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by

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Size-Dependent Tax Policy and Domestic Profit Shifting*

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Abstract

While most research on profit shifting focuses on multinational corporations, this study highlights how domestic corporate groups can exploit governance gaps in tax policy. Specifically, we use administrative data from Thailand to show how SME tax incentives inadvertently encourage intra-group profit relocation, revealing critical vulnerabilities in the design of size-based tax systems. We construct a comprehensive panel dataset covering all registered Thai firms from 2004 to 2017 by linking firm-level financial statements with ownership information to identify corporate group structures. Our empirical analysis exploits a 2011 reform that introduced a revenue-based eligibility threshold for SME tax incentives, creating differential tax treatment among affiliated firms within the same corporate group. The difference-in-differences analysis indicates strong evidence of tax-motivated profit shifting: profitability among tax-eligible SMEs within corporate groups increased by 75.8% from their pre-policy level when compared to ineligible affiliates. Our findings further suggest that corporate groups primarily engage in transfer pricing rather than strategic debt allocation as a means of maximizing total profits. We also find that these responses are significantly stronger among smaller corporate groups, groups with weaker governance structures, and those with lower industry diversification, suggesting that internal oversight and organizational complexity constrain opportunistic behavior. These findings demonstrate that profit shifting is not exclusive to multinational firms and underscore the importance of incorporating corporate group structures and governance realities into the design of domestic tax policy.

Keywords: Profit shifting, Corporate groups, Corporate governance, Tax avoidance, Domestic transfer pricing

JEL Classifications: H25, H26, K34

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1. Introduction

Policymakers often design size-based tax incentives under the assumption that firms operate as independent units. However, in many economies, small and medium-sized enterprises (SMEs) are frequently embedded within larger corporate groups, creating opportunities for businesses to strategically manipulate internal structures to maximize tax benefits.

While multinational enterprises (MNEs) have been the primary focus of profit-shifting research (e.g., Hines and Rice, 1994; Huizinga and Laeven, 2008; Dharmapala and Riedel, 2013; Dharmapala, 2014; Cristea and Nguyen, 2016; Dyreng and Markle, 2016; Davies et al., 2018; Menkhoff and Miethe, 2019; Tørsløv et al., 2023; Bilicka and Scur, 2024)), domestic corporate groups may engage in similar tactics within national borders. These multi-firm entities can move profits internally across affiliates without operating internationally, but their behavior remains underexplored in both the tax and corporate governance literature.

This study addresses this gap by investigating how domestic corporate groups respond to a size-based tax policy using intra-group profit shifting. We focus on a 2011 reform in Thailand that introduced a revenue threshold for SME tax eligibility. Thailand is an ideal setting for studying domestic profit shifting, as corporate groups play a significant role in the economy, accounting for over 60% of total corporate revenue and nearly half of total profit in 2017 (Apaitan et al., 2020). The internal governance arrangements of these groups—including ownership concentration, intra-group decision-making, and industry scope—can shape their responsiveness to tax incentives and regulation. By analyzing firm-level data and ownership structures, we provide empirical evidence on the extent, mechanisms, and heterogeneity of tax-motivated profit shifting within corporate networks. Through the lens of corporate governance, this sheds light on how group configurations and governance structures enable such tax-driven reallocation.

Using comprehensive firm-level data covering the universe of Thai firms and their ownership networks, we examine how corporate groups exploit within-group networks to take advantage of the size-dependent tax incentive. Many tax systems worldwide implement size-based tax regulations, offering lower corporate tax rates or exemptions to smaller firms (Bergner et al., 2017). While these policies aim to support small businesses, they may distort firms' growth decisions for standalones and create opportunities for tax avoidance within corporate groups. By redistributing profits across multiple affiliated

entities, firms can exploit SME tax thresholds, effectively engaging in domestic transfer pricing to minimize their tax burden.

To empirically examine this behavior, we construct a unique panel dataset using administrative records from 2004 to 2017, incorporating annual financial statements for all registered firms in Thailand. Crucially, we integrate corporate shareholding data to identify corporate groups, defined as collections of firms under common ownership. This dataset enables us to study the impact of size-dependent tax regulation on multi-firm establishments.

Our identification strategy utilizes Thailand's 2011 introduction of a revenue-based eligibility threshold for SME tax incentives. The reform imposed a 30-million-baht annual revenue cap, requiring firms to be below the threshold in both the current and previous years to qualify for preferential tax rates. This change created a tax notch in the corporate income tax system, dividing SMEs into eligible and ineligible firms, with the former receiving lower tax rates. Leveraging this setting, we apply a difference-in-differences (DiD) approach to compare firm outcomes before and after the reform. We classify firms into the treatment and the control groups based on their pre-reform eligibility status and focus on corporate groups that contain both eligible and ineligible SMEs, which allows us to examine tax-motivated profit shifting within multi-firm establishments.

Our findings can be summarized as follows.

First, we provide strong empirical evidence of tax-motivated profit shifting among corporate-group firms. Our DiD analysis shows that, following the 2011 introduction of the revenue threshold, the profitability of eligible SMEs within corporate groups increased significantly relative to ineligible SMEs, with the increase accounting for 75.8% of the treatment group's pre-policy profitability. This suggests that corporate groups actively shift profits from ineligible firms to those qualifying for the SME tax incentive.

