# “Ownership structure, digital transformation, and corporate tax avoidance: Evidence from Indonesia”


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# OWNERSHIP STRUCTURE, DIGITAL TRANSFORMATION, AND CORPORATE TAX AVOIDANCE: EVIDENCE FROM INDONESIA

## Abstract

Corporate tax avoidance remains a central governance concern in emerging markets characterized by concentrated ownership and uneven monitoring effectiveness. This study examines whether multiple large shareholders and family ownership constrain corporate tax avoidance and whether digital transformation moderates these relationships in Indonesian listed firms. The sample consists of 369 firms (3,670 firm-year observations) during 2013–2022, representing major industry groups on the Indonesia Stock Exchange, including basic materials, energy, consumer cyclical, consumer non-cyclical, industrials, infrastructure, and property and real estate. Panel regression models are estimated using effective tax rates (ETR) and book–tax differences (BTD) as tax avoidance proxies. The results show that multiple large shareholders are negatively but not significantly associated with tax avoidance, indicating limited monitoring effectiveness in the full sample. Family ownership likewise exhibits no systematic relationship with tax avoidance. Furthermore, digital transformation does not significantly moderate the ownership–tax avoidance relationship at the aggregate level. However, industry-level analysis reveals that multiple large shareholders significantly reduce tax avoidance in the consumer cyclical sector, and this effect becomes stronger in firms with higher digital transformation intensity. Overall, the findings indicate that ownership-based governance and digital transformation do not uniformly constrain corporate tax avoidance in Indonesia, and their effectiveness is highly dependent on industry context.

**Keywords** multiple large shareholders, tax avoidance, digital transformation, emerging market

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## INTRODUCTION

Corporate tax avoidance has become a persistent governance concern in modern corporations, particularly in emerging markets characterized by concentrated ownership structures and relatively weak institutional enforcement. Although tax planning can increase after-tax cash flows and short-term firm value, aggressive avoidance practices may also generate substantial non-tax costs, including heightened agency conflicts, reputational risk, regulatory exposure, and reduced transparency (Edwards et al., 2016; Bauer et al., 2020). These competing consequences position tax avoidance not merely as a financial decision but as a broader governance issue with implications for investors, regulators, and the sustainability of public revenue.

The governance dimension of tax avoidance is especially salient in environments dominated by ownership concentration (Wang et al., 2020). In such contexts, the central conflict often shifts from the classical separation between managers and dispersed shareholders toward tensions between controlling and minority shareholders, commonly referred to as agency type II problems (Jensen & Meckling, 1976;

Cheng et al., 2012; Athira & Lukose, 2023). Controlling owners may possess both the incentives and the capacity to influence opaque corporate policies, including tax strategies, in ways that facilitate private benefit extraction while limiting external scrutiny (Hasan et al., 2021). Consequently, tax avoidance can serve as a channel through which agency conflicts intensify and corporate transparency deteriorates, ultimately weakening investor protection and fiscal capacity in emerging economies (Chung et al., 2019).

At the same time, internal governance arrangements and evolving corporate information environments introduce additional complexity into how tax avoidance behavior is shaped. The coexistence of multiple influential shareholders may alter monitoring dynamics within firms, potentially constraining opportunistic actions or, alternatively, enabling collusive extraction of private benefits depending on institutional conditions (Jiang et al., 2018; Chen et al., 2019). In parallel with these structural dynamics, rapid digital transformation is reshaping corporate information processing, traceability, and transparency through advanced data systems and reporting infrastructures (Verhoef et al., 2021; Ardiany et al., 2023). Such technological change may reduce information asymmetry and strengthen monitoring capacity, yet it may also expand firms' ability to implement sophisticated and less observable tax strategies (Li et al., 2021; Tiantian et al., 2023). These developments raise fundamental questions about whether traditional ownership-based governance mechanisms remain effective in constraining opportunistic tax behavior under accelerating digitalization.

These issues are particularly salient in emerging market economies such as Indonesia, where highly concentrated and family-dominated ownership structures coexist with relatively weak external enforcement and ongoing initiatives toward corporate digitalization and tax system modernization (Hajawiyah et al., 2021; Firmansyah et al., 2022). The interaction between ownership concentration, internal monitoring capacity, and evolving digital transparency, therefore, represents an unresolved scientific problem in understanding the governance determinants of corporate tax avoidance in contemporary emerging-market settings.

