

Guardians or Accomplices? Institutional Ownership and Corporate Tax Avoidance: A Meta-Analysis

Emma Aulia Erwanti^{1*}, Erwin Saraswati², Syaiful Iqbal³

^{1,2,3}Accounting Department, Brawijaya University

Jalan Veteran 10-11, Malang 65145, Indonesia

*Corresponding author; Email: emaauliae@gmail.com

ABSTRACT

Tax avoidance remains widespread, and prior studies report inconsistent results regarding how institutional ownership relates to tax avoidance. To date, no study has employed a meta-analytic approach to examine the nexus between institutional ownership and tax avoidance. This study aims to investigate the effect of institutional ownership on tax avoidance, considering the moderating roles of measurement diversity in tax avoidance and state legal systems. A meta-analytic method was applied to 72 studies from 46 articles (totaling 917,813 observations). This study proves that institutional ownership can effectively limit tax avoidance behavior. However, the diversity of tax avoidance measures and the country's legal system greatly influence its effectiveness. In particular, countries with common law systems are better able to suppress tax avoidance behavior than countries with civil law systems.

Keywords: Taxation; tax avoidance; institutional ownership; ownership structure; meta-analysis.

INTRODUCTION

Institutional investors have been on the rise since 2008 and have recently become influential players in the market, managing more than €3,144 billion [10,64]. The increasing number of institutional investors in ownership structures around the world gives them influence in decision-making processes, including tax avoidance decisions. Tax avoidance has increased in recent years, with the global tax payment deficit reaching around 100 to 240 billion euros. In Indonesia, companies claim that they can easily engage in tax avoidance, resulting in a loss of Rp68.7 trillion per year for the century [34,51]. This has caused tax avoidance practices to be labeled as risky and incompatible with the authorities [9,10].

From an agency perspective, the separation of ownership exacerbates agency problems and creates ambiguity [37]. This separation of ownership can create opportunities for managers to engage in opportunistic activities, one of which is tax avoidance, which can harm the interests of shareholders [19]. To overcome this, the ownership structure can help mitigate the agency problem. This study is part of the agency theory framework that examines institutional ownership and tax avoidance. Theoretically, institutional ownership is viewed as the optimal form of ownership in minimizing agency costs and opportunistic behavior [33].

Empirically, previous researchers have conducted studies on institutional ownership and tax avoidance, but these studies have produced incon-

sistent results. Some studies show findings that institutional ownership can reduce tax avoidance practices [16,30,39,49,52,62]. Other studies show different findings, namely that it can facilitate managers to engage in tax avoidance activities [4,37,59]. On the other hand, there are also studies that show findings that cannot conclude a relationship between institutional ownership and tax avoidance [26,29,56]. Other empirical studies also show inconsistent findings between institutional ownership and tax avoidance due to factors such as tax avoidance indicators, investor types, and institutional differences [2, 10, 28].

These inconsistent results can cause confusion in decision-making by policymakers. Previous researchers have attempted to use various approaches, such as specific factors and paradigms. However, the research conducted has not been able to resolve these inconsistent results. Therefore, this study attempts to resolve the inconsistent results through a meta-analysis approach. The use of meta-analysis in this study aims to test the robustness of inconsistent results in the previous literature by using average effect estimates and identifying factors that cause inconsistent results between institutional ownership and tax avoidance. This objective can be achieved using a meta-analysis approach with the advantages of statistical power, identifying patterns and causes of inconsistency in results, increasing the generalization of findings, and synthesizing, comparing, and providing accurate conclusions. Furthermore, to the best of the researchers' knowledge, there has been no meta-analysis examining the relationship between institutional ownership and tax avoidance.

Previous meta-analyses on tax avoidance have focused on CSR and tax avoidance, as studied by [46] and [47], but have not paid particular attention to the role of ownership structure, especially institutional ownership. Thus, this study contributes by presenting a meta-analysis that specifically examines the relationship between institutional ownership and tax avoidance, thereby providing a more focused understanding of institutional ownership as a monitoring mechanism in companies.

This study aims to examine the robustness of institutional ownership and tax avoidance, as well as test the moderating variables of diverse tax avoidance measurements and the state legal system. The heterogeneity of previous research results may be due to the diversity of tax avoidance measurements, as each measurement may reflect different tax avoidance practices [6]. On the other hand, it may also be due to differences in national legal systems [28,53].

Literature Review

Agency Theory

This study refers to agency theory to explain the relationship between institutional ownership and tax avoidance. Based on agency theory, a company is understood as a contractual relationship between principals and agents whose goal is to benefit shareholders. This relationship provides agents the authority to make decisions delegated by shareholders [16]. However, the separation of ownership and management control results in conflicts of interest [2,56]. Information asymmetry between managers and company owners can exacerbate conflicts of interest.

Tax avoidance practices reflect agency problems. In the context of tax avoidance, managers may be motivated to engage in tax avoidance practices when there is a mismatch between the benefits and risks they bear by implementing complex business operations and increasing information asymmetry [14]. This condition is defined as a form of manager protection [14]. To resolve this problem, a third party such as institutional ownership is needed. Institutional ownership, in this context, controls tax avoidance practices carried out by managers [2]. Governance mechanisms, such as institutional ownership through their supervisory role, contribute to resolving agency problems, such as tax avoidance activities, and can increase information transparency, thereby maximizing the long-term value of the company and minimizing long-term risks [24,36,61].