Second, we explore the mechanisms of profit shifting and find that corporate groups primarily rely on transfer pricing rather than strategic debt allocation to reallocate profits. Following the 2011 policy change, the operating turnover ratio of eligible SMEs increased by 0.47 relative to ineligible SMEs, representing 123.9% of the treatment group's pre-policy ratio. In contrast, the effect on the debt-to-asset ratio is minimal and statistically insignificant. This indicates that transfer pricing, rather than strategic debt

placement, serves as the primary mechanism for profit shifting within corporate groups. These results highlight the importance of domestic transfer pricing as a tax avoidance strategy, which has been relatively overlooked in the literature. This finding has significant policy implications for countries that offer preferential tax schemes for certain types of firms.

Third, we find that tax-motivated profit shifting varies across corporate groups. The practice is particularly pronounced among smaller corporate groups, those with weaker governance structures, and those with lower industry diversification. These findings suggest that firm size, governance quality, and sectoral exposure influence firms' ability to exploit tax incentives. In particular, weaker governance environments may facilitate tax-motivated income shifting, as firms in such settings face fewer internal or regulatory constraints on aggressive tax planning.

This study contributes to two key strands of literature.

First, it adds to the growing body of research on tax-motivated profit shifting and base erosion. While most prior studies have focused on cross-border profit shifting by MNEs (e.g., Hines and Rice, 1994; Fuest et al., 2011; Crivelli et al., 2016; Johannesen et al., 2019; Muthitacharoen and Sampantharak, 2020), far less is known about domestic profit shifting within corporate groups. Our study provides evidence that tax avoidance through profit shifting is not exclusive to multinational firms—domestic corporate groups also engage in similar behaviors by exploiting within-country tax rate differentials to reduce their tax liabilities.

Second, our work contributes to the literature on size-dependent tax regulations, tax enforcement, and firm behavior. Prior research has shown that firms respond to tax thresholds by bunching just below regulatory cutoffs to avoid VAT registration requirements (Harju et al., 2016; Liu et al., 2019; Muthitacharoen et al., 2021), take advantage of SME tax privileges (Tsuruta, 2020; Hosono et al., 2024; Muthitacharoen et al., 2024), or evade size-based labor and government regulations (Garicano et al., 2016; Almunia and Lopez-Rodriguez, 2018). However, these studies primarily focus on standalone firms adjusting their reported size to remain below policy thresholds. We extend this literature by providing evidence that corporate groups actively leverage size-dependent tax incentives through intra-group profit reallocation, a strategy resembling MNEs' cross-border profit shifting. Furthermore, we show that this practice is most prevalent among smaller corporate groups, those with weaker governance structures, and

those with lower industry diversification, highlighting key factors that drive domestic tax-motivated profit shifting.

The remainder of the paper is organized as follows. Section 2 provides the policy background. Section 3 describes the dataset, while Section 4 discusses the empirical strategy. Section 5 presents the main findings. Section 6 explores policy implications and concludes.

2. Background on Tax Incentives for SMEs in Thailand

In Thailand, all registered companies are subject to corporate income tax, generally imposed at a flat rate on net profits. Starting from 2008, the Thai government introduced a preferential tax scheme aimed at supporting SMEs. To qualify, a firm's registered capital was required to be no more than 5 million baht.[1] This initiative sought to alleviate financial burdens and enhance the competitiveness of SMEs by offering reduced tax rates on taxable income. The scheme featured a progressive tax structure, with rates starting at 0% and increasing incrementally based on net profit levels.

In 2011, significant revisions were made to the SME tax scheme's eligibility criteria (Table 1). The government announced an annual revenue cap of 30 million baht (876,000 USD) and mandated that a firm's revenue must not have exceeded this threshold in any previous year.[2] This policy change introduces a tax notch within the corporate tax system, creating a sharp discontinuity in tax treatment. By imposing a strict revenue cap based on a firm's entire financial history, it effectively divided SMEs into two distinct categories: those that consistently remained below the threshold and were eligible for preferential tax rates, and those that exceeded it even once, rendering them permanently ineligible for the incentive. The policy was announced in 2011 and implemented in 2012, potentially prompting firms to adjust their behaviors immediately following the announcement.

[1] Approximately 145,772 USD, based on the average exchange rate of 34.3 THB per USD from 2004 to 2017. During this period, the THB-USD exchange rate fluctuated between 26.8 and 41.6 THB per USD.
[2] The threshold is approximately 0.9 million USD.