## 1. LITERATURE REVIEW

Corporate tax avoidance has long been interpreted as a rational corporate strategy designed to minimize tax liabilities through legally permissible mechanisms, thereby increasing after-tax cash flows and potentially enhancing firm value (Edwards et al., 2016; Lin et al., 2018). Firms may exploit tax incentives, accounting discretion, and jurisdictional differences to reduce effective tax burdens, particularly in environments that offer substantial planning opportunities (Atwood & Lewellen, 2019; Qi et al., 2023; Duhoon & Singh, 2023).

Agency theory, however, challenges this purely efficiency-based interpretation by emphasizing the governance risks embedded in opaque tax strategies. In the presence of separation between ownership and control, complex tax arrangements may facilitate managerial opportunism, rent extraction, and tunneling rather than shareholder value maximization (Jensen & Meckling, 1976; Chung et al., 2019). Increased opacity surrounding tax activities weakens monitoring and obscures firm performance, thereby elevating agency costs and governance risk (Bauer et al., 2020).

These governance concerns are amplified in emerging markets where ownership concentration is prevalent, and legal enforcement remains relatively weak. In such contexts, agency conflicts frequently shift toward tensions between controlling and minority shareholders (Athira & Lukose, 2023; Das et al., 2025). Controlling shareholders may influence tax strategies to extract private benefits while transferring costs to minority investors and the state, making the governance environment a critical determinant of the net consequences of tax avoidance (Edwards et al., 2016).

Ownership structure, therefore, plays a central role in shaping corporate governance outcomes outside dispersed-ownership economies (Ramalingegowda et al., 2021). Concentrated ownership often dominated by families, institutions, or the state may mitigate manager–shareholder conflicts but simultaneously


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intensify agency type II problems by granting substantial discretionary power to controlling shareholders (Badertscher et al 2013; Ma & Khanna, 2016). Empirical evidence from emerging markets, including Indonesia, links such structures to higher risks of tunneling and aggressive tax behavior under weak enforcement conditions (Firmansyah et al., 2022).

The presence of multiple large shareholders (MLS) has been proposed as an internal governance mechanism capable of constraining controlling-shareholder dominance. Shared control among several blockholders can enhance monitoring incentives, improve oversight of corporate decisions, and reduce opportunistic behavior (Jiang et al., 2018). Empirical studies associate MLS with improved investment efficiency, firm value, and reduced expropriation risk (Jiang et al., 2019). In the taxation context, MLS has been linked to lower tax avoidance where monitoring incentives outweigh collusion motives (Ouyang et al., 2020). Nevertheless, alternative perspectives argue that blockholders may collude to jointly extract private benefits in weak institutional environments, leaving the overall governance effect of MLS empirically ambiguous (Chen et al., 2019).

Parallel to ownership-based governance mechanisms, digital transformation is reshaping corporate information environments through advanced data systems, analytics, and digital reporting infrastructures (Vial, 2019; Verhoef et al., 2021). Prior research highlights efficiency, innovation, and performance gains from digitalization (Zhang et al., 2023; Guo et al., 2023), while governance-oriented studies emphasize enhanced transparency, stronger internal controls, and reduced information asymmetry (Frynas et al., 2018; Zhou et al., 2022). In the tax domain, digitalization may simultaneously enable sophisticated tax planning and strengthen compliance through improved monitoring and reporting accuracy (Li et al., 2021; Tiantian et al., 2023).

Family ownership, another dominant feature of emerging-market governance, introduces distinct incentives. Alignment between ownership and control may reduce classical agency conflicts, yet concentrated family control can intensify conflicts with minority shareholders (Ben-Nasr et al., 2015; Kovermann & Wendt, 2019). Empirical findings remain mixed: some studies document greater tax aggressiveness due to entrenchment incentives (Gaaya et al., 2017; Alessandri et al., 2018), whereas others highlight reputational concerns and long-term orientation that constrain aggressive tax behavior (Bauweraerts et al., 2020). Evidence from Indonesia likewise indicates that family ownership plays a significant but context-dependent role in shaping tax practices (Hajawiyah et al., 2021).

Overall, prior literature demonstrates that tax avoidance in emerging markets is shaped by the interaction between ownership structure, monitoring mechanisms, and evolving information environments. However, empirical evidence integrating multiple large shareholders, family ownership, and digital transformation within a single governance framework remains limited, particularly in the Indonesian context. This gap motivates a more comprehensive examination of how these governance mechanisms jointly influence corporate tax avoidance.

### 1.1. Research purpose and hypotheses

Based on the theoretical and empirical synthesis above, this study aims to examine how multiple large shareholders, family ownership, and digital transformation shape corporate tax avoidance in Indonesian listed firms.

