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DETERMINANTS OF TAX AGGRESSIVENESS IN INDONESIA: FAMILY FIRMS AND NON-FAMILY FIRMS' POINT OF VIEW

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ABSTRACT

Keyword: family firms, tax aggressiveness, agency theory

Introduction

In the current competitive market, where most firms must constantly stay on edge and remain efficient to make a profit, tax management can be seen as the final hurdle that separates successful companies from failed ones. Taxes can pose a significant cost to the firm and its shareholders; therefore, it might be expected that some firms will be more aggressive in managing their taxes than others (Chen et al., 2010). To maintain financial cash flow and maximize companies' profit, it is crucial to manage tax elements in the companies (Minh Ha et al., 2021). Firms that want to reduce tax burden and tax liabilities will apply a tax aggressiveness strategy, including both tax avoidance (within legal boundaries) and tax evasion (illegally breaking tax regulations). If tax aggressiveness is applied excessively, it will put firms at risk of tax fraud, as well as harming the reputation of the company toward the other stakeholders (Alkausar et al., 2023). When in critical times, companies usually resort to illegal methods to minimize the tax burden, such as transfer

pricing, earnings management, and income smoothing (Kim et al., 2018). By doing so, companies will obtain short-term tax benefits while risking themselves to legal lawsuits and tax penalties, hence hurting the stockholders in the long run.

In discussing tax aggressiveness in a firm, agency theory must be emphasized in explaining the reason why firms and managers consider and execute tax aggressiveness in their financial reports. Agency theory by Jensen and Meckling (1976) can be used as the main perspective in investigating how managers act and how stockholders react in a firm. Top management and executive directors usually benefit from short-term goals, while stockholders are more interested in long-term wealth creation and accumulation. According to the agency theory, there exists a conflict of interest in the relationship between principal (stockholders and other stakeholders) and agent (management) when operating a firm (Jensen & Meckling, 1976). Agency problems that occur will create agency costs, such as monitoring costs by the principal, bonding costs by the agent, and residual loss. Whilst the principal wanted to have a reliable source of information on their investments' performance, agents will try to reap the maximum benefits that they obtain from bonuses and higher profit incentives. Furthermore, information asymmetry that is caused by tax aggressiveness also worsens the agency costs.

Family businesses are the cornerstone of the Indonesian economy. According to PWC (2014), more than 95% of the entirety of Indonesian businesses are family-owned. Companies are considered family businesses when most of the owners, hence stockholders, are family related. Chen et al. (2010) described family businesses as companies where most of the founding families held roles in top management, the board of directors or majority stockholders in the company. Family firms usually have different governance and internal control processes than non-family firms (Andersson et al., 2018). In family firms, most decision-making rights have the person that established the firm, or acquired the firm from their parents, spouses, children or other direct relatives; at least one family member is formally involved in the governance of the firm; and if a single family owns at least 25% of the firm (Andersson et al., 2018). Furthermore, family firms are usually leaner and adopt more direct managerial structures than non-family firms. Seeing the radical difference between the types of firms, it is imperative to discuss those differences in predicting tax aggressiveness in this research. According to Chen et al. (2010), family firms usually participate in tax aggressiveness at a higher rate than non-family firms. Additionally, family firms have higher excess control than non-family firms (Chi, 2023). Therefore, the discussion of tax aggressiveness in family firms might be more important than originally perceived.

Ownership structure is an important but understudied determinant of tax aggressiveness. Ownership structures are divided into two types, which are family-owned and non-family-owned, that are proxied based on whether the major stockholders are family-related. According to Chen et al. (2010), the threshold for a company to be called family-owned is if more than 5% of the stock is owned by a single family. When a company is owned by a family, their family

characteristics and culture will, to some extent, seep into the company (Warsini et al., 2018). Furthermore, based on the lens of agency theory, there will be a conflict of interest between family members of the firm as majority stockholders and non-family members of the firm as minority stockholders (Chen et al., 2010; Martinez & Ramalho, 2014; Mafrolla & D'Amico, 2016; Flamini et al., 2021; Anggraini & Wismawati, 2024; Surbakti et al., 2024). The family members, as the majority stockholders, will suggest, dictate, influence and vote on ways and businesses for their gains inside the firm, even if that might disregard or put minority stockholders at a disadvantage. In other words, the majority stockholders will gain more control of the company's approach on tax aggressiveness and risk profile based on how they see fit.