Table 1: Thailand's tax incentive scheme for SMEs

Year	Registered capital requirement (5 mil. baht)	Revenue requirement (30 mil. baht)	Illustrative tax liability for a hypothetical firm with sample-mean profit (Baht)
2004	-	-	977,357
2005	-	-	977,357
2006	-	-	977,357
2007	-	-	977,357
2008	Yes	**No**	704,857
2009	Yes	**No**	704,857
2010	Yes	**No**	704,857
2011	Yes	**No (Announced)**	704,857
2012	Yes	**Yes**	646,807
2013	Yes	**Yes**	556,571
2014	Yes	**Yes**	556,571
2015	Yes	**Yes**	295,786
2016	Yes	**Yes**	295,786
2017	Yes	**Yes**	456,571

Note: This table outlines the SME tax incentive scheme. Between 2008 and 2011, firms qualified for reduced tax rates if their registered capital did not exceed 5 million baht. However, beginning in 2012, an additional eligibility criterion was introduced: in addition to having registered capital below 5 million baht, firms must have annual revenue below 30 million baht. This 30-million-baht revenue threshold was officially announced in 2011 and came into effect in 2012. For reference, the average firm profit in the baseline sample is approximately 3.3 million baht.

To illustrate the impact of this tax incentive, consider a hypothetical firm with an average profit of 3.3 million baht.[3] Between 2008 and 2010, prior to the policy change, this firm faced an annual tax liability of 704,857 baht. Following the 2011 policy revision, its tax burden dropped to an average of 468,015 baht per year during 2012–2017, representing a 34% reduction relative to the 2008–2010 average.

From the government's perspective, the revised policy—by incorporating both current and historical revenue thresholds—was designed to more effectively target tax benefits toward firms that genuinely need support. However, for corporate groups, this change effectively divides the corporate income tax system into two tiers, creating an incentive to strategically allocate profits across affiliated firms to maximize tax advantages. By shifting income among firms, corporate groups may exploit the SME tax

[3] This amount represents the average gross profit in our baseline analysis sample, approximately 96,000 USD, based on the average exchange rate of 34.3 THB per USD from 2004 to 2017.

threshold, ensuring that more of their profits are taxed at the preferential SME rate rather than the standard corporate tax rate. This potential for tax-motivated profit shifting raises important questions about the unintended effects of the policy. In this study, we seek to empirically examine whether and how corporate groups engage in such strategic tax behavior.

3. Data

To investigate tax-motivated profit shifting within multi-firm corporate structures, we merge two administrative datasets—corporate financial statements and firm-level ownership records—to construct a panel of Thai firms from 2004 to 2017, centered around the SME tax policy change.

The first dataset comes from the Corporate Profiles and Financial Statements (CPFS) database maintained by the Department of Business Development (DBD) at the Ministry of Commerce. All registered firms in Thailand are legally required to submit annual financial statements to the DBD, making this database a comprehensive source of firm-level registration and financial information. It includes details such as registration year, business type, firm status, and primary industry classification. We exclude holding companies from our analysis, as they do not engage in direct production activities and primarily serve as investment entities.[4]

The second dataset, also obtained from the DBD, provides a snapshot of corporate ownership as of 2017.[5] This dataset contains detailed ownership information, including the names, types, and nationalities of owners, as well as the number of shares held. For this study, we focus on corporate shareholding and use this data to construct ownership networks. Additionally, we utilize firm registration dates to track the evolution of corporate group composition over time.

Following Apaitan et al. (2020), we define corporate groups based on shareholding relationships: if Firm A owns shares in Firm B, both firms are considered part of the same ownership network or corporate group. These ownership structures can take the form of pyramidal ownership, where a parent firm holds shares in a subsidiary, or cross-shareholding, where two or more firms own shares in each other. Figure 1

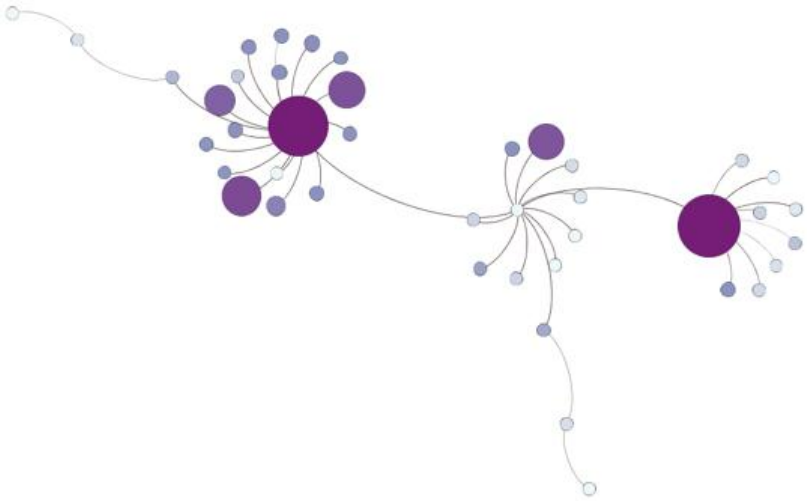
[4] For more details, see Banternghansa et al. (2019).
[5] We exclude firms established after 2015 due to the high exit rate of firms during their first two years of operation.

illustrates examples of these ownership networks among Thai firms, highlighting the diversity in size and structural complexity.

Figure 1. Examples of ownership networks of Thai firms

A) Small corporate group

B) Large corporate group



Note: Node size denotes the total assets of the corporate group. Firm A owning Firm B is represented by a clockwise edge from A to B.