Legal Origins Theory

In this study, the researcher considers the characteristics of the two legal systems based on the legal

origins theory. The legal origin theory explains that a state's legal system can shape its economy, regulations, financial management, and market development [44]. This theory explains the legal systems of common law and civil law countries, each of which has its own unique characteristics [44]. These two legal systems differ in their characteristics in terms of managing the state, companies, stakeholders, and society.

Countries with common law legal systems have flexible legal characteristics, precedent-based adjudication, and strong investor protection. Better legal protection for investors by enforcing contracts and having greater legal recourse causes companies to avoid tax avoidance practices and choose to pay higher taxes to avoid potential legal problems [31]. In addition, countries with common law systems tend to have a higher level of transparency in their governance.

Conversely, countries with civil law legal systems have rigid and formal characteristics, are guided by written laws, and have weak investor protections. Civil law systems tend to have a stakeholder-oriented governance model that allows for the direct monitoring of corporate tax policies [31]. Although shareholders are a form of stakeholder, the state and regulations tend to play a more dominant role in regulating corporate policy in countries with civil law systems. In addition, oversight in civil law systems tends to be collective, involving all stakeholders. This can affect the effectiveness of institutional ownership in influencing corporate policy to curb tax avoidance practices.

Tax Avoidance

Currently, tax avoidance is defined as a legal practice that exploits loopholes in tax regulations [9,13,16,17,26,30,38,43,60]. However, tax avoidance remains a controversial ethical issue, even though such practices are legal [3,63]. This practice can be influenced by external factors, including company characteristics [25,48,55], manager attributes [41], ownership structure [49], and corporate governance [5]. External factors include institutional characteristics [35], labor protection [66], political connections [22], and suppliers [32].

Institutional Ownership

Globally, in the last decade, institutional ownership has increased from 6.1% to 40.4% between 1950 and 2009 [22]. Institutional ownership refers to ownership held by institutional investors, such as banks, foundations, insurance companies, investment entities, legal organizations, pension funds, mutual funds, and university endowment funds

[4,54,67]. Institutional ownership often has the authority to criticize or support management, supported by significant resources, knowledge, information management capabilities, and the ability to predict future earnings [4,54,56,59,63,67]. Institutional ownership is generally viewed as sophisticated ownership, with standards that uphold transparency, accountability, and ethical behavior [37].

These characteristics encourage institutional ownership to be effective in terms of supervision, enabling it to intervene in operations and the financial reporting process, making it possible to suppress tax avoidance [42,58]. Additionally, the presence of institutional ownership in a company can increase compliance with conservative tax planning and be more oriented towards sustainability performance and reputation integrity than engaging in tax avoidance practices [21].

Diversity in Tax Avoidance Measurement

The differences in the measurements used are one of the problems found in the literature. The literature on tax avoidance tends to use different indicators to answer similar questions, whereas different indicators should be used for different purposes and questions [27]. To explain the diversity of tax avoidance measurements, this study refers to the frameworks of [27] and [23], including GAAP ETR, current ETR, cash ETR, long-run cash ETR, ETR differential, DTAX, total BTM, temporary BTM, abnormal total BTM, unrecognized tax benefits, tax shelter activity, marginal tax rate, cash tax ratio, cash ETR_3_IND, TA cash (or GAAP) ETR, current GAAP ETR_5, CTA, permanent BTM, discretionary total BTM, modified DTAX, prob SHELTER, and HAVEN.

The differences between these indicators are one of the challenges in tax avoidance research because there is no widely accepted definition, and each researcher has a different meaning [6,15,27]. Each measurement cannot be generally applied to all research contexts because it has limitations, advantages, and describes different aspects.

State Legal System

The two most commonly used legal systems are common law and civil law. These two legal systems have different approaches to managing individuals, states, organizations, and stakeholders. Common law generally tends to have a flexible and precedent-based legal system, thereby strengthening individual rights and contract enforcement [44]. In addition, the common law system tends to be more flexible in managing markets, and the government has a limited role in implementing economic practices.

Civil law systems tend to use a formal approach and written law. Judges in civil law systems have limited authority, while the legislature has full and important authority in establishing rules [18,44]. The government plays a dominant role in managing and resolving market issues, which are closely linked to the implementation of strict regulations.

Hypotheses Development

Institutional Ownership and Tax Avoidance

Institutional ownership with greater resources can influence managers' decisions and ensure the accuracy of financial reports and tax compliance [30]. [11] also states that the monitoring and supervision provided by institutional ownership is spread throughout the company, making it quite effective in overcoming agency problems and tax avoidance practices. In addition, institutional investors have more mature tax planning knowledge, so they are considered one of the effective governance mechanisms in monitoring management decisions [40]. This assumption is consistent with several previous studies showing that institutional ownership can suppress corporate tax avoidance practices [16,39,49,52,62]. Based on that statement, we assume that the research hypothesis is as follows.

H₁: Institutional ownership is negatively related to tax avoidance.

