates that documentation rules become effective in mitigating profit shifting with a time lag.

Figure 3 illustrates these findings. A little more than two years after their introduction, we observe that documentation starts reducing overall profit shifting in the economies in our sample. The semi-elasticity of subsidiary EBIT is reduced by 0.64 within 4 years following enforcement through documentation rules, translating into mitigation of about 60 percent of the observed profit shifting among MNE subsidiaries in our sample. These aggregate findings support our assumption that the learning curve of tax administrations using additional information at their disposal does indeed translate into more substantial mitigation over time.

The following specifications differentiate our findings for subsidiaries with high and low intangible ratios as well as for those affiliates part of more complex and simple MNE group structures. In line with our predictions, we find significant variation. No significant effect of documentation on subsidiaries with a high intangible to total asset ratio can be observed, whereas mitigation can be observed among low intangible affiliates, who are, however, less

[13] Documentation is usually either done locally or by a centralized transfer pricing unit, resulting in significant costs.

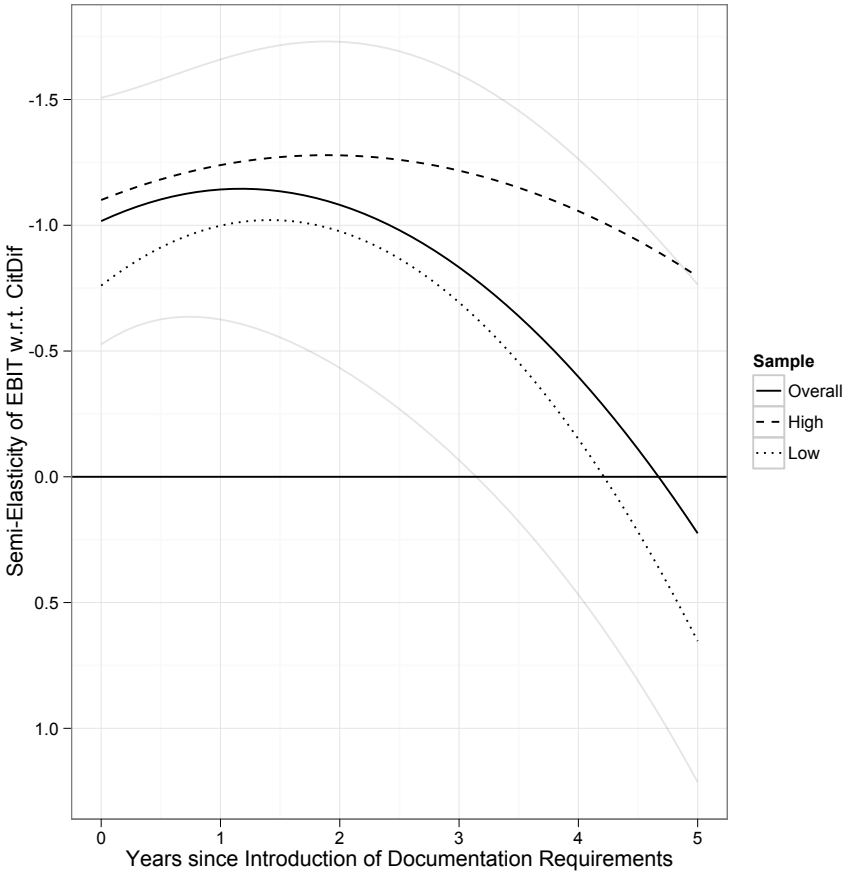
Table 3: Mitigation Regression

Dependent: log of EBIT						
Sample	All Affiliates		High Int.	Low Int.	Complex	Simple
Explanatory variable	(1)	(2)	(3)	(4)	(5)	(6)
CitDif	-1.02***	-1.12***	-1.21***	-0.95**	-1.37***	-0.78*
	(0.23)	(0.25)	(0.36)	(0.38)	(0.32)	(0.41)
zDOC		0.01	0.02	0.00	0.00	0.01
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$zDOC^2$		0.00	0.00	0.00	0.00*	0.00
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
CitDif:zDOC		-0.09	-0.12	-0.19	-0.04	-0.12
		(0.16)	(0.23)	(0.25)	(0.2)	(0.29)
$CitDif:zDOC^2$		0.09***	0.05	0.13***	0.14***	0.00
		(0.03)	(0.05)	(0.05)	(0.04)	(0.05)
log(FixAs)	0.06***	0.06***	0.07***	0.06***	0.08***	0.05***
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
log(CoEmp)	0.38***	0.38***	0.43***	0.31***	0.36***	0.4***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
log(IntAs)	0.00	0.00	-0.01*	0.02***	0.00	0.00
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
log(MNEA)	0.08***	0.08***	0.09***	0.06***	0.07***	0.08***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$\log(Gdp/10^6)$	-0.07	-0.05	-0.18*	-0.01	0.08	-0.16*
	(0.06)	(0.06)	(0.1)	(0.09)	(0.09)	(0.09)
GdpPc	0.00***	0.00***	0.00***	0.00	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Corruption	0.00	0.01	0.05	-0.03	0.00	0.00
	(0.03)	(0.03)	(0.05)	(0.05)	(0.04)	(0.05)
Unemployment	-0.01***	-0.01***	-0.01*	-0.01***	-0.01**	-0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Growth	0.02***	0.01***	0.01***	0.02***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Year dummies	✓	✓	✓	✓	✓	✓
# Observations	78,987	78,987	39,491	39,492	40,383	38,604
# Affiliates	16,036	16,036	10,017	10,941	7,904	8,132
Adj. R^2	0.06	0.06	0.07	0.04	0.07	0.06

Notes: Robust standard errors in parentheses. *,** and *** indicate significance at the 10%, 5% and 1% level. First two columns estimate specification for the full sample. Columns $4-6$ reestimate specification of column 2 for subsamples being characterised by above (below) median intangible to total assets ratio (Column 3 and 4) and by above (below) median number of different 2-digit NACE codes within the MNE (Column 5 and 6). The variable counting years since introduction of documentation requirements (DOC) is centred around its mean (zDOC), in order to reduce correlation with its square. MNEA are aggregate assets of the multinational group minus fixed assets of subsidiary.