Source: Banternghansa and Samphantharak (2021).

Approximately 5.4% of registered firms in Thailand are part of corporate groups.[6] In terms of industry diversification, Thai corporate groups tend to be highly concentrated within a single sector. More than half of corporate groups operate exclusively within the same industry, suggesting that intra-group relationships are primarily structured around sector-specific business activities.

Table 2 reports summary statistics for the variables used in the empirical analysis. Panel A presents summary statistics for variables included in the main DiD estimations. Panel B summarizes variables used in the heterogeneity analyses, including measures of group size, corporate governance, and industry diversification. Group size is measured in

[6] For more information about Thai corporate groups, see Apaitan et al. (2020) and Banternghansa and Samphantharak (2021).

two dimensions: the number of firms within a group and the total annual group revenue prior to the policy announcement. We use firms' listing status on the Stock Exchange of Thailand (SET) to infer the quality of the group's corporate governance. Given that publicly listed firms are subject to stricter financial reporting requirements, regulatory oversight, and shareholder scrutiny, we use the presence of any group firm in the SET as a proxy for the group's higher corporate governance quality. To measure industry diversification, we compute revenue concentration at multiple levels of industry aggregation. Specifically, we first calculate the Herfindahl–Hirschman Index (HHI) based on a firm's revenue shares across 2-digit ISIC industries, denoted as HHI_i^2. We then calculate the HHI based on revenue shares across 4-digit ISIC industries, denoted as HHI_i^4. Diversification within broad industries is measured as the ratio of these two concentration indices, HHI_i^2/HHI_i^4. If all of a firm's activities within a given 2-digit industry are concentrated in a single 4-digit industry, this ratio equals one. By contrast, when activities within the same 2-digit industry span multiple 4-digit industries, the ratio exceeds one. Hence, a lower ratio reflects lower industry diversification.

Table 2: Descriptive statistics

Variables	N	Mean	Median	S.D.
A) Main DiD analyses variables				
ROA	24,629	0.085	0.000	0.456
Operating turnover to assets	24,629	0.450	0.000	1.049
Debt to assets	24,629	1.108	0.001	5.223
Treat	24,629	0.631	1.000	0.483
Post	24,629	0.478	0.000	0.500
Age	24,629	14.625	13.000	10.243
B) Heterogeneity variables				
Group size (number of firms within group)	24,629	33.628	8.000	82.113
Group revenue (million baht, pre-policy)	24,629	25,020	370	76,880
Governance (dummy = 1 if any firm in a group is listed on SET)	24,629	0.16	0.00	0.37
Industry diversification	23,845	1.11	1.00	0.31

Note: Panel A reports summary statistics for variables used in the DiD analyses. ROA, operating turnover to assets, and debt to assets are winsorized at 1%. Panel B presents summary statistics for variables used in the heterogeneity analyses. Industry diversification is measured as the ratio of Herfindahl-Hirschman Indices (HHIs) calculated at two levels of industry aggregation: the 2-digit ISIC level divided by the 4-digit ISIC level. A lower ratio indicates lower industry diversification.
Source: Authors' estimate.

4. Methods

To evaluate the impact of the size-dependent SME tax incentive on profit-shifting behavior within corporate groups, we employ a DiD framework. The revenue-based eligibility threshold was announced in 2011 and implemented in 2012. Based on this timeline, we define 2008–2010 as the pre-policy period and 2011–2017 as the post-policy period.

We conduct our analysis at the firm level and focus on corporate groups that contain both eligible and ineligible SMEs. This enables us to examine whether income is strategically shifted across affiliates in response to tax incentives. We use annual revenue data from 2004 to 2010, the period preceding the policy announcement, to identify firms' eligibility. Under the 2011 policy change, firms that had never exceeded 30 million baht in annual revenue became eligible for preferential SME tax rates. Based on firms' pre-policy revenue histories, we define the treatment group as firms with revenues consistently below the threshold from 2004 to 2010, and the control group as firms that exceeded the threshold in at least one year between 2004 and 2009, rendering them ineligible. To enhance comparability, we further restrict the sample to firms with revenues of 30 million baht or less in 2010. This design allows us to estimate the causal effect of SME tax eligibility on firm outcomes and to identify tax-motivated profit shifting within multi-firm corporate structures.

We estimate the following regression model:

$$y_{it} = \alpha_0 + \alpha_1 post_t + \alpha_2 post_t \cdot treat_i + \alpha_3 Age_{it} + FirmFE + YearFE + YearxSectorFE + \varepsilon_{it}, \quad (1)$$

where y_{it} denotes the outcome variable, $post_t$ denotes an indicator variable that equals 1 for the post-policy period and zero otherwise, $treat_i$ denotes an indicator variable that equals 1 for treatment firms and zero otherwise, and Age_{it} denotes firm age. The model includes firm-, year-, and year-x-sector-fixed effects. We use robust standard errors clustered at the firm level.