*H1: Multiple large shareholders reduce corporate tax avoidance.*

*H2: Family ownership influences corporate tax avoidance.*

*H3: Digital transformation moderates the relationship between multiple large shareholders and corporate tax avoidance.*

## 2. METHOD

This study employs a quantitative research design using panel data to examine the relationship between ownership structure and corporate tax avoidance, as well as the moderating role of digital transformation in an emerging-market context. Panel regression techniques are applied to exploit both cross-sectional and time-series variation in firm characteristics, enabling more

efficient estimation and improved control for unobserved firm-specific heterogeneity.

The sample consists of 369 non-delisted firms listed on the Indonesia Stock Exchange (IDX) observed over the period 2013–2022, yielding 3,670 firm-year observations after excluding firms with incomplete financial, ownership, or taxation data. The sampled firms represent major IDX industry classifications, including basic materials, energy, industrials, consumer cyclical, consumer non-cyclical, infrastructure, financials, and property and real estate, thereby capturing broad sectoral variation in governance structures, digital adoption, and tax behavior. Financial and ownership data are obtained from firms' audited annual reports and financial statements, while supplementary firm-level information is collected from the IDX database and official corporate disclosures. The final sample size is determined based on data availability and consistency throughout the observation period.

Corporate tax avoidance is measured using two widely adopted proxies to enhance robustness. Effective Tax Rate (ETR) is calculated as total tax expense divided by pre-tax income, where lower values indicate higher levels of tax avoidance (Ouyang et al., 2020). Book–Tax Differences (BTD) capture the difference between accounting income and taxable income scaled by total assets, with larger values reflecting more aggressive tax avoidance strategies (Athira & Lukose, 2023; Ouyang et al., 2020). The use of both proxies enables the analysis to capture complementary dimensions of tax avoidance and mitigate potential measurement bias.

Ownership structure is represented by two key variables. Multiple Large Shareholders (MLS) is defined as a dummy variable equal to one when a firm has at least one additional shareholder holding ≥5% of outstanding shares besides the largest controlling shareholder, and zero otherwise, consistent with the blockholder monitoring literature. Family Ownership (FAM) is measured as a dummy variable equal to one when the controlling shareholder is a family or when family members collectively hold dominant ownership positions, and zero otherwise (Athira & Lukose, 2023; Ouyang et al., 2020).

Digital Transformation (DT) is proxied by firm-level digital investment intensity, measured as the proportion of digital-related intangible assets to total assets, reflecting the extent to which firms adopt and integrate digital technologies into operational and information systems (Wang et al., 2023). To assess the moderating effect, an interaction term between MLS and DT is incorporated into the regression specification. Additional moderation analysis is conducted within family-controlled firms through interaction terms and subsample estimation.

Several control variables commonly employed in tax avoidance and corporate governance research are included to account for firm-specific characteristics: firm size (SIZE) measured as the natural logarithm of total assets; profitability (ROA) measured as return on assets; leverage (LEV) defined as total liabilities divided by total assets; capital intensity (CAPINT) measured as fixed assets scaled by total assets; and growth opportunities (GROWTH) proxied by annual sales growth. Industry and year fixed effects are incorporated to control for sector-specific and macroeconomic influences.

To test the hypotheses, the following baseline panel regression models are estimated:

Model 1: MLS and Tax Avoidance (H1)

$$TA_{it} = \alpha + \beta_1 MLS_{it} + \sum \beta_k Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it}. \quad (1)$$

Model 2: Family Ownership and Tax Avoidance (H2)

$$TA_{it} = \alpha + \beta_1 FAM_{it} + \sum \beta_k Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it}. \quad (2)$$

Model 3: Moderating Role of Digital Transformation (H3)

$$TA_{it} = \alpha + \beta_1 MLS_{it} + \beta_2 DT_{it} + \beta_3 \left(MLS_{it} \cdot DT_{it}\right) + \sum \beta_k Controls_{it} + \mu_i + \lambda_t + \varepsilon_{it}, \quad (3)$$

where $TA_{it}$ denotes tax avoidance for firm $i$ in year $t$, $\mu_i$ captures unobserved firm-specific effects, and $\lambda_t$ represents year effects.


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# 3. RESULTS

## 3.1. Descriptive statistics

Table 1 reports the descriptive statistics of all variables employed in this study. The mean value of the effective tax rate (ETR) is –25.026, with a notably large standard deviation of 491.0. The wide dispersion, together with extreme minimum and maximum values, indicates substantial heterogeneity in firms' tax positions. Such variation is common in emerging markets, where differences in accounting practices, loss carryforwards, temporary timing differences, and aggressive tax planning strategies are prevalent. Consistent with this observation, the book–tax difference (BTD) measure exhibits a mean value of 0.014, ranging from –0.325 to 0.648. This broad range reflects significant variation in the gap between accounting income and taxable income across firms, supporting prior evidence that Indonesian firms adopt heterogeneous tax strategies in response to enforcement intensity and reporting incentives.