likely to shift profits in the first place (see Fig. 3 for a graphical illustration). In the case of our complexity variable, the opposite is true. A significant mitigation effect can be observed among affiliates of more complex MNE groups; illustrating that firm complexity poses less of a challenge to effective domestic enforcement than the appropriate pricing of intangible assets.

Figure 3: Mitigation of Profit Shifting



Lines depict estimated elasticity of EBIT with respect to the tax differential $CitDif$ as a (quadratic) function of time since introduction of documentation requirements. Solid line gives estimation results based on the whole sample. Grey lines depict 95% confidence interval of the linear combination based on a robust covariance matrix estimation for the whole sample. Dashed (dotted) line depicts estimation results for the subsample of affiliates with a intangible to total assets ratio above (below) median.

4.3 Industry Results

The simple descriptive analysis presented earlier (Fig. 1) already revealed noticeable differences in both intangible endowments of affiliates across different sectors as well as a major variation in the complexity of the MNE groups these affiliates belong to. Consequently, we expect major differences in actual profit shifting behavior across these sectors. Table 4 illustrates that this is indeed the case. Using the same general set-up of the estimation strategy discussed above it provides estimates of profit shifting disaggregated by 40 industry categories. Dividing our sample, we estimate profit shifting for each sector separately. The columns labeled Estimate in Table 4 present these sector-specific results.

Our results broadly follow the predictions that can be made based on the descriptive depiction in Fig. 1. Sectors with a significant and negative coefficient of the tax differential include Health, Petroleum production, Administrative as well as Other services; all above the median for both the share of intangibles to total assets and the complexity of their MNE group structure. Notably, and differing from most other sectors in our sample,[14] the result for the mining sector is highly sensitive to the inclusion of our corruption variable. The negative coefficient for the sector becomes significant once we drop our control for corruption. Data services and retail subsidiaries are among the group with the highest intangible ratio whereas real estate subsidiaries tend to be part of highly complex MNEs, though they have a low intangible to total asset ratio. Management subsidiaries are close to the median for intangibles and above the complexity median. Of the sectors with a significant negative profit-shifting coefficient only transportation and household wholesale are below both the median for complexity and the intangible ratio. We find no statistically significant trends for holding subsidiaries, manufacturers in the pharmaceutical sector and publishing affiliates despite a high intangible ratio in these sectors. These findings could be driven by a range of sector-specific factors, in particular the role of preferential tax treatment accorded to several industries, which limit the importance of statutory income tax rates and thus undermine their predictive power. Holding subsidiaries, for instance, typically function as a conduit for various payments (dividends, interest and royalties). Countries in our sample with favorable holding regimes such as the Netherlands or Luxembourg thus derive their attractiveness from extensive treaty networks and the limitation or absence of withholding taxes on dividends, interest and royalties. In the Netherlands, for instance, foreign profits can be repatriated into a Dutch holding subsidiary with an