There are inconsistencies in the findings of prior research results. While some such as Flamini et al. (2021); Sucahyo et al. (2020) Mulya et al. (2024); and Clemente-Almendros et al. (2021) found that family-owned firms are more tax aggressive than non-family-owned firms, findings from Chen et al. (2010); Mafrolla and D'Amico (2016); Steijvers and Niskanen (2014); Sanchez-Marin et al. (2016); Warsini et al. (2019); Anggraini and Wismawati (2024) found otherwise, where family-owned firms show less tax aggressive behavior and decision making. The reason for inconsistencies that appeared between research might be caused by the differences in demographic samples, periods and years of research, and the differences of variables that are included in the model. Seeing these gaps between research, researchers are trying to verify the result about whether family ownership increases or decreases tax aggressiveness in Indonesian firms that are listed in the Bursa Efek Indonesia (BEI) or Indonesian Stock Exchange (IDX).

This research chooses companies listed in IDX because of its unique characteristics and settings, such as being an archipelago country that consists of over 17,000 islands, having multiple sets of distinct perks and traditional differences from one island to another. Furthermore, Indonesian companies are considered to have rapid economic growth and a distinct tax system (Khan & Tjaraka, 2024). In Indonesia, previous research shows that family firms display lower tax aggressiveness when compared to non-family firms in the context of a manufacturing industry sector (Surbakti et al., 2024). However, the research is done by only including COVID-19 years, from 2020-2022 where it might have unpredictable effects on the research findings. This research is proposed with the motivation to unveil the inconsistencies between past research while applying the unique characteristics of family firms in the Indonesian market. This research will be done using the healthcare sector as its research object. The healthcare sector has been one of the most impacted sectors during the COVID-19 pandemic, due to its surge in demand for vaccination and healthcare services (Khaerany et al., 2024), as well as the various tax relief incentives and exemptions provided by the government to the healthcare sector (Toly, 2024). This research will conduct five years of financial analysis on healthcare sector firms that were listed in the IDX in 2019-2023.

This research is done to give a better understanding and to provide a foundation for future research on how family firms in Indonesia influence tax aggressiveness. Furthermore, this research also seeks to give better clarity to managers and stockholders on the conditions and issues that come with agency problems to reduce disparities between agents and principals in family firms and to help resolve agency conflicts inside family firms in Indonesia. In addition, this research also tries to provide additional information on the condition of tax aggressiveness in family firms to tax regulators in Indonesia, with special consideration of family firm characteristics.

To increase the reliability and validity of the findings of this research, researchers will deploy control variables, such as profitability by using return on assets (Landry et al., 2013; Steijvers & Niskanen, 2014; Flamini et al., 2021), leverage by using debt-to-total assets (Fan & Chen, 2023; Wakibi et al., 2021; Alkausar et al., 2023; Mafrolla & D'Amico, 2016), firm size by using natural logarithm of total assets (Surbakti et al., 2024; Alkausar et al., 2023; Warsini et al., 2018; Anggraini & Wismawati, 2024), and asset tangibility by using proportion of companies' net fixed assets to total assets (Clemente-Almendros et al., 2021; Francis et al., 2022).

Therefore, the research will investigate the determinants of tax aggressiveness by comparing the ownership structure of a company, which is family-owned or non-family-owned. Researchers will include control variables such as profitability, leverage, firm size, PPE and intangibles to further increase the reliability and validity of the research. This research will be done using healthcare firms that are listed in IDX to align the research into appropriate perspectives in discussing Indonesian family firms' roles in the Indonesian market.

Literature Review

Agency Theory

Researchers decided to use agency theory as the basis of this thesis to explain how family firms changed the way the firm operates based on their preferences as the majority stockholders. When the founding family or the majority stockholders control the operation of the firm, then they will have access to manipulate the way they do business to benefit themselves more than the minority stockholders. The agency theory explains the relationship between managers, or agents, in operating the firms on behalf of the stockholders, or principals' delegations (Jensen & Meckling, 1976). In the original cases, agents are going to find incentives, pressures, and opportunities that might benefit themselves more than they benefit the principals. The conflict of interest between agents and principals arises from information asymmetry within the company, where agents have better information and have a more accurate understanding of the company's conditions in comparison to the stockholders. Furthermore, the issue is worsened by the conflict of interest of managers and stockholders, which happens because the goals of agents and principals are not

aligned, or in many cases, contradict each other. The conflict between the firm's owners as principals and their hired managers is called agency conflict type one (Armour et al., 2009).