With respect to ownership structure, the average value of multiple large shareholders (MLS) is 0.679, indicating that a substantial proportion of Indonesian listed firms have at least one additional non-controlling blockholder. This confirms the relevance of blockholder-based governance in Indonesia's capital market. Digital transformation (DT) shows a relatively low mean value of 0.262, suggesting that digital adoption remains at an early or uneven stage for many firms. Family ownership (FAM), with an average of 0.410, further underscores the dominance of family-controlled firms in the Indonesian context. The control variables indicate moderate profitability (ROA = 0.018) and relatively high leverage (LEV = 0.699), implying a strong reliance on debt financing. Governance-related variables, such as board size and board independence, exhibit limited variation, consistent with prior studies documenting relatively homogeneous governance structures in Indonesia. Overall, the descriptive statistics provide a suitable empirical setting to examine the interaction between ownership structure, digital transformation, and tax avoidance.

## 3.2. Baseline regression

Table 2 reports the baseline regressions testing the direct effects of ownership structure and the moderating role of digital transformation. Using both tax avoidance proxies (ETR and BTD), the coefficient on multiple large shareholders (MLS) is consistently negative but statistically insignificant ($p > 0.10$). This suggests that, on average, the presence of additional blockholders does not materially constrain corporate tax avoidance among Indonesian listed firms; therefore, H1 is not supported in the full-sample baseline results.

A similar pattern emerges for family ownership. The coefficient on family ownership (FAM) remains statistically insignificant across specifications, indicating that family control does not exhibit a systematic association with tax avoidance in the full sample. Accordingly, H2 is not supported in the baseline analysis.

Turning to the moderating mechanism, the interaction term between MLS and digital transformation (MLS×DT) is positive but statistically insignificant for both ETR and BTD. This indicates that digital transformation does not strengthen (or weaken) the relationship between MLS and

**Table 1.** Descriptive statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| ETR | 4037 | –25.026 | 491.0 | –13008 | 103.9 |
| BTD | 3670 | 0.014 | 0.032 | –0.325 | 0.648 |
| MLS | 4037 | 0.679 | 0.467 | 0.000 | 1.000 |
| DT | 4037 | 0.262 | 0.420 | 0.000 | 3.585 |
| FAM | 4037 | 0.410 | 0.492 | 0.000 | 1.000 |
| ROA | 4037 | 0.018 | 0.318 | –10.889 | 4.693 |
| LEV | 4037 | 0.699 | 2.003 | –0.268 | 64.651 |
| LnTA | 4037 | 22.292 | 1.854 | 15.086 | 28.408 |
| BSIZE | 4037 | 1.131 | 0.027 | 0.998 | 1.208 |
| BIND | 4037 | 0.519 | 0.523 | 0.000 | 3.000 |

tax avoidance at the aggregate level. Thus, H3 is also not supported in the full-sample baseline estimation.

However, the industry-level results indicate that the MLS–tax avoidance relationship is not uniform across sectors. Given that only a limited number of industries display a significant association between MLS and tax avoidance, the moderation analysis is subsequently concentrated on these contexts. Table 7 shows that the interaction effect (MLS×DT) becomes statistically significant only in the consumer cyclical sector. This finding implies that, within consumer cyclical firms, higher digital transformation enhances the monitoring capacity of multiple large shareholders, leading to a stronger reduction in tax avoidance compared to firms with lower digital intensity. Outside the consumer cyclical sector, the interaction term remains insignificant, reinforcing that the governance role of digital transformation operates in a context-dependent manner and cannot be generalized across all industries.

## 3.3. Robustness check

Table 3 presents robustness regressions with firm and year fixed effects to control for time-invariant firm heterogeneity and common macro shocks. The results are consistent with the baseline findings: MLS remains negative but statistically insignificant for both ETR and BTD. Family ownership also remains statistically insignificant. These results suggest that the baseline conclusions are not driven by omitted time-invariant firm characteristics or aggregate time trends.