[14] A similar effect can be observed for legal and accounting services and household wholesale.

Table 4: Industry Regression

Dependent variable is logarithm of EBIT			
Explanatory variable depicted is CitDif			
Industry	Estimate	Industry	Estimate
admin.service	-3.02***	management	-4.91**
	(1.16)		(2.00)
agriculture	-1.5	media.man	-0.14
	(3.67)		(2.21)
apparel.man	-1.37	mining	-1.96
	(2.41)		(2.4)
chem.man	-1.76	motor.man	1.75
	(1.25)		(1.83)
construction	-1.16	nonmetal.man	-0.17
	(1.19)		(0.88)
dataservice	-2.77**	not known	1.05
	(1.37)		(4.49)
education	-8.89	other.man	-0.04
	(7.95)		(1.65)
energy	-3.84	otherservice	-5.52*
	(3.11)		(3.09)
engineering	0.68	paper.man	-1.95
	(1.02)		(1.99)
entertainment	8.15**	petrol.man	-14.85*
	(3.64)		(7.48)
financial	-1.62	pharma.man	4.64
	(3.75)		(3.24)
food/tobacco.man	-0.98	publishing	-0.51
	(1.33)		(1.78)
health	-6.66*	realestate	-1.81
	(3.79)		(2.13)
holding	0.46	retail	-2.97***
	(1.8)		(0.96)
household.whole	-1.15**	rubber.man	-0.37
	(0.57)		(1.19)
insurance	6.1	ship.man	1.84
	(9.21)		(4.07)
IT.man	0.97	tourism	1.12
	(1.3)		(2.41)
legal and accounting	4.29	transport	-5.64***
	(3.62)		(1.66)
machinery.man	-1.33	water	-1.39
	(1.13)		(2.72)
machinery.whole	-0.32	wharehousing	-0.58
	(0.58)		(1.31)

Robust standard errors in parentheses. *,** and *** indicate significance at the 10%, 5% and 1% level. Regression controls for firm specific fixed effects, industry year effects.

exemption from income taxation. The allocation of profits towards holding subsidiaries in jurisdictions with high Corporate Income Tax rates is thus likely the result of very low effective rates in these jurisdictions. Consequently, our analysis, based on differences of the statutory corporate income tax rate, falls short when looking at holding company arrangements. Similarly, preferential tax treatment accorded to entertainment MNE activities in high tax jurisdictions, resulting in low effective tax rates, may explain the counterintuitive result of a significant and positive effect of the tax differential for this sector.

5 Conclusion

In trying to explain the drivers of global profit shifting by MNEs, we analyzed the role of intangible assets and the complexity of MNE group structures. Our panel regression based on company information provided in the global ORBIS dataset provides evidence that both variables are indeed significant determinants of profit shifting activities. We find that subsidiaries with a high intangible to total asset ratio have a semi-elasticity of 1.2 compared to 0.78 for low intangible affiliates, suggesting a significantly larger sensitivity to CIT rate changes. Similarly, subsidiaries belonging to more complex MNE groups have a higher semi-elasticity (1.11) than those that are part of less complex entities (0.81). Further differentiation for 40 industries confirmed important differences in the magnitude of shifting behavior across sectors, largely following our predictions. Additionally, our findings on the documentation rules support and extend the observations of earlier studies highlighting the importance of domestic enforcement efforts. Focusing on the introduction of documentation requirements, a narrow but straightforward proxy for the enforcement of transfer pricing provisions at the national level, we find significant non-linear mitigation effects. On average, the estimated profit shifting among MNE subsidiaries in our sample is reduced by 60 percent four years after the introduction of mandatory documentation requirements. Our findings suggest, however, that documentation rules do not help address profit shifting risks of intangible intensive subsidiaries. Taking the perspective of host country tax administrations, the findings of our research provide initial insights on the relative profit-shifting risk associated with different sectors of MNE activities.