Diversity of Tax Avoidance Measures, Institutional Ownership, and Tax Avoidance

This research refers to the framework proposed by Hanlon and Heitzman (2010) and Gerrit (2013) with various indicators, including GAAP ETR, current ETR, cash ETR, long-run cash ETR, ETR differential, DTAX, total BTM, temporary BTM, abnormal total BTM, unrecognized tax benefits, tax shelter activity, marginal tax rate, cash tax ratio, cash ETR_3_IND, TA cash (or GAAP), ETR, current GAAP ETR_5, CTA, permanent BTM, discretionary total BTM, modified DTAX, prob SHELTER, and HAVEN. This diversity indicates that tax avoidance is not a singular concept. To date, the challenge in tax avoidance research is the difference in opinions regarding the conceptualization of tax avoidance, especially in its complex and multidimensional definition [6]. The diversity of definitions of tax avoidance makes it difficult for researchers to determine its indicators. The diversity of tax avoidance measurements used in previous studies may reflect different aspects [6]. Therefore, we conclude that the hypotheses in this study are as follows.

H₂: The diversity of tax avoidance measurement moderates the relationship between institutional ownership and tax avoidance.

State Legal Systems, Institutional Ownership, and Tax Avoidance

Tax avoidance behavior can be influenced by the legal systems adopted by each country. Common law systems tend to be flexible in protecting investors, supported by adaptive law enforcement, independent courts, and regulations that encourage market development [8]. This can affect the effectiveness of institutional ownership in monitoring tax avoidance. In addition, common law systems are known to have high-quality, effective regulations and are supported by governments that are efficient in formulating and enforcing laws [28]. These characteristics can encourage institutional ownership to conduct more optimal supervision in suppressing tax avoidance behavior.

On the other hand, civil law systems tend to be rigid, formal, and inflexible in protecting investors [8]. Civil law systems have low regulatory and legal effectiveness, as well as inefficient government support in managing and enforcing laws [28]. On the other hand, countries with civil law systems tend to focus on stakeholders. The state and regulations play a dominant role in overseeing corporate tax policies. Thus, countries with civil law systems can reduce the effectiveness of institutional ownership in curbing tax avoidance behavior. The heterogeneity in previous research results may be due to the legal systems adopted by each country. Therefore, we conclude the hypothesis in this study as follows.

H₃: Countries with common law systems tend to have stronger relationships between institutional ownership and tax avoidance than countries with civil law systems.

RESEARCH METHOD

Population and Sample

Table 1. Inclusion Criteria

| Inclusion Criteria |
|--|
| Studies that use a quantitative approach to test the relationship between institutional ownership and tax avoidance, with institutional ownership as the independent variable and tax avoidance as the dependent variable. |
| Studies that have statistical data information that can be converted to r-Pearson. |
| Studies that have the data completeness required in the research, such as the type of measurement, sample characteristics, and other data. |

The population in this study includes all studies examining institutional ownership and tax avoidance from 2003 to 2024. The researcher used the beginning of 2003 because the first study using quantitative methodology, such as the current study,

was first conducted by [50] about tax avoidance. The research sample consists of scientific articles that examine the relationship between institutional ownership and tax avoidance that have met the established inclusion criteria, as presented in Table 1. The sample determination process in this study was guided by the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) [57].

Table 2. Keywords

| Variables | Keywords |
|--------------------------------|---|
| Institutional Ownership | “corporate governance”, “institutional ownership”, “institutional investors”, “ownership structure”, “good corporate governance”. |
| Tax Avoidance | “tax avoidance”, “tax avoid*”, “corporate taxation”, “corporate tax avoidance” |

Data Collection

The data collection technique in this study used various databases such as Scopus, WoS, ProQuest, IEEE, EBSCO, Sinta 1, Sinta 2, Social Science Research Network (SSRN), Open Access Theses and Dissertations (OATD), and several university libraries, including Brawijaya University, Airlangga University, and Padjajaran University, with predetermined keywords, as shown in Table 2.

Coding Procedure

Table 3. Statistical Conversion to Pearson's r

| Statistic Measure | Conversion Formula to r |
|----------------------------|--|
| t-statistic | $r = \frac{t^2}{t^2 + N - 2}$ |
| Independent t-test | $r = \frac{t^2}{t^2 + df}$ |
| Dependent t-test | $r = \frac{t^2 \text{dependent}}{t^2 \text{dependent} + df}$ |
| F-statistic | $r = \frac{F}{F + df}$ |
| Independent F-ratio | $r = \frac{F_{1,df}}{F_{(1,df)} + df}$ |
| Dependent F-ratio | $r = \frac{F_{\text{dependent}(1,df)}}{F_{\text{dependent}(1,df)} + df}$ |
| Cohen's d | $r = \frac{d}{\sqrt{d^2 + a}} \quad a = \frac{(n_1 + n_2)^2}{n_1 n_2}$ |
| Chi-square | $r = \frac{X^2}{\sqrt{1 - r^2}}$ |

After searching for articles and filtering them according to the inclusion criteria as well as the PRISMA diagram as a guide, the next step was to code the articles using the Author-Centric Postulate approach [65]. This approach aims to maintain consistency in the information contained in the references (year of publication, author, title, journal name, journal index, period); number of research samples; country of research; research variables and indicators (dependent and independent); and research findings. After coding, researchers classified articles based on the diversity of tax avoidance measurement and state legal systems.

Hypothesis Testing

Conversion of Effect Sizes to Correlation Coefficients (r)

This study employs the correlation coefficient (r) as a measure of effect size. Given that previous studies utilized various effect size measures in their analyses, each effect size was converted into the correlation coefficient (r), following the procedures outlined in [12] as presented in Table 3.