**Table 2.** Baseline regression

| Independent Variable | (1) | | (2) | |
|---|---|---|---|---|
| | Baseline Regression | | Moderating Effect | |
| | ETR | BTD | ETR | BTD |
| MLS | (6.189) | (0.002) | (6.983) | (0.002) |
| | –1.279 | –0.002 | –3.378 | –0.003 |
| DT*MLS | | | (11.319) | (0.003) |
| | | | 7.031 | 0.004 |
| DT | | | (10.374) | (0.003) |
| | | | 3.613 | –0.003 |
| FAM | (18.838) | (0.005) | (18.841) | (0.005) |
| | –9.397 | 0.000 | –9.361 | 0.000 |
| ROA | (5.253) | (0.001) | (5.252) | (0.001) |
| | 0.919 | 0.002 | 1.009 | 0.002 |
| LEV | (1.096) | (0.000)*** | (1.096) | (0.000)** |
| | 0.042 | 0.001 | 0.009 | 0.001 |
| LnTA | (3.471) | (0.001) | (3.503) | (0.001) |
| | –2.274 | –0.001 | –2.793 | –0.001 |
| BSIZE | (1.743) | (0.000) | (1.743) | (0.000) |
| | 1.438 | 0.000 | 1.430 | 0.000 |
| BIND | (3.718) | (0.001)** | (3.722) | (0.001)** |
| | 3.972 | 0.002 | 4.161 | 0.002 |
| _cons | (81.670) | (0.027)* | (82.201) | (0.027)* |
| | 21.074 | 0.052 | 31.854 | 0.051 |
| Hausman Test | 0.765 | 0.000 | 0.912 | 0.000 |
| LM Test | | | | |
| Wald test | | 0.000 | | 0.000 |
| **Breusch Pagan Test** | | | | |
| Mean VIF | 1.280 | 1.290 | 1.770 | 1.770 |
| No. of Observation | 4037 | 3670 | 4037 | 3670 |
| R2 | 0.001 | 0.022 | 0.001 | 0.023 |
| Adj.R2 | 0.007 | 0.020 | 0.007 | 0.020 |
| F-Stat. | 0.885 | 0.000 | 0.883 | 0.000 |

*Notes:* *, **, and *** – significant at 10, 5, and 1 per cent levels, respectively. Standard errors are in parentheses. This table reports the OLS regression results of the effect of MLS on TA and the moderating effect of DT.


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**Table 3.** Robustness check

| Independent Variable | (1) | (2) |
|---|---|---|
| | ETR | BTD |
| MLS | (5.951) | (0.002) |
| | –1.399 | –0.002 |
| FAM | (19.242) | (0.005) |
| | –2.014 | 0.000 |
| ROA | (5.0197) | (0.001) |
| | 0.200 | 0.002 |
| LEV | (1.069) | (0.000)** |
| | 0.169 | 0.001 |
| LnTA | (3.883) | (0.001) |
| | –1.004 | –0.001 |
| BSIZE | (1.685) | (0.000) |
| | 1.446 | 0.000 |
| BIND | (4.109) | (0.001) |
| | 0.261 | 0.002 |
| _cons | (93.863) | (0.029) |
| | 16.227 | 0.046 |
| FIRM | Yes | Yes |
| YEAR | Yes | Yes |
| No. of Observation | 4035 | 3670 |
| R2 | 0.000 | 0.001 |
| F-Stat. | 0.000 | 0.000 |

*Notes:* *, **, and*** – significant at 10, 5, and 1 per cent levels, respectively. Standard errors are in parentheses. This table reports the OLS regression results of the effect of MLS on TA, controlling for additional firm fixed effects and year fixed effects.

## 3.4. Heterogeneity analysis

To examine whether governance mechanisms operate differently across contexts, industry-level regressions are estimated following the approach in Ouyang et al. (2020). Tables 4 and 5 show that the effect of MLS is not uniform across sectors. The most consistent pattern emerges in the consumer cyclical sector, where the coefficient on MLS is negative and statistically significant using both tax avoidance proxies, indicating that MLS is associated with lower tax avoidance in this sector. In contrast, MLS is generally insignificant in sectors such as energy, infrastructure, and basic materials.

Family ownership also exhibits sector-specific patterns. In several sectors, the estimated coefficient on FAM is consistent with more conservative tax behavior, although the sign and significance are not uniform across all sectoral models. Collectively, these results indicate that ownership-based governance mechanisms are context-dependent and may be more effective in certain product-market and regulatory environments than in others.

Based on the regression results reported in Tables 4 and 5, the relationship between multiple large shareholders (MLS) and tax avoidance (TA) is statistically significant only in a limited number of business sectors. In particular, the consumer cyclical sector shows a consistent negative and statistically significant association between MLS and tax avoidance across both proxies (ETR and BTD). In contrast, the MLS coefficient remains statistically insignificant in most other sectors, indicating that the governance role of multiple large shareholders is context-dependent rather than universal. Accordingly, the hypothesis is supported only in specific industry contexts, but not in the full-sample analysis.