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Table 5: Robustness Checks

Dependent: log of EBIT					
Sample	All Subs	No Holding	Whole Group	Without AT, DE and DK	
Explanatory variable	(1)	(2)	(3)	(4)	(5)
CitDif	-0.76***	-0.82***	-0.54***	-0.58**	-0.41*
	(0.22)	(0.22)	(0.18)	(0.24)	(0.24)
IntTotAs					-0.81***
					(0.08)
CitDif:IntTotAs					-5.33***
					(1.61)
log(FixAs)	0.07***	0.07***	0.07***	0.07***	0.07***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
log(CoEmp)	0.39***	0.39***	0.38***	0.38***	0.37***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
log(IntAs)	0.00	0.00	0.00	0.00**	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
log(MNEA)	0.08***	0.08***	0.13***	0.12***	0.12***
	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)
log(Gdp/10^6)	-0.05	-0.06	-0.09**	-0.12**	-0.12**
	(0.05)	(0.05)	(0.04)	(0.05)	(0.05)
GdpPc	0.00***	0.00***	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Corruption	0.00	0.00	0.05*	0.03	0.04
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)
Unemployment	-0.01***	-0.01***	-0.01***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Growth	0.01***	0.01***	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Year dummies	✓	✓	✓	✓	✓
# Observations	86,911	85,537	131,104	103,084	103,080
# Affiliates	17,748	17,391	25,516	19,377	19,376
Adj. R^2	0.07	0.07	0.07	0.07	0.07

Notes: Robust standard errors in parentheses. *,** and *** indicate significance at the 10%, 5% and 1% level. Model 1 extends the baseline sample, including all industries and all countries available. Model 2 restricts the sample of Model 1 by excluding holding affiliates. Model 3 adds parents and reintroduces holding companies. Model 4 and 5 restricts the sample of Model 3 to observations that are not in Austria, Germany or Denmark.

Table 6: Sample Description

Variable	Observations	Mean	Median	Std.Dev.	Min.	Max.
EBIT	80369	3636.56	420	25456.02	1	2063614
Cost of employees	80369	7431.51	1178	60535.00	1	7014746
Fixed assets	80369	19351.89	657	200034.85	1	16185596
Intangible assets	78987	4030.06	4	110574.72	0	13491422
Intangible to total assets	78983	0.03	0	0.09	0	1
MNE Assets	80369	929045.69	72097	6351144.34	3	199460828
CitDif	80369	0.01	0.01	0.04	-0.2	0.19
Complexity	80369	4.7	4	4.07	1	54
DOC	80369	0.7	0	1.73	0	16
GDP	80369	1241316.06	1044610	1009996.36	9840.74	3623690
GDP per capita	80369	35520.51	35073.16	16537.6	5674.74	114508.38
Corruption	80369	1.2	1.34	0.69	-0.05	2.56
Unemployment	80369	8.29	7.9	3.3	2.5	20.1
Growth rate	80369	1.67	1.81	2.9	-14.07	10.49