Transformation of Correlation Coefficient (r) into Fisher's (z)

In meta-analysis, effect sizes (r) cannot be directly employed in the computation of the summary effect. Therefore, each correlation coefficient (r) is transformed into Fisher's (z) [12]. This transformation is necessary because the distribution of r tends to be skewed, whereas the distribution of Fisher's (z) is more symmetrical, except in cases of large sample sizes. The transformation from r to z is conducted using the formula below.

$$z = Y_i = 0,5 \times \ln \frac{(1+r)}{(1-r)} \quad (1)$$

Estimation of the Variance of Fisher's (z)

$$V_z = V_{y_i} = \frac{1}{n-3} \quad (2)$$

Summary Effect Using the Random Effects Model Estimating Tau-squared (τ^2)

τ^2 was estimated using the DerSimonian dan Laird method [11].

$$\tau^2 = \frac{Q-df}{c} \quad (3)$$

Where $df = k - 1$, with k representing the number of studies. The values of Q and c were derived from the calculations below.

$$Q = \sum_{i=1}^k W_i Y_i^2 - \frac{(\sum_{i=1}^k W_i Y_i)^2}{\sum_{i=1}^k W_i} \quad (4)$$

$$C = \sum_{i=1}^k W_i - \frac{\sum_{i=1}^k W_i^2}{\sum_{i=1}^k W_i} \quad (5)$$

Where $W_i = \frac{1}{V_{y_i}}$ and Y_i represents the effect size value that has been converted from r to z .

Weighted Effect (W_i^*)

The weighted effect for each study in the meta-analysis is calculated by accounting for both the within study variance and the between study variance.

$$W_i^* = \frac{1}{V_{Y_i}^*} \quad (6)$$

Where $V_{Y_i}^* = V_{y_i} + \tau^2$. V_{y_i} denoting the variance of z and τ^2 representing tau-squared.

Weighted Mean Effect (M^*)

$$M^* = \frac{\sum_{i=1}^k W_i^* Y_i}{\sum_{i=1}^k W_i^*} \quad (7)$$

Where W_i^* denotes the weighted effect and Y_i represents the effect size after conversion from r to z .

Weighted Mean Variance (V_{M^*}) and Standard Error (SE_{M^*})

$$V_{M^*} = \frac{1}{\sum_{i=1}^k W_i^*} \quad (8)$$

$$SE_{M^*} = \sqrt{V_{M^*}} \quad (9)$$

Where W_i^* denotes the weighted effect.

Confidence Interval of M^*

$$LL_{M^*} = M^* - 1,96 \times SE_{M^*} \quad (10)$$

$$UL_{M^*} = M^* + 1,96 \times SE_{M^*}$$

Where M^* denotes the weighted mean effect and SE_{M^*} represents its standard error.

The Z* Statistic and Hypothesis Testing Based on the p-value

$$Z^* = \frac{M^*}{SE_{M^*}} \quad (11)$$

$$p = 1 - \Phi(\pm|Z^*|) \quad (12)$$

Where M^* is the weighted mean effect. SE_{M^*} represents its standard error. The function Φ corresponds

to NORMDIST. A p-value below 0.05 at the 95% confidence interval level suggests a meaningful association between the predictor and outcome variables.

Conversion of the Weighted Mean Effect to the Correlation Coefficient

The correlation coefficient in this study, based on the value of r with $r \leq 0.10$, is categorized as a weak correlation, $r = 0.25$ moderate correlation, and $r \geq 0.40$ strong correlation. To obtain these correlation values, the weighted effect average was converted into a correlation coefficient using the following formula:

$$r^* = \frac{e^{2 \times M^*} - 1}{e^{2 \times M^*} + 1} \quad (13)$$

Where e is epsilon. M^* is the weighted mean effect.

Conversion of the Lower and Upper Limits of the Confidence Interval

$$LL_r = \frac{e^{2 \times LL_M - 1}}{e^{2 \times LL_M} + 1} \quad (14)$$

$$UL_r = \frac{e^{2 \times UL_M - 1}}{e^{2 \times UL_M} + 1}$$

Where e is epsilon. LL_M is the lower limit of the confidence interval and UL_M represents the upper limit of the confidence interval.

Heterogeneity Test

Heterogeneity testing in meta-analysis research is necessary because the results of previous studies often vary, which can be influenced by methodological choices, research tools, sample characteristics, and other factors, referred to as moderators [1]. To determine whether it is influenced by moderation, heterogeneity testing is conducted using three parameters, namely Q , I^2 , and τ^2 .

Q Statistic

$$Q = \sum_{i=1}^k W_i (Y_i - M)^2 \quad (15)$$

The formula for calculating Q is the same as the calculation in point (4). After obtaining the Q value, the researcher calculates degree of freedom ($df = k - 1$) is calculated. k is the total number of studies, which is then used to calculate the p-value using the Excel function $CHIDIST(Q, df)$. A p-value below α (0.05) suggests heterogeneity among the studies.

I^2 Statistic

$$I^2 = \left(\frac{Q - df}{Q} \right) \times 100\% \quad (16)$$

Where Q and df are as previously defined, an I^2 value approaching 100% within the confidence interval indicates heterogeneity among the studies.

Tau-squared (τ^2)

The value of τ^2 is calculated as:

$$\tau^2 = \frac{Q - df}{c} \quad (17)$$

Where Q and df are as previously defined and the constant c is as applied in the calculation of τ^2 . τ^2 value greater than 0 indicates heterogeneity in the effect sizes of the individual studies.