# 4. DISCUSSION

The baseline results indicate that multiple large shareholders do not significantly constrain corporate tax avoidance in Indonesian listed firms. This finding contrasts with evidence from settings where MLS is associated with stronger monitoring and reduced agency problems (Boubaker & Sami, 2011; Jiang et al., 2018), and also differs from Ouyang et al. (2020), who document that MLS reduces tax avoidance in China when monitoring incentives dominate. One plausible interpretation is that the monitoring function of MLS is highly sensitive to institutional conditions. In environments with weaker minority shareholder protection and higher private benefits of control, additional

**Table 4.** Tax avoidance (ETR) in business sectors

| ETR | (1) Full Sample | (2) Profit Firms | (3) Exclude Financials | (4) Basic Material Sector | (5) Energy Sector | (6) Consumer Cyclical | (7) Consumer non-cyclical | (8) Industrial Sector | (9) Infrastructure Sector | (10) Properties & Real Estate Sector |
|---|---|---|---|---|---|---|---|---|---|---|
| MLS | (6.189) | (0.018) | (8.009) | (0.100) | (59.833) | (0.091)** | (0.169) | (0.094) | (0.163) | (0.891) |
| | –1.279 | –0.011 | –1.725 | 0.055 | –2.924 | –0.187 | –0.191 | 0.052 | –0.077 | 0.235 |
| FAM | (18.838) | (0.020) | (23.510) | (0.086) | (161.490) | (0.085) | (0.162)** | (0.078) | (0.189) | (0.727) |
| | –9.397 | –0.016 | –10.561 | 0.019 | –103.547 | –0.029 | 0.320 | –0.006 | 0.084 | 0.193 |
| ROA | (5.253) | (0.088) | (6.366) | (0.4867) | (63.285) | (0.070) | (0.436) | (0.203) | (0.321) | (4.451) |
| | 0.919 | –0.132 | 1.131 | 0.589 | 29.493 | 0.083 | –0.223 | 0.304 | 0.037 | –1.403 |
| LEV | (1.096) | (0.043) | (1.601) | (0.131) | (80.588) | (0.011) | (0.272) | (0.102) | (0.173) | (2.164) |
| | 0.042 | 0.069 | –0.009 | –0.061 | 32.911 | –0.012 | –0.198 | 0.111 | 0.003 | 1.817 |
| LnTA | (3.471) | (0.007) | (4.604) | (0.033) | (35.706) | (0.034)** | (0.070) | (0.026) | (0.045) | (0.308)*** |
| | –2.274 | 0.004 | –2.813 | –0.014 | –16.449 | –0.081 | –0.097 | 0.002 | 0.052 | –0.966 |
| BSIZE | (1.743) | (0.005)*** | (2.172) | (0.028) | (16.161) | (0.028) | (0.041) | (0.021) | (0.050) | (0.220) |
| | 1.438 | –0.014 | 1.754 | –0.027 | 13.674 | 0.017 | 0.042 | 0.005 | 0.060 | 0.091 |
| BIND | (3.718) | (0.013) | (4.527) | (0.079) | (34.829) | (0.078) | (0.156) | (0.074) | (0.128) | (0.663) |
| | 3.972 | –0.007 | 4.474 | –0.015 | 33.589 | 0.013 | 0.128 | 0.004 | 0.137 | –0.686 |
| _cons | (81.670) | (0.152) | (106.719) | (0.704) | (833.270) | (0.681)*** | (1.523) | (0.526) | (0.982) | (6.482)*** |
| | 21.074 | 0.189 | 26.309 | 0.567 | 88.770 | 1.990 | 2.321 | 0.043 | –1.465 | 20.954 |
| Hausman Test | 0.765 | 0.1126 | 0.8172 | | 0.0746 | | | | | |
| LM Test | | | | 0.296 | | 1.000 | 0.384 | 1.000 | 1.000 | 0.2799 |
| Wald test | | | | | | | | | | |
| Breusch Pagan Test | | | | 0.000 | | | 0.000 | 0.000 | 0.000 | |
| Mean VIF | 1.280 | 1.550 | 1.170 | 1.450 | 1.350 | 1.200 | 1.200 | 1.290 | 1.280 | 1.390 |
| No. of Observation | 4037 | 1661 | 3256 | 473 | 451 | 638 | 484 | 286 | 319 | 352 |
| R2 | 0.001 | 0.009 | 0.001 | 0.014 | 0.015 | 0.018 | 0.016 | 0.013 | 0.026 | 0.041 |
| Adj.R2 | 0.007 | 0.007 | 0.008 | 0.001 | 0.123 | 0.007 | 0.002 | 0.012 | 0.004 | 0.021 |
| F-Stat. | 0.885 | 0.019 | 0.900 | 0.479 | 0.880 | 0.119 | 0.346 | 0.823 | 0.297 | 0.036 |