Table 7: Industry Description

Industry	Obs.	Aff.	EBIT	CoEmp	FixAs	IntAs	IntRatio	Comp.	Doc	Tax
admin.service	3766	812	3011,25	13351,95	22987,51	4131,21	4,12	5,06	0,43	0,3
agriculture	634	145	604,4	945,63	4762,38	74,62	1,56	3,91	0,42	0,29
apparel.man	840	162	1144,94	2965,5	6063,06	1068,66	2,3	4,11	0,36	0,31
chem.man	1743	306	5723,47	6946,89	36286,39	6704,07	4,48	4,49	0,44	0,31
construction	3921	789	1468,18	6174,54	3875,09	639,02	1,35	7,2	0,34	0,31
dataservice	2971	669	1850,54	9096,1	5430,3	2572,85	6,1	4,1	0,45	0,29
education	222	59	1069,71	3125,81	5169,95	554,42	5,49	4,02	0,5	0,3
energy	498	101	28458,92	10173,55	238506,33	27808,95	3,81	4,52	0,5	0,29
engineering	4142	857	2914,96	6924,39	9578,82	1984,24	3,5	4,76	0,42	0,3
entertainment	473	102	1936,7	2275,74	10264,12	1711,4	6,18	5,95	0,4	0,31
financial	826	192	4962,04	11203,86	21612,16	2041,83	3,38	4,37	0,41	0,29
food/tobacco.man	1978	343	4970,18	7677,92	37550,7	4528,16	2,76	4,16	0,36	0,3
health	528	95	1813,17	5001,7	10265,59	1842,32	6,49	5,47	0,32	0,32
holding	1397	356	19947,18	64505,83	231525,58	90458,31	7,95	4,84	0,54	0,31
household.whole	10772	2097	2575,1	3521,91	7211,21	785,49	2,19	4	0,44	0,29
insurance	84	17	2248,89	2364,23	1240,43	335,33	4,97	3,43	0,31	0,31
IT.man	2353	426	3898,94	9214,14	10072,35	1460,33	2,75	5,27	0,4	0,3
legal and accounting	317	72	1839,65	7280,83	6833,07	966,54	3,77	6,88	0,41	0,29
machinery.man	2718	492	3058,57	6334,39	7065,17	872,22	2,71	4,39	0,41	0,31
machinery.whole	11132	2140	1827,53	2702,98	3892,47	539,87	1,96	4,29	0,46	0,28
management	1208	271	1985,57	12614,17	12006,46	6236,01	2,94	4,88	0,44	0,3
media.man	437	86	956,59	2753,03	4965,08	341,7	2,87	3,6	0,4	0,3
mining	658	117	17120,84	7486,15	46491,72	5344,45	4,6	5,82	0,38	0,29
motor.man	1262	223	8127,66	19241,5	50164,99	2934,53	1,73	4,46	0,42	0,28
nonmetal.man	5086	933	4036,75	6194	16293,97	754,59	1,68	4,75	0,38	0,3
not known	469	147	2771,62	6823,13	10314,06	2250,88	3,78	4,84	0,24	0,29
other.man	1775	336	2280,88	3488,85	7347,12	1323,66	2,85	4,77	0,42	0,29
otherservice	516	115	2855,34	9155,89	7311,64	2324,9	5,92	5,7	0,38	0,3
paper.man	1223	224	4810,54	6727,31	33812,09	369,61	1,4	4,74	0,44	0,29
petrol.man	96	19	24205,06	13552,32	641741,83	32495,39	5,77	5,91	0,32	0,31
pharma.man	411	69	13931,92	29789,91	56632,72	16195,7	6,17	4,21	0,46	0,32
publishing	1932	418	10827,28	8150,71	41698,97	21157,24	6,32	4,93	0,44	0,3
realestate	1633	420	1164,71	1458,27	13859	409,95	1,79	5,96	0,39	0,3
retail	3364	727	2834,43	6546,02	12336,26	1103,03	5,05	4,51	0,4	0,3
rubber.man	2049	362	4674,7	8146,33	15103,71	468,98	2,27	4,7	0,41	0,3
ship.man	312	63	10909,33	31506,27	96094,9	50916,1	3,78	6,09	0,42	0,3
tourism	1379	304	1080,98	7843,68	9029,79	656,5	4,81	4,11	0,33	0,31
transport	1875	370	1973,02	5637,07	9191,8	1253,26	2,57	4,28	0,34	0,3
water	789	140	2275,83	5499,18	19453,2	1976,31	3,36	6,72	0,34	0,31
wharehousing	2580	505	1514,19	5024	8689,53	1342,33	2,22	4,43	0,39	0,3

The first and second column present the number of observations and number of affiliates, respectively. Industry means of the accounting variables EBIT, cost of employees, fixed assets, intangible assets, the ratio of intangible to total assets is presented in the following columns. The column labeled *Comp.* depicts the number of different nace sectors that is observed on average across the MNE group. *Doc* gives percentage of observations over years 2003-2011, where documentation was required. *Tax* presents mean tax rate over this period.