The main issue that appears in this research, on the other hand, is the conflict that appears in the firm due to the pressure, incentives and opportunities that appear around the firm that advantage the majority stockholders more than they benefit the minority stockholders. The conflict of interest between owners who possess the majority (controlling interest or CI) and the minority (noncontrolling interest or NCI) owners is called agency conflict type two (Armour et al., 2009). The main thoughts that cause tension between CI and NCI happened because CI can control decisions that impact the group of owners as a whole; therefore, if NCI does not have a veto right to manifest certain decisions, it will create the second type of agency conflict as described.

This research requires agency theory type two (Armour et al., 2009) to explain the conflict of interest that arises from different characteristics of two shareholders, which are the majority stockholders and minority stockholders. Following the idea of previous research that shows the agency conflict between majority stockholders and minority stockholders (Chen et al., 2010; Martinez & Ramalho, 2014; Maffrolla & D'Amico, 2016; Flamini et al., 2021; Anggraini & Wismawati, 2024; Surbakti et al., 2024), in the idea of agency conflicts between principals, agents would have to choose which side to comply with that will bring more benefit to themselves, which will, in most cases, comply with the majority stockholders. When the majority stockholders, in this case are the founding family, continue to hold positions in top management or on the board of directors, or are the decision maker of the company, it will create a greater conflict of interest between the majority stockholders and the minority stockholders than those of nonfamily-owned firms (Chen et al., 2010). Founding family members or the family majority stockholders will try to control the operations to profit themselves, even if that might put minority stockholders at risk of losing potential gains. Majority stockholders also gain more control in the firm; therefore, they have control over dictating whether the company will be tax aggressive based on their preferences.

Tax Aggressiveness

The existence of tax is usually considered a burden and liability by companies (Alkausar et al., 2023). Tax only has a marginal impact on the business but reduces a significant portion of the net profit of the company (Astutik & Venusita, 2020). The presence of tax itself is mandatory and coercive for a country that is based on the law (Wicaksono & Oktaviani, 2021). Due to its lack of direct benefits and high cost, companies seek to find a way to reduce tax burden by managing their taxation and accounting policies and assumptions. Such behaviors are called tax aggressiveness.

Tax aggressiveness has been discussed and researched extensively over the last few decades, yet there is still no universally accepted definition of tax aggressiveness (Hanlon & Heitzman, 2010). Tax aggressiveness can be described as a set of activities that is done with the motivation to reduce

the tax burden of a company (Armstrong et al., 2012; Astutik & Venusita, 2020; Clemente-Almendros et al., 2021; Alkausar et al., 2023); or a way to reduce taxable profit in the company (Anggraini & Wismawati, 2024). This includes both acceptable (tax avoidance), and unacceptable (tax evasion) ways to reduce tax burden (Eka et al., 2024). With tax aggressiveness, companies can reduce their tax burden and increase cash flow benefits, which can help maximize company profit (Alkausar et al., 2023). A tax-aggressive firm is described by how aggressive its approach is to reduce the taxable income amount by using managerial and accounting policies, adjustments, and manipulations. According to Bauweraerts et al. (2019), tax aggressiveness refers to downward management of taxable income through legal and illegal activities that have occurred in the company. Tax avoidance is a method to reduce taxable profit through ways within legal boundaries, and by laws and regulations. When tax avoidance is done excessively, it becomes tax evasion, which is illegal and will hurt the company's stakeholders.