Moderator Test

Moderation testing in this study was conducted using subgroups categorized according to the variation in tax avoidance indicators presented in Appendix 1 and national legal systems classified into common law and civil law systems. Moderation testing was conducted using the same calculation formula as before. Subgroup analysis was conducted to minimize heterogeneity, strengthen the relationship between variables, and increase explanatory power [1].

Publication Bias Test

Meta-analysis is not immune to publication bias issues because previous studies tend to publish significant results [20]. We can resolve this problem using the Egger test and fail-safe N. The Egger test is conducted to detect potential publication bias in previous studies, assuming that if the regression intercept is close to zero and the p-values are >0.05 , then it can be concluded that there is no publication bias. Fail-safe N is a test of the resilience of meta-analysis results to potential publication bias, assuming an estimate of the number of additional studies required with insignificant results to change the significance of the main results.

RESULTS AND DISCUSSION

Search Result

The search results, based on institutional ownership and tax avoidance, showed a total of 4,564 articles from various specified databases. To ensure that previous studies discussed the topics of tax avoidance and institutional ownership, the study conducted a screening based on titles and abstracts, which yielded 304 articles. Based on the inclusion criteria, 258 articles were eliminated, and the final results used in the analysis consisted of 46 articles that met the requirements, as shown in Appendix 2.

Study Outcome

This study found 46 articles that met the previously established inclusion criteria. Of the 46 articles, there were 72 studies in the previous literature. Overall, this study has a total of 917,813 observations, resulting from the representation of 72 studies.

Main Results

The results of this study indicate that institutional ownership and tax avoidance have a significant positive ($\rho = 0.271$, 95% CI [0.236-0.305], $p < 0.05$), as shown in Table 4, which means that institutional ownership can reduce tax avoidance practices.

These findings indicate that high institutional ownership corresponds to a higher Effective Tax Rate (ETR) in a company, thus supporting H1. The results of this study are in line with several previous studies that found a negative relationship with tax avoidance [16,30,39,49,52,62].

Table 4. The Results of IO and TA

| | <i>k</i> | ρ | 95% CI | | <i>p</i> |
|-----------|----------|--------|--------|-------|----------|
| | | | LL | UL | |
| IO | 72 | 0.271 | 0.236 | 0.305 | 0.000 |

Note: IO = institutional ownership; *k* = observations; ρ = correlation; CI = confidence interval; LL = lower limit; UL = upper limit; *p* = *p-value* <0.05.

Heterogeneity Test

The results of the heterogeneity test with three parameters (*Q*, I^2 , and τ^2) in this study indicate that there is heterogeneity, as shown in Table 4. The *Q* value is 0.000. The I^2 value is 99.61% (95% CI: 99.58% - 99.63%), while τ^2 is 0.0226 (95% CI: 0.0214-0.0241). These results confirm that the study indicates heterogeneity, thus requiring further testing, namely, testing the moderating variables that have been determined to find out the cause of this heterogeneity.

Moderator Analysis

There are nine indicators of diversity of tax avoidance measurement in this study. Two show significant positive results for the Cash Effective Tax Rate (CETR) and Effective Tax Rate (ETR) indicators, and one shows a significant negative result for the Permanent Book Tax Difference (PBTB) indicator. In contrast, six show insignificant results for the Book Tax Difference (BTD), Cash Flow Effective Tax Rate (CFETR), Current Effective Tax Rate (Current ETR), Effective Tax Rate Difference (ETRDIF), Generally Accepted Accounting Principles Effective

Tax Rate (GAAP ETR), and Peer Cash Effective Tax Rate Difference (PEER CETR DIFF), as shown in Table 5. These results prove that H2 is supported.

The diversity of tax avoidance measurements in this study, consisting of nine indicators, shows that several indicators yield relatively homogeneous values, including CFETR, Current ETR, GAAP ETR, and PBTB, with a range of 29.3% - 53.5%. However, other indicators, such as BTD, CETR, ETR, ETR DIFF, and PEER CETR DIFF, show relatively heterogeneous values close to 100%, indicating the need for retesting.

Moderation of the state legal system shows that common law shows a significant positive relationship ($\rho = 0.040$, 95% CI [0.016 - 0.064], $p < 0.05$). Civil law shows a significant negative relationship ($\rho = -0.364$, 95% CI [-0.470 - -0.248], $p < 0.05$), as shown in Table 6. Therefore, the results of this study support H3 and are in line with the legal origins theory.

Table 5. Subgroup Analysis of TA Measurement

| | <i>k</i> | ρ | 95% CI | | <i>p</i> | I^2 (%) |
|-----------------------|----------|--------|--------|--------|----------|-----------|
| | | | LL | UL | | |
| BTD | 10 | 0.007 | -0.032 | 0.046 | 0.354 | 93,3 |
| CETR | 15 | 0.453 | 0.204 | 0.646 | 0.000 | 99,7 |
| CF | 2 | 0.086 | -0.031 | 0.201 | 0.074 | 48,6 |
| ETR | 2 | 0.028 | -0.038 | 0.094 | 0.202 | 53,5 |
| CUR ETR | 25 | 0.577 | 0.272 | 0.777 | 0.000 | 99,7 |
| ETR DIFF | 2 | -0.015 | -0.161 | 0.131 | 0.580 | 99,9 |
| GAAP ETR | 4 | 0.008 | -0.009 | 0.024 | 0.180 | 32,7 |
| PBTB | 3 | -0.015 | -0.023 | -0.007 | 0.000 | 29,3 |
| PEER CETR DIFF | 2 | 0.015 | -0.073 | 0.103 | 0.369 | 99,8 |