First, we use the firm's pre-tax return on assets (ROA) as our outcome variable. Assuming that unobserved factors influencing profitability (ε_{it}) remain unchanged between the treatment and control groups before and after the policy implementation, the coefficient α_2 captures the causal impact of the SME size-based policy on firms' reported profits. A positive α_2 would indicate that eligible SMEs increase their reported profits

relative to ineligible SMEs after the policy change, consistent with tax-motivated profit shifting.

To further investigate how corporate groups engage in profit shifting, we modify the dependent variable in equation (1) to examine two key financial ratios: the operating turnover-to-asset ratio and the debt-to-asset ratio.[7] A relative increase in the operating turnover-to-asset ratio among treated firms relative to control firms after the policy change may indicate transfer pricing, as sales are shifted from ineligible to eligible SMEs to take advantage of preferential tax rates. On the other hand, a relative decrease in the debt-to-asset ratio may signal strategic debt placement, where corporate groups adjust debt structures across affiliates to optimize tax benefits.

Finally, we examine whether the extent of tax-motivated profit shifting varies based on group size (larger vs. smaller corporate groups), corporate governance quality (high vs. low governance groups), and industry diversification (more vs. less diversified industry composition). These analyses help identify which types of corporate groups are more likely to exploit the size-dependent SME tax incentives for profit shifting, providing critical insights for tax policy design and enforcement.

5. Findings

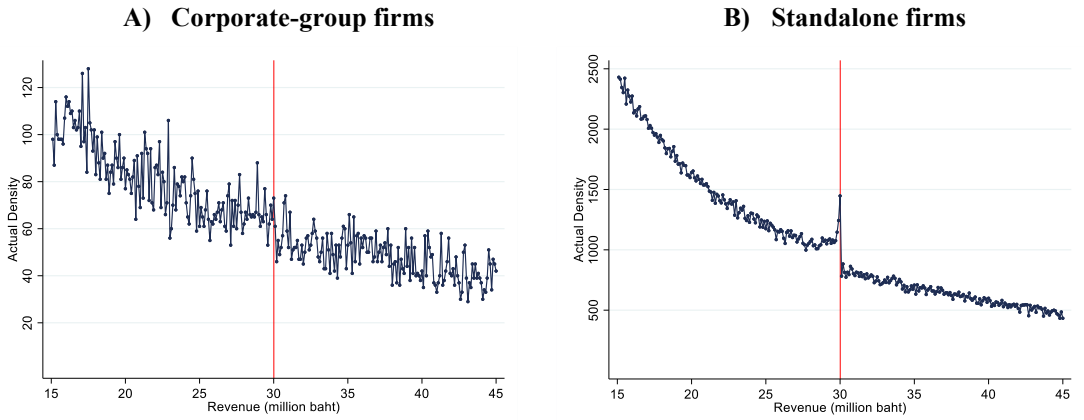
We begin by visually examining how firms distribute around the SME tax threshold of 30 million baht (Figure 2). Given our focus on corporate ownership structures, we categorize firms into corporate-group firms and standalone firms. Corporate-group firms are defined as discussed in Section 3, whereas standalone firms refer to those that do not belong to any corporate group.

We find that the bunching behavior, where firms cluster just below the tax threshold, is predominantly observed among standalone firms, while corporate group firms exhibit little to no bunching in comparison. This suggests that constraining revenue to remain below the SME tax threshold is not the primary strategy used by corporate groups to benefit from the tax incentive. Instead, they may rely on alternative mechanisms, such as intra-group profit shifting, to optimize their tax position. This contrast highlights that standalone firms and corporate groups respond differently to the size-dependent SME tax policy.

[7] Note that we construct debt by subtracting current liabilities from total liabilities because this approach isolates long-term debt, which is more indicative of strategic debt allocation within corporate groups.

A possible explanation is that standalone firms have fewer opportunities to shift profit across entities, leaving them more reliant on restricting reported revenue to qualify for tax benefits. In contrast, corporate groups likely have greater flexibility to reallocate profit within their network to take advantage of the SME tax scheme. To explore this further, we next examine whether corporate-group firms engage in tax-motivated profit shifting as a response to the policy change by performing a DiD analysis on group firms, with eligible SMEs as treatments and ineligible SMEs as controls.

Figure 2: Histogram of revenue around the SME threshold by ownership structure (2011-17)



Note: This figure shows the histogram of firms' revenue by pooling data each year from 2011 to 2017. The bin width is 100,000 baht. The red line denotes the threshold of 30 million baht.
Source: Authors' estimate.

Columns 1–4 of Table 3 present the DiD estimation results for equation (1), progressively incorporating firm fixed effects, year fixed effects, and sector-year fixed effects. Across all specifications, the coefficient on the interaction term ($Post_t \cdot Treat_i$) remains positive and statistically significant at the 1% level. Under the baseline specification (Column 4), we find that, following the introduction of the 2011 threshold, the ROA of eligible SMEs increases by 0.11 relative to that of ineligible SMEs, with the effect being highly significant at the 1% level. This increase accounts for 75.8% of the treatment group's pre-policy profitability, providing strong evidence that corporate-group firms with the position to shift profits prior to the policy announcement engaged in tax-motivated profit shifting in response to the SME tax incentive.