*Notes:* *, **, and *** – significant at 10, 5, and 1 per cent levels, respectively. Standard errors are in parentheses. This table presents the OLS regression results of the effect of MLS on TA (ETR), considering firm heterogeneity based on business sector classifications.

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**Table 5.** Tax avoidance (BTD) in business sectors

| BTD | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Full Sample** | **Profit Firms** | **Exclude Financials** | **Basic Material Sector** | **Energy Sector** | **Consumer Cyclical** | **Consumer non-cyclical** | **Industrial Sector** | **Infrastructure Sector** | **Properties & Real Estate Sector** |
| MLS | (0.002) | (0.002) | (0.001)*** | (0.003) | (0.008) | (0.003)*** | (0.004)** | (0.004) | (0.003) | (0.001) |
| | –0.002 | 0.001 | –0.006 | 0.002 | –0.001 | –0.016 | –0.009 | –0.001 | 0.000 | 0.000 |
| FAM | (0.005) | (0.007) | (0.001)*** | (0.003) | (0.011) | (0.003) | (0.004)** | (0.004)* | (0.006) | (0.001) |
| | 0.000 | –0.005 | –0.003 | 0.003 | –0.009 | –0.003 | –0.011 | –0.007 | –0.008 | 0.000 |
| ROA | (0.001) | (0.007)*** | (0.002)*** | (0.011)*** | (0.009)*** | (0.002)* | (0.006)*** | (0.007)*** | (0.004)* | (0.006) |
| | 0.002 | 0.152 | 0.009 | 0.074 | 0.026 | –0.004 | 0.026 | 0.030 | 0.008 | 0.009 |
| LEV | (0.000)*** | (0.004) | (0.000)*** | (0.003) | (0.011) | (0.000)*** | (0.005) | (0.004)*** | (0.004) | (0.003)** |
| | 0.001 | –0.005 | 0.002 | 0.001 | 0.006 | 0.002 | 0.007 | 0.012 | –0.006 | 0.006 |
| LnTA | (0.001) | (0.001) | (0.000)** | (0.001) | (0.003)*** | (0.001)** | (0.002) | (0.001) | (0.001)*** | (0.000)*** |
| | –0.001 | 0.000 | 0.001 | 0.000 | 0.008 | 0.002 | 0.001 | 0.000 | –0.004 | –0.002 |
| BSIZE | (0.000) | (0.000) | (0.000)** | (0.001) | (0.002) | (0.001) | (0.001) | (0.001) | (0.001)* | (0.000) |
| | 0.000 | 0.000 | 0.001 | 0.000 | 0.002 | –0.001 | 0.000 | 0.000 | 0.002 | 0.000 |
| BIND | (0.001)** | (0.001)*** | (0.001) | (0.002) | (0.005) | (0.003)*** | (0.002)* | (0.002)* | (0.002) | (0.001) |
| | 0.002 | 0.003 | 0.001 | –0.003 | –0.005 | 0.011 | 0.005 | 0.004 | 0.001 | 0.000 |
| _cons | (0.027)* | (0.027) | (0.010) | (0.020) | (0.069)** | (0.022) | (0.039) | (0.025) | (0.029)*** | (0.009)*** |
| | 0.052 | 0.024 | –0.002 | 0.007 | –0.167 | –0.028 | 0.002 | 0.013 | 0.096 | 0.053 |
| Hausman Test | 0.000 | 0.000 | 0.000 | 0.688 | 0.254 | 0.023 | 0.994 | 0.000 | 0.980 | 0.000 |
| LM Test | | | | | | | | | | |
| Wald test | 0.000 | 0.000 | 0.000 | | | 0.000 | | | | 0.000 |
| Breusch Pagan Test | | | | | | | | | | |
| Mean VIF | 1.290 | 1.560 | 1.170 | 1.460 | 1.350 | 1.200 | 1.200 | 1.300 | 1.290 | 1.400 |
| No. of Observation | 3670 | 1510 | 2960 | 430 | 410 | 580 | 440 | 260 | 290 | 320 |
| R2 | 0.022 | 0.566 | 0.034 | 0.152 | 0.104 | 0.125 | 0.180 | 0.133 | 0.050 | 0.117 |
| Adj.R2 | 0.020 | 0.564 | 0.031 | 0.139 | 0.105 | 0.114 | 0.220 | 0.131 | 0.079 | 0.097 |
| F–Stat. | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.000 | 0.000 | 0.000 | 0.011 | 0.000 |