Note: *k* = observations; ρ = correlation; CI = confidence interval; LL = lower limit; UL = upper limit; *p* = *p-value* <0.05, I^2 = heterogeneity

Table 6. Subgroup Analysis of Legal System

| | <i>k</i> | ρ | 95% CI | | <i>p</i> | I^2 (%) |
|----------------|----------|--------|--------|--------|----------|-----------|
| | | | LL | UL | | |
| COM LAW | 22 | 0.040 | 0.016 | 0.064 | 0.001 | 94,0 |
| CIV LAW | 41 | -0.364 | -0.470 | -0.248 | 0.000 | 99,6 |

Note: COMLAW = common law; CIVLAW = civil law; *k* = observations; ρ = correlation; CI = confidence interval; LL = lower limit; UL = upper limit; *p* = *p-value* <0.05, I^2 = heterogeneity

The common law and civil law subgroups show relatively heterogeneous values. Although both show heterogeneous values, the common law subgroup shows a decrease in heterogeneity from 99.61% to 94.03%, indicating that the subgroup's homogeneity has increased. On the other hand, the civil law subgroup shows relatively stable values, with a very small difference (0.01) from 99.61% to 99.60%.

Publication Bias Test

The publication bias test conducted by this study using the Egger test showed a *p-value* >0.05 (*p*

= 0.1509) and an intercept of 0.0942, which means that this study found no publication bias. The results of the fail-safe N reinforce the Egger test, which shows a value of 12.041, far exceeding the threshold value ($5k+10 = 375$). This means that an additional 12.041 insignificant studies would be needed to alter the results of this study. Therefore, the researcher concludes that the results of this study are robust against potential publication bias.

Sensitivity Test

Sensitivity tests in meta-analysis aim to assess the stability of meta-analysis results against various possible changes. The researchers used two sensitivity tests, namely indexed articles and influence diagnostics. The researchers conducted these tests because gray literature, such as theses and dissertations, has the potential to influence the estimation, direction, and significance of the findings. With indexed articles, the researchers found that institutional ownership had a significant positive effect ($\rho = 0.1433$; 95% CI [0.0955-0.1904]; $p < 0.05$), as shown in Table 7. This sensitivity test provides additional confidence in the consistency and stability of the main results in this study, making the main results reliable.

Table 7. Indexed Articles Results

| | <i>k</i> | ρ | 95% CI | | <i>p</i> |
|-----------|----------|--------|--------|--------|----------|
| | | | LL | UL | |
| IO | 45 | 0.1433 | 0.0955 | 0.1904 | 0.000 |

Note: IO = institutional ownership; *k* = observations; ρ = correlation; CI = confidence interval; LL = lower limit; UL = upper limit; $p = p\text{-value} < 0.05$

The researchers also conducted an influence diagnostic test with studentized deleted residuals and refitted the model, finding that there were three studies that had outliers and were influential. When the researchers refitted the model, they found the same significant positive relationship, as shown in Table 8. Therefore, it can be concluded that extreme studies did not influence the main results of this study and were robust to extreme studies.

Table 8. Refitting Model Results

| | <i>k</i> | ρ | 95% CI | |
|-----------|----------|--------|--------|--------|
| | | | LL | UL |
| IO | 69 | 0.0589 | 0.0232 | 0.0943 |

Note: IO = institutional ownership; *k* = observations; ρ = correlation; CI = confidence interval; LL = lower limit; UL = upper limit

Discussion

The results of this meta-analysis prove that, on average, institutional owners can reduce tax

avoidance practices. These findings indicate that institutional ownership can limit opportunistic behavior by management. This is consistent with agency theory and the argument that investment companies, insurance companies, and pension funds that act as institutional ownership have adequate oversight capabilities and resource capacity to increase the awareness of managers who play a role in encouraging accurate tax reporting, healthier profit performance, and minimizing tax avoidance practices [7,10,21,30,45]. Despite the average results demonstrating effective suppression of tax avoidance practices, researchers discovered that high heterogeneity influenced the research outcomes.

The research context significantly influenced the main results, as indicated by this heterogeneity. Specifically, to control for this heterogeneity, researchers have explored the diversity of tax avoidance measurements and state legal systems. Researchers have found diverse patterns in effect sizes, significance levels, and varying degrees of heterogeneity among tax avoidance indicators. This diversity shows that tax avoidance is a multidimensional concept, which means that the selection of indicators is not only technical in nature but also has methodological implications for research findings.

The CETR and ETR indicators, with significant and heterogeneous combined effect sizes, indicate that, on average, the relationship between studies is strong but has varying effects. In the context of meta-analysis, the heterogeneity in CETR and ETR reflects that these indicators are sensitive to differences in research contexts, such as observation periods, sample characteristics, or institutional environments. Therefore, significant results in these indicators need to be interpreted as average effects, not a uniform relationship, across all studies.

In contrast, PBT, GAAP ETR, current ETR, and CFETR showed more consistent findings across studies. The PBT indicator, with a significant negative effect size and relatively low heterogeneity across studies, indicates that this indicator can capture a relatively stable relationship across studies, even though the number of studies available is still relatively limited. The GAAP ETR, current ETR, and CFETR indicators, although consistent across studies, did not show a significant combined effect. This indicates that there is agreement among studies that the relationship captured by these indicators tends to be weak, but this is not due to methodological variations between studies but rather because of the results captured by the conceptual indicators.