To explore the underlying mechanisms, Table 4 presents the DiD analysis from equation (1) using operating turnover-to-asset ratio and debt-to-asset ratio as dependent variables.

Table 3: Effects of the introduction of the revenue-based SME threshold on profitability

(Dep var = ROA)

	(1)	(2)	(3)	(4) Baseline
Post	-0.289***	-0.056***	0.241	0.091
	(0.014)	(0.015)	(0.239)	(0.508)
Treat x Post	0.137***	0.141***	0.110***	0.110***
	(0.017)	(0.017)	(0.016)	(0.016)
Age				0.012
				(0.035)
Observations	24,629	24,629	24,629	24,629
R-squared	0.070	0.157	0.282	0.282
Firm FE	YES	YES	YES	YES
Year FE	NO	YES	YES	YES
Sector x Year FE	NO	NO	YES	YES
Control	NO	NO	NO	YES
Number of firms	3,149	3,149	3,149	3,149

Note: This table presents the estimated impacts of the introduction of the revenue-based SME threshold on profitability. $Post_t$ is a dummy variable that equals one for 2011–2017, and zero for 2008–2010. Treat is a dummy variable that equals one for eligible SMEs and zero for ineligible SMEs. $Post_t \cdot Treat_i$ is the interaction variable between $Post_t$ and $Treat_i$. Standard errors are heteroscedasticity-robust and clustered at firm level. Numbers in parentheses indicate standard error. ***, **, * denotes significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' estimate.

The results show that following the introduction of the 2011 policy, the operating turnover ratio of eligible SMEs increased by 0.47 relative to that of ineligible SMEs. This increase is significant at the 1% level and represents 123.9% of the treatment group's pre-policy ratio. Such an increase indicates a substantial shift in sales. In contrast, the effect on the debt-to-asset ratio is very small (2.5% of the pre-policy ratio) and statistically insignificant.

These findings suggest that corporate groups primarily rely on transfer pricing rather than altering their debt structure to shift profits in response to the SME tax incentive. This result is particularly important as it highlights the significance of domestic transfer pricing—a tax avoidance strategy that has received limited attention in the literature despite its relevance for countries that implement preferential tax schemes for certain types of firms.

Table 4: Effects of the introduction of the revenue-based SME threshold on operating turnover and debt

	Dep var: Operating turnover to assets				Dep Var: Debt to assets			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post	-0.741***	-0.484***	0.509	-0.174	0.897***	1.103***	2.959	-127.730
	(0.035)	(0.039)	(0.450)	(1.018)	(0.170)	(0.186)	(3.131)	(106.808)
Treat x Post	0.569***	0.579***	0.474***	0.474***	-0.168	-0.167	0.006	-0.023
	(0.040)	(0.040)	(0.036)	(0.036)	(0.210)	(0.210)	(0.212)	(0.146)
Age				0.053				10.068
				(0.070)				(8.212)
Observations	24,629	24,629	24,629	24,629	24,629	24,629	24,629	38,784
R-squared	0.087	0.127	0.235	0.235	0.015	0.016	0.064	0.055
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	NO	YES	YES	YES	NO	YES	YES	YES
Sector x Year FE	NO	NO	YES	YES	NO	NO	YES	YES
Control	NO	NO	NO	YES	NO	NO	NO	YES
Number of firms	3,149	3,149	3,149	3,149	3,149	3,149	3,149	3,158

Note: This table presents the estimated impacts of the introduction of the revenue-based SME threshold on operating turnover and debt. $Post_t$ is a dummy variable that equals one for 2011–2017, and zero for 2008–2010. Treat is a dummy variable that equals one for eligible SMEs and zero for ineligible SMEs. $Post_t \cdot Treat_i$ is the interaction variable between $Post_t$ and $Treat_i$. Standard errors are heteroscedasticity-robust and clustered at firm level. Numbers in parentheses indicate standard error. ***, **, * denotes significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' estimate.

Next, we examine the heterogeneity in tax-motivated profit shifting based on corporate group size, considering two dimensions: the number of firms within a group and total revenue. The results are shown in Columns 1-4 of Table 5.

In terms of the number of firms, we compare corporate groups with 2–3 firms to those with more than 3 firms. Among smaller groups, following the 2011 policy introduction, the ROA of eligible SMEs increased by 0.142 relative to ineligible SMEs. The increase is significant at the 1% level. In contrast, for corporate groups with more than three firms, we also observe a significant increase in ROA among eligible SMEs, but the effect is much smaller at 0.094.

For group size by revenue, we classify corporate groups based on the median value of total revenue in the year prior to the policy announcement. Among smaller corporate groups, the ROA of eligible SMEs increased by 0.162 relative to ineligible SMEs, with the effect being highly significant at the 1% level. In contrast, for larger corporate groups, we again observe a significant increase in ROA among eligible SMEs, but the effect is comparatively smaller at 0.083.

These results suggest that smaller corporate groups, both in terms of firm count and revenue, are more aggressive in engaging in tax-motivated profit shifting in response to the introduction of the size-dependent tax incentive. One possible explanation is that larger corporate groups may have access to alternative tax minimization strategies, reducing their dependence on profit shifting through the SME tax scheme.