Table 8: Country Description

Iso Code	Observations	Affiliates	EBIT	CoEmp	FixAs	IntAs	IntTotAs	Complex	Doc	Mean-tax
AT	1331	344	4907,69	11725,1	19481,22	2703,59	2,39	4,93	0,23	0,26
BE	8328	1397	1498,1	3935,02	14466,91	674,6	1,76	4,32	0	0,34
CZ	5484	1034	2422,36	2807,85	8568,4	195,81	0,9	4,32	0	0,23
DE	5571	1262	7052,22	14221,09	39716,95	6001,91	2,79	4,69	1	0,34
DK	2284	691	1536,59	4403,41	7481,81	1903,67	3,26	4,05	1	0,25
EE	1287	255	1049,59	1113,26	6875,16	79,12	1,27	3,76	0,57	0,23
ES	12464	2477	3710,8	5611,32	22899,33	2743,11	3,7	4,17	0,32	0,33
FI	1943	337	1798,34	4511,14	4484,52	1091,15	3,82	4,13	0,58	0,27
FR	6784	1170	3340,89	11829	13330,6	1949,56	4,54	6,53	0,2	0,34
GB	6905	1476	6695,85	16055,28	37026,63	13738,61	4,05	4,52	0,47	0,29
HU	392	80	1423,48	3129,32	13928,25	1409,23	1,27	5,93	0,23	0,17
IE	605	177	3557,34	4080,66	15226,59	10384,7	3,42	4,28	0,16	0,12
IT	10556	2004	3539,06	7232,03	17720,8	5632,91	4,23	6,04	0,24	0,35
KR	135	20	5481,3	4838,47	10302,76	255,75	0,7	8,83	1	0,27
LU	637	167	6442,48	4278,98	19566,67	849,04	2,39	4,18	0	0,29
NL	1504	388	8140,19	20163,57	61008,64	31002,06	3,62	4,3	1	0,28
NO	4102	772	2640,12	5573,35	11817,57	3052,79	3,73	3,76	0,5	0,28
PL	4001	848	3208,91	2699,37	14122,14	420,56	1,09	4,09	1	0,19
PT	2367	472	2237,5	2638,78	8976,98	615,21	2,32	3,81	1	0,26
SE	1249	213	5165,61	11459,05	19755,82	1091,08	2,63	4,85	0,59	0,27
SI	739	130	1592,59	2732,51	8526,57	206,74	1,28	4,38	0,82	0,24
SK	1701	367	2017,48	1749,84	5826,85	259,98	0,65	3,67	0,32	0,19

The first and second column present the number of observations and number of affiliates, respectively. Country means of the accounting variables EBIT, cost of employees, fixed assets, intangible assets, the ratio of intangible to total assets is presented in the following columns. The column labeled *Comp.* depicts the number of different nace sectors that is observed on average across the MNE group. *Doc* gives percentage of observations over years 2003-2011, where documentation was required. *Tax* presents mean tax rate over this period.