Several other indicators, BT, ETR DIFF, and PEER CETR DIFF, produce insignificant combined effect measures and tend to have high heterogeneity. In the context of meta-analysis, these indicators reflect that, on average, studies do not have a relationship

but have variations in the direction and magnitude of influence between studies. This pattern indicates that differences in research design and empirical context influence these indicators, thereby contributing to the heterogeneity arising from the methodology in the tax avoidance literature.

The diversity of results between indicators, significant and insignificant, and heterogeneous and homogeneous, shows that the indicators used in tax avoidance research are a source of heterogeneity. Therefore, the heterogeneity in the relationship between institutional ownership and tax avoidance identified through statistics Q , I^2 , and τ^2 , not only reflects inconsistency in the results but also captures conceptual and methodological differences. The diversity of tax avoidance measurements, treated as moderator variables in this meta-analysis, can explain the source of variation in effect size across studies. Thus, the results of this meta-analysis need to be interpreted as average effects that reflect the diversity of empirical findings and not as findings with universal relationships.

Further analysis, amid the diversity of the results described above, focused on statistically significant relationships to identify those with stronger evidence. The meta-analysis findings indicated that the three indicators showed significant results (ETR, CERT, and PBTB). ETR and CETR are the most widely used indicators and therefore provide more reliable results. Although both indicators were significant, they showed high heterogeneity. In contrast, PBTB shows more homogeneous and significant results, but this indicator has limitations in terms of the number of studies, which can lead to bias in the interpretation of the results. These limitations require researchers to be cautious when recommending the use of indicators in tax avoidance.

It is difficult to determine which indicator is most appropriate for tax avoidance. However, based on the findings of this study, ETR and CETR may be appropriate options. ETR and CETR are relevant because they provide an overview of the tax payments made by companies. However, it is necessary to consider controlling for the heterogeneity found in these indicators, which suggests the need to control for factors that could potentially affect the results.

In addition to the diversity of tax avoidance measurements, common law and civil law legal systems play a role in explaining the heterogeneity between studies. The common law system tends to suppress tax avoidance. Although it is influenced by relatively high heterogeneity, there has been a decline in the level of heterogeneity. These findings show that, on average, countries with common law systems tend to strengthen the effectiveness of institutional ownership mechanisms in suppressing tax avoidance.

This may be because the common law system features a flexible legal framework, adaptive law enforcement, independent courts, regulations that support market development, and strong investor protection [8]. In addition, institutional ownership in countries with common law systems provides freedom in decision-making, demand, and suing company management and directors. The common law system also has high-quality, effective regulations and an efficient government for formulating and enforcing laws [28]. Therefore, the characteristics of the common law system can help institutional ownership to supervise company managers more effectively.

Conversely, civil law systems tend to reduce the effectiveness of institutional ownership in preventing tax avoidance. Although researchers still observe a relatively high level of heterogeneity, on average, the combined effect shows that civil law systems tend to hinder the effectiveness of institutional ownership in limiting companies' tax avoidance behavior. This is because civil law systems are highly rigid, formal, inflexible, and offer weak investor protection [8]. A legal system based on rigid and overly prescriptive regulations can hinder capital market growth.

In addition, civil law systems often face challenges in terms of regulatory effectiveness, poor legal quality, and suboptimal government performance in managing and enforcing laws [28]. The findings of this study emphasize the importance of considering a country's legal system when designing taxation policies. From a meta-analysis perspective, these findings prove that the legal system functions as a moderator that explains the level of difference in the strength of the relationship between studies that affect the optimality of institutional ownership mechanisms in tax avoidance practices. Thus, the heterogeneity identified through statistics Q , I^2 , and τ^2 , the findings of the relationship between institutional ownership and tax avoidance in this meta-analysis are influenced by differences in state legal systems.

CONCLUSION

This study was conducted to examine the relationship between institutional ownership and tax avoidance with subgroups of tax avoidance measurement and the country's legal system. The findings of this study show that institutional ownership effectively suppresses corporate tax avoidance.

The heterogeneity of previous studies is due to the diversity of tax avoidance measurements and state legal systems. In this study, there are nine indicators that play a role in the differences in previous research results. Researchers have found that heterogeneity not only reflects inconsistencies in empirical

results but also reflects differences caused by the research, methodological and empirical, and conceptual context in the diversity of tax avoidance measurements. Of the nine indicators, ETR and CETR are the appropriate indicators for explaining tax avoidance, but it's important to control their heterogeneity.

The legal systems of common and civil law also play a role in causing heterogeneity. Institutional ownership in common law countries can effectively enhance supervision to suppress tax avoidance practices, whereas institutional ownership in civil law countries is less effective in combating such practices. Thus, countries with common law systems are more effective in limiting tax avoidance behavior in companies.

This study makes several contributions, including theoretical, methodological, and practical contributions. Theoretically, the meta-analysis results support agency theory, which posits that monitoring mechanisms of ownership structure can suppress opportunistic managerial behavior. These findings also support the legal origins theory, which states that institutional ownership in countries with common law systems plays a greater role in suppressing tax avoidance behavior than in countries with civil law systems. These findings provide further insight into the interaction between legal systems and tax policies and how they influence tax avoidance across countries.