Table 5: Heterogeneity in tax-motivated profit shifting (Dep var = ROA)

	Group Size (Number of Firms)		Group Size (Revenue)		Governance		Industry Diversification	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(5)
	n=2-3	n>3	Small	Large	Low	High	Low	High
Post	-2.360	0.723	-2.390	0.782*	-2.374***	2.192	-17.392***	-0.609
	(1.745)	(0.492)	(2.076)	(0.463)	(0.846)	(1.494)	(5.908)	(0.377)
Treat x Post	0.142***	0.094***	0.162***	0.083***	0.124***	0.035	0.150***	0.055*
	(0.031)	(0.019)	(0.027)	(0.020)	(0.017)	(0.036)	(0.020)	(0.030)
Age	0.169	-0.033	0.174	-0.033	0.177***	-0.139	1.371***	-0.000
	(0.130)	(0.030)	(0.154)	(0.031)	(0.065)	(0.113)	(0.468)	(0.000)
Observations	5,708	18,921	7,907	16,722	20,672	3,957	14,444	9,401
R-squared	0.399	0.290	0.344	0.305	0.294	0.394	0.308	0.350
Firm FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Sector x Year FE	YES	YES	YES	YES	YES	YES	YES	YES
Control	YES	YES	YES	YES	YES	YES	YES	YES
Number of firms	710	2,439	1,011	2,138	2,623	526	2,222	1,439

Note: This table presents the estimated impacts of the introduction of the revenue-based SME threshold on profitability across corporate groups with varying characteristics. $Post_t$ is a dummy variable that equals one for 2011–2017, and zero for 2008–2010. Treat is a dummy variable that equals one for eligible SMEs and zero for ineligible SMEs. $Post_t \cdot Treat_i$ is the interaction variable between $Post_t$ and $Treat_i$. Standard errors are heteroscedasticity-robust and clustered at firm level. Numbers in parentheses indicate standard error. ***, **, * denotes significance at the 1%, 5%, and 10% levels, respectively.
Source: Authors' estimate.

Next, we investigate heterogeneity in tax-motivated profit shifting with respect to corporate governance. The results are shown in Columns 5–6 of Table 5. To proxy for corporate governance, we use the presence of firms listed on the Stock Exchange of Thailand (SET) within a corporate group. Groups with SET-listed firms are likely to have higher governance standards, as publicly traded firms are subject to stricter financial reporting requirements, regulatory oversight, and shareholder scrutiny.

Our results indicate that corporate groups with lower governance exhibit a stronger profit-shifting response. Following the 2011 policy introduction, the ROA of eligible SMEs in lower-governance groups increases by 0.124 relative to that of ineligible SMEs, with the effect significant at the 1% level. In contrast, for groups with higher governance standards, the effect on ROA is not statistically significant, suggesting that stronger governance mechanisms may constrain firms' ability to engage in profit shifting.

Finally, we examine heterogeneity with respect to industry diversification. The results are shown in Columns 7–8 of Table 5. Corporate groups with lower industry diversification display a more pronounced response to the SME tax incentive. Among these groups, the ROA of eligible SMEs increases by 0.150 relative to ineligible SMEs, with the effect again significant at the 1% level. In contrast, for groups with greater industry diversification, the increase in ROA is much smaller at 0.055 and is only significant at the 10% level. These findings suggest that corporate groups operating primarily within the same 4-digit industry may find it easier to shift profits across affiliated firms.

6. Conclusion

This study examines how domestic corporate groups respond to size-dependent tax policies through intra-group profit shifting, a topic that has received far less attention than cross-border tax avoidance by MNEs. Using a comprehensive panel dataset of all registered Thai firms and their ownership structures, we investigate how corporate groups exploit within-group ownership networks to shift profits in response to a 2011 reform that introduced a revenue-based SME tax threshold.

Our findings provide strong empirical evidence that corporate groups engage in tax-motivated profit shifting when a size-dependent tax incentive is in place. Following the 2011 introduction of a revenue cap for SME tax eligibility, we observe a significant increase in the profitability of eligible SMEs within corporate groups. Further analysis

reveals that corporate groups primarily rely on transfer pricing rather than strategic debt allocation to reallocate taxable income. This finding is particularly important because it highlights domestic transfer pricing as a key tax avoidance mechanism, despite its relative neglect in the literature compared to cross-border profit shifting. Additionally, we find that profit shifting is more pronounced among smaller corporate groups, those with weaker governance structures, and those with lower industry diversification, suggesting that group-level characteristics play a crucial role in shaping tax avoidance behavior.

Given that size-dependent tax incentives are widely implemented across many countries (Bergner et al., 2017), our findings have broad policy relevance beyond the Thai context. While such policies aim to promote small business growth or support specific types of firms, they may unintentionally incentivize corporate groups to fragment reported income across affiliates to maximize tax benefits. This underscores the need for policymakers to address both international and domestic tax-motivated profit shifting in their policy design.

Despite its contributions, this study has some limitations. While our dataset provides firm-level financial data and ownership structures, we lack access to detailed transaction-level data on intra-group transfers. Utilizing such data would provide further insights into specific profit-shifting mechanisms.