Table 9: Documentation

Country	Doc	Intro	Background Information
Australia	yes	1998	Required in practice for penalty considerations. See: Taxation Ruling TR98/11
Austria	no		No statutory documentation requirement, but beneficial in practice, See: Austrian Transfer Pricing Guidelines 2010 published as administrative guidelines (BMF-GZ 010221/2522-IV/4/2010, 28 October 2010)
Belgium	no		Reference to EU TP Documentation is made in Circular Letters (Nov. 2006, June 1999). No documentation obligation and penalty effect, but deemed beneficial for taxpayer defense
Canada	yes	2000	Sec. 2331 of the Income Tax Act (ITA) requires annual reporting of transactions with related parties. Information Return Form T106; documentation requirements specified in Sec. 247(4) of the ITA, penalty link specified in Sec. 247(3) of the ITA
Chile	no		ALP incorporated into Income Tax Law (ITL) in 1997 with Art. 38, in 2002 obligation for a mandatory registry was introduced; however, no instructions on actual documentation required was issued
Czech Republic	no		Czech authorities rely on OECD guidelines, but no specific documentation requirements exist
Denmark	yes	1998	Gradual strengthening of documentation rules since 1998, significantly tightened rules in 2006.
Estonia	yes	2007	Exemption for SMEs otherwise all companies have to prepare tp documentation
Finland	yes	2007	Exemption for SMEs otherwise all companies have to prepare tp documentation
France	yes	2010	L13B of the French Tax Procedure Code (FTPC); since 1st of Jan 2010, new rules for large entities Art. Art. L13AA, L 13AB FTPC and Art. 1735 of the French Tax Code (FTC) on the penalty effect. No tax return disclosures required.
Germany	yes	2003	"Sec. 90 of the General Tax Code (GTC) Decree regarding the Determination and Documentation of Profits (Oct. 2003) "
Greece	yes	2008	2 TP regimes exist in Greece (Ministry of Development and MoF) introduced in mid-2009, documentation required for fiscal years 2008 onwards.
Hungary	yes	2010	In 2009 a new decree on documentation requirements (taking effect 2010)
Iceland	no		
Ireland	yes	2011	Existence of documentation mitigates penalty effect.
Israel	yes	2006	Israel Tax Ordinance Section 85A and Israel Tax Regulations
Italy	yes	2010	Appropriate documentation protects taxpayers from penalties for TP adjustments (penalty protection)
Japan	no		"Arts. 66-4(7) of the Special Taxation Measures Law (STML); Japan used to have an "implied" requirement before 2010, clarification in 2010 does not have any penalty effect (See: Gruendel and Jenni 2010)"
Korea	yes	1996	Law for the Coordination of International Tax Affairs (LCITA), 1996. Availability of documentation in accordance with Art. 13 LCITA) and Art 23(1) of Presidential Decree results in waiver of underreporting penalty
Luxembourg	no		
Mexico	yes	1997	Article 76 of the Federal Fiscal Code: 50% reduction in the if the taxpayer keeps supporting transfer pricing documentation
Netherlands	yes	2002	Art 8b. of the Dutch Corporate Income Tax Act (DCITA)

Table 10: Documentation

Country	Doc	Intro	Background Information
New Zealand	yes	2000	no statutory requirement, but expected based on Secs. GC 6 to GC 14 of the income tax act, Guidelines (GD13) introduced in 2000. Required in practice for penalty considerations.
Norway	yes	2008	above threshold taxpayers need to file form on related party transactions with their income tax return (since 2007). Documentation at request of tax admin
Poland	yes	2001	broad requirement in Art. 9a of the Corporate Income Tax Law (CITL), since 2007 also applied to PE profit allocation; penalty effect (50% penalty of income assessed for failure to submit doc)
Portugal	yes	2002	Corporate Income Tax Code (CITC) Art. 63(6) and (7); penalty effect up to 100,000 Euro
Slovak Republic	yes	2009	Since 2009 all Slovak taxpayers have to report the value of intra-group transaction in CIT form and follow a guideline of obligatory transfer pricing documentation (2 versions full and simplified exist)
Slovenia	yes	2005	"Documentation required since 2005. Since 2006, TP documentation for cross-border inter-company transactions must be prepared concurrently; domestic only upon request from the tax authorities during inspection "
Spain	yes	2009	Royal Decree 1793/2008 to amend CIT regulation including documentation requirements. (based on EU Joint TP Forum Code of Conduct. Before no formal requirement existed, during inspections request for explanations could be made)
Sweden	yes	2007	Chapter 19 Section 2b of Tax Return and Statement of Income Act 2001:1227 introduced documentation requirements for all corporations registered in Sweden that conduct cross-border controlled transactions.
Switzerland	no		No statutory documentation requirement. The tax authorities may request any information that is relevant for properly assessing a companys profits.
Turkey	yes	2007	Art 13 of the Corporate Income Tax Code, General Communique Series 1 requires annual transfer pricing report, failure to present report results in penalties.
United Kingdom	yes	2008	"Requirement for taxpayers to keep and preserve the records needed to make and deliver the correct and complete return. HMRC guidance (Int. Tax Manual 433030) sets detailed documentation requirements. With changes to the penalty legislation in 2007 the importance of proper documentation for returns for accounting periods starting on/after 1 April 2008 has significantly increased. (See: Almand, Transfer Pricing and Penalties 2010). TP documentation required shifts burden of proof and provides penalty protection. "
United States	yes	2000	No Statutory requirement, but documentation required for penalty protection