Methodologically, research on tax avoidance using meta-analysis remains rare, so this study contributes to the development of methods for this field. Additionally, this study categorizes tax avoidance indicators, facilitating the understanding of the indicators identified in the meta-analysis.

In practical terms, this research contributes primarily to the government. The main findings of this study can be used as consideration for improving regulations related to the role of institutional ownership. Furthermore, from the perspective of tax avoidance indicators, to date, the indicators used to determine the level of tax avoidance still focus on ETR. Given that the research findings show that ETR produces highly heterogeneous results, the government needs to pay attention to and exercise control by considering the context of the sector, country, region, and other factors to ensure that tax policies are designed to be more accurate and targeted.

For governments, especially those with civil law systems such as Indonesia, it is necessary to harmonize accounting and taxation regulations, given that civil law countries are highly dependent on legal codification. In addition, it is necessary to improve law enforcement and ensure clear, transparent, and coordinated regulations between accounting standards and tax policies. These efforts can minimize double

interpretations that companies can exploit as loopholes for tax avoidance. Governments with common law systems can develop, refine, and strengthen more effective oversight systems in line with developments in contemporary corporate behavior.

Companies can use the findings of this study as material for consideration in involving institutional ownership in corporate governance. Companies need to define institutional ownership not only as a source of funding but also as an effective monitoring system that can influence corporate strategy, especially tax avoidance practices. The findings of this study can serve as a basis for companies to conduct more comprehensive analyses. Companies need to pay attention to the legal systems of the countries in which they operate to implement policies that are in line with and appropriate to the characteristics of a country's legal system.

Tax consultants can use the findings of this study to provide recommendations to their clients in terms of considering institutional ownership as part of risk analysis and tax strategy so that they do not only focus on tax burden optimization. On the other hand, tax consultants need to develop strategies based on the country's legal system in which the company operates, making them more context-specific, adaptive, compliance-oriented, and focused on operational sustainability while minimizing long-term legal and reputational risks for clients.

Academics and researchers, particularly those studying tax avoidance, can also benefit from this study. Given that the ETR and CETR indicators are more commonly used, researchers need to pay attention to the heterogeneity of ETR and CETR. Researchers need to be more careful in managing the factors that cause heterogeneity to produce reliable and consistent findings.

This study, like others, is not without limitations. The limitation of this study lies in the heterogeneity of the moderator findings. This indicates that there are still other factors that influence the effectiveness of institutional ownership and tax avoidance. Therefore, future researchers are advised to further narrow down the moderation used; for example, the state legal system can be focused on tax regulations, tax courts, or tax law enforcement.

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APPENDIX

Appendix 1. Measurement of Tax Avoidance

| Measure | Definition |
|-------------------|--|
| GAAP ETR | $\frac{\text{Income tax expense}}{\text{Accounting profit before tax}}$ |
| Current ETR | $\frac{\text{Current income tax expense}}{\text{Accounting profit before tax}}$ |
| Cash ETR | $\frac{\text{Cash taxes paid}}{\text{Accounting profit before tax}}$ |
| Long-run cash ETR | $\frac{\text{Total cash taxes paid over n years}}{\text{Total pre – tax income over n years}}$ |
| ETR Differential | ETR Statutory – GAAP ETR |

| Measure | Definition |
|-----------------------------------|---|
| DTAX | Error term from the following regression $= \text{Pre – tax book income} \\ = a + b \text{ Controls} + e$ |
| Total BTD | $\text{Book profit before tax} - ((\text{CTE AS} + \text{Fgn CTE}) / \text{U.S.STR}) - (\text{NOL}_t - \text{NOL}_{t-1})$ |
| Temporary BTD | $\frac{\text{Deferred tax expense}}{\text{U. S. STR}}$ |
| Abnormal total BTD | $\text{Residual from BTD} / \text{TA}_{it} = \beta \text{TA}_{it} + \beta m_i + e_{it}$ |
| Unrecognized tax benefits (UTB) | Disclosed amount post-FIN48 |
| Tax shelter activity | Indicator variables for companies suspected of involvement in tax shelters |
| Marginal tax rate | Simulated marginal tax rate |
| Cash tax ratio | $\frac{\text{Total cash tax paid}}{\text{Total operating cash flow before interest}}$ |
| Cash ETR_3_IN D | Three-year average cash ETR adjusted to industry median |
| TA cash (or GAAP) ETR | Average size of companies and companies' cash ETR, with cash (GAAP) ETR |
| Current GAAP ETR_5 | $\frac{\text{Current income tax expense}}{\text{Accounting profit before tax for 5 consecutive}}$ |
| CTA | Composite measure: GAAP ETR and cash ETR over five years were ranked into deciles per year. The average rank of both measures was calculated and standardized between zero and one. |
| Permanent BTD | $\text{Total BTD} - \text{Temporary BTD}$ |
| Discretionary total BTD (DD_BT D) | Residual from: $\text{BTD}_t = \beta_1 \text{TACC}_{it} + \mu_i + \varepsilon_{it}$ |
| Modified DTAX | Equation as above plus log of foreign assets as additional control |
| Prob_SHE LTER | Probability that a firm engages in a tax shelter |
| Haven | The number of material operations in tax haven locations disclosed in Exhibit 21 of the current year 10-K |

Source: Hanlon dan Heitzman (2010); Gerrit (2013)

Appendix 2. PRISMA flow diagram