References

Almunia, M. and Lopez-Rodriguez, D. (2018), "Under the radar: The effects of monitoring firms on tax compliance", *American Economic Journal: Economic Policy*, Vol. 10 No. 1, pp. 1–38.

Apaitan, T., Banternghansa, C., Paweenawat, A., and Samphantharak, K. (2020), "Common ownership, domestic competition, and export: Evidence from Thailand", PIER Discussion Paper No. 140.

Banternghansa, C., Paweenawat, A., and Samphantharak, K. (2019), "Understanding corporate Thailand I: Finance", PIER Discussion Paper No. 112.

Banternghansa, C., and Samphantharak, K. (2021), "Understanding corporate Thailand II: Ownership", PIER Discussion Paper, forthcoming.

Bergner, S. M., Bräutigam, R., Evers, M. T., and Spengel, C. (2017), "The use of SME tax incentives in the European Union", ZEW Discussion Paper No. 17-006.

Bilicka, K., & Scur, D. (2024), "Organizational capacity and profit shifting", *Journal of Public Economics*, Vol. 238, 105179.

Crivelli, E., de Mooij, R., and Keen, M. (2016), "Base erosion, profit shifting and developing countries", *FinanzArchiv: Public Finance Analysis*, Vol. 72 No. 3, pp. 268–301.

Cristea, A. D., and Nguyen, D. X. (2016), "Transfer pricing by multinational firms: New evidence from foreign firm ownerships", *American Economic Journal: Economic Policy*, Vol. 8 No. 3, pp. 170–202.

Davies, R. B., Martin, J., Parenti, M., and Toubal, F. (2018), "Knocking on tax haven's door: Multinational firms and transfer pricing", *Review of Economics and Statistics*, Vol. 100 No. 1, pp. 120–134.

Dharmapala, D. (2014), "What do we know about base erosion and profit shifting? A review of the empirical literature", *Fiscal Studies*, Vol. 35 No. 4, pp. 421–448.

Dharmapala, D., and Riedel, N. (2013), "Earnings shocks and tax-motivated income-shifting: Evidence from European multinationals", *Journal of Public Economics*, Vol. 97, pp. 95–107.

Dyreng, S. D., and Markle, K. S. (2016), "The effect of financial constraints on income shifting by US multinationals", *The Accounting Review*, Vol. 91 No.6, pp. 1601–1627.

Fuest, C., Hebous, S., and Riedel, N. (2011), "International debt shifting and multinational firms in developing countries", *Economics Letters*, Vol. 113 No. 2, pp. 135–138.

Garicano, L., Lelarge, C., and Van Reenen, J. (2016), "Firm size distortions and the productivity distribution: Evidence from France", *American Economic Review,* Vol. 106 No. 11, pp. 3439–3479.

Harju, J., Matikka, T., and Rauhanen, T. (2019), "Compliance costs vs. tax incentives: Why do entrepreneurs respond to size-based regulations?" *Journal of Public Economics,* Vol. 173, pp. 139–164.

Hines, J., and Rice, E. (1994), "Foreign tax havens and American business", *Quarterly Journal of Economics*, Vol. 109 No. 1, pp. 149–182.

Hosono, K., Hotei, M., and Miyakawa, D. (2024), "The interaction of a size-dependent tax policy and financial frictions: Evidence from a tax reform in Japan", *Small Business Economics,* Vol. 63, pp. 1293–1320.

Huizinga, H., and Laeven, L. (2008), "International profit shifting within multinationals: A multi-country perspective", *Journal of Public Economics*, Vol. 92 No. 5–6, pp. 1164–1182.

Johannesen, N., Tørsløv, T. and Wier, L. (2019), "Are less developed countries more exposed to multinational tax avoidance? Method and evidence from micro-data", *The World Bank Economic Review,* Vol. 34 No. 3, pp. 790–809.

Menkhoff, L., and Miethe, J. (2019), "Tax evasion in new disguise? Examining tax havens' international bank deposits", *Journal of Public Economics*, Vol. 176, pp. 53–78.

Muthitacharoen, A., Paweenawat, A., and Samphantharak, K. (2024), "The double-edged sword: Unintended consequences of SME promotion policy", PIER Discussion Paper No. 148.

Muthitacharoen, A., and Samphantharak, K. (2022), "Multinational tax avoidance and anti-avoidance enforcement: Firm-level evidence from developing Asean countries", *The Singapore Economic Review*, Vol. 67 No. 6, pp. 2049–2065.

Muthitacharoen, A., Wanichthaworn, W., and Burong, T. (2021), "VAT threshold and small business behavior: Evidence from Thai tax returns", *International Tax and Public Finance*, Vol. 28 No. 5, pp. 1242–1275.

Tørsløv, T., Wier, L., and Zucman, G. (2023), “The missing profits of nations”, *The Review of Economic Studies*, Vol. 90 No. 3, pp. 1499–1534.

Tsuruta, D. (2020), “SME policies as a barrier to growth of SMEs”, *Small Business Economics,* Vol. 54 No. 4, pp. 1067–1106.