*Notes:* *, **, and *** – significant at 10, 5, and 1 per cent levels, respectively. Standard errors are in parentheses. This table reports the OLS regression results of the effect of MLS on TA and the moderating effect of DT.

blockholders may lack both the power and incentives to challenge controlling shareholders, limiting effective oversight (Jiang & Lee, 2009). Moreover, when ownership networks are embedded in business groups or relational ties, "multiple blockholders" may not reflect independent monitors but rather affiliated owners, reducing ownership contestability and diminishing monitoring effectiveness consistent with collusion-based arguments in the blockholder literature (Chen et al., 2019).

The insignificant relationship between family ownership and tax avoidance in the full sample also aligns with the mixed theoretical predictions and empirical evidence. Prior studies propose competing mechanisms: entrenchment and private-benefit incentives may increase tax aggressiveness (Gaaya et al., 2017), while reputational concerns, socioemotional wealth, and long-term orientation may discourage aggressive avoidance (Bauweraerts et al., 2020). The null finding in Indonesia suggests that these opposing incentives may offset each other on average, producing no consistent net effect in observable tax avoidance measures, consistent with the idea that family control is not uniformly associated with either aggressive or conservative tax behavior across contexts (Kovermann & Wendt, 2019).

The absence of a significant moderating role of digital transformation in the full sample suggests that digital investment does not automatically translate into stronger governance over tax planning. This aligns with the view that digitalization can serve multiple objectives: operational efficiency, market expansion, and data analytics without necessarily strengthening compliance and monitoring unless complemented by governance reforms and control systems (Verhoef et al., 2021; Zhou et al., 2022). Additionally, digitalization can cut both ways in the tax domain: it can increase firms' capability to engineer complex tax strategies, while also enhancing traceability and internal control (Li et al., 2021; Tiantian et al., 2023). The full-sample insignificance is therefore consistent with an ambiguous net effect at the aggregate level.

Crucially, the heterogeneity analysis clarifies that governance mechanisms are conditional on industry environments. The finding that MLS significantly reduces tax avoidance in consumer cyclical firms suggests that product-market competition, higher public visibility, and stronger market discipline may increase blockholders' incentives to monitor tax-related decisions. This is consistent with arguments that governance mechanisms become more effective under greater scrutiny and competitive pressure (Chung et al., 2019; Cheng et al., 2023). The additional result that digital transformation strengthens the MLS effect only in this sector indicates that digital transparency and information systems may amplify monitoring effectiveness when external discipline is already strong. In contrast, in sectors with heavy regulation, close government relationships, or high capital intensity, ownership-based monitoring may be less decisive because tax planning and disclosure are shaped more by regulatory frameworks and institutional arrangements than by shareholder discipline.

Overall, these findings indicate that ownership-based governance and digital transformation do not uniformly constrain tax avoidance in Indonesia. Instead, their effectiveness depends on contextual conditions, particularly industry characteristics that shape information environments, external scrutiny, and the feasibility of shareholder monitoring. This helps reconcile mixed evidence in the literature and highlights the importance of incorporating institutional and industry contingencies when assessing governance determinants of corporate tax avoidance.

## CONCLUSIONS

This study investigates whether multiple large shareholders, family ownership, and digital transformation constrain corporate tax avoidance in Indonesian listed firms during 2013–2022. The results indicate that neither multiple large shareholders nor family ownership exhibits a statistically significant association with tax avoidance in the full sample, and digital transformation does not significantly moderate this relationship. However, sectoral analysis shows that in consumer cyclical industries, digital transformation strengthens the monitoring role of multiple large shareholders and is associated with lower tax avoidance.


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These findings imply that ownership-based governance mechanisms and digital adoption do not uniformly discipline opportunistic tax behavior in Indonesia, as their effectiveness depends on industry context and external market discipline. Strengthening tax governance in emerging markets, therefore, requires not only ownership diversification or technological adoption, but also stronger minority investor protection, clearer enforcement mechanisms, and deeper integration of digital systems into governance and compliance functions. Future research may extend this analysis by employing alternative measures of digital transformation, examining ownership networks among blockholders, and exploring regulatory reforms that could enhance governance effectiveness in emerging markets.

## AUTHOR CONTRIBUTIONS

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