Despite tax aggressiveness seeming like an activity that is rational to be done in a company, it is not a costless activity (Bauweraerts et al., 2019). Tax aggressive behaviors can hurt the firms' reputations, goodwill and harm their stockholders as well as third-party stakeholders such as the governments (Eka et al., 2024). Even though tax aggressiveness is associated with net cash flow for the company, it also implies several challenges and costs (Bauweraerts et al., 2019), such as using tax-saving activities to hide excessive compensation and embezzle funds (Chen et al., 2010). According to Clemente-Almendros et al. (2021), the cost of tax aggressiveness is complex and requires time to complete, which means opportunity cost and impacts future transaction costs. Companies must also take fiscal penalties and a potential decrease in stock price into consideration when deciding whether to take tax-aggressive action or not.

We measure tax aggressiveness using Effective Tax Rate (ETR), which is calculated as total income tax expenses divided by pretax income (Chen et al., 2010; Flamini et al., 2021; Fan & Chen, 2023). ETR is arguably the most widely used measure of tax aggressiveness in economics research (Flamini et al., 2021), since it relies heavily on financial statements, making it suitable for emerging economy studies (Fan & Chen, 2023) like Indonesia, where the disclosure of information is limited (Eka et al., 2024).

Family Firms

Family firms play a huge role in the Indonesian economy. Over 90% of Indonesian companies are family-owned firms (Wicaksono & Oktaviani, 2021; Mulya et al., 2024). A family firm is a business that is managed by two or more extended family members who influence the direction of the business (Vincencova et al., 2015). Other researchers describe a family firm as a business that is managed to shape and pursue the vision of the business by a dominant coalition controlled by the members of the same family in a manner that is potentially sustainable across generations of the family (Chua et al., 1999). Family ownership is a condition where a family individual or

companies ¹² controls a registered ownership of more than 5%, with exclusion to financial institutions, state companies, foreign companies and public whose ownership is not required to be recorded (Chen et al., 2010). However, according to Andersson et al. (2018); Wiksono and Oktaviani (2021), the threshold for a company to be called family-owned is if 25% of the stock is owned by a single family.

⁷ Family firms have more complex agency conflicts than non-family firms (Flamini et al., 2021). Family owners ⁷ desire to build and preserve the family image and reputation of the company in alignment with the reputation of the family (Bauweraerts et al., 2019). Family-owned firms can sometimes be managed with an intense-almost parental level of care, leading to overprotection and conservative management strategies. In a family firm setting, Steijvers & Niskanen (2014) argued that family members would be more likely to behave altruistically, meaning that family members are typically not self-minded while operating in a family firm. Therefore, a family member who has the role of a top position in a firm would not simply follow the conflict of interest described in the agency theory. Furthermore, the investment horizon is much longer in family firms due to their ¹⁹ concern for reputation compared to public firms (Vincencova et al., 2015). The firm focuses on ensuring the continuity of the family business across generations and family harmony. The tendency to pass companies from their predecessors to their heirs is considered a ³³ common practice in family firms (Monticelli et al., 2024). Family firm founders view their firm as a legacy to be handed over to the next generations and continually managed by their offspring, to preserve their reputation (Steijvers & Niskanen, 2014). As a result, family owners are actively involved in ⁷ monitoring and decision making and use their voting rights to make sure that the firm's decisions meet the family's interest (Chen et al., 2010). The agency cost may arise within the family firm due to a higher degree of information asymmetry among family owners (Steijvers & Niskanen, 2014).

Control Variables

¹³ This research deploys four control variables to increase the reliability and validity of the result, which are profitability, leverage, firm size, and asset tangibility.

³⁰ Profitability refers to the ability of the company to generate profits (Astutik & Venusita, 2020). ¹⁰ When a firm's profitability increases, they are expected to have a higher amount of tax payments and so to be more tax aggressive. Profitable firms will have to reduce taxes relative to unprofitable firms or losing firms (Flamini et al., 2021). Furthermore, tax aggressive behaviour and tax management have been directly impacted by profitability and shareholder value (Landry et al., 2013). Therefore, profitability is included as a control variable for this research. For this research, profitability will be determined by using the formula of return of assets (Chen et al., 2010; Landry et al., 2013; Steijvers & Niskanen, 2014; Mafrolla & D'Amico, 2016; Sanchez-Marin et al., 2016; Bauweraerts et al., 2019; Astutik & Venusita, 2020; Flamini et al., 2021; Francis et al., 2022;

Alkausar et al., 2023; Fan & Chen, 2023; Anggraini & Wismawati, 2024), which is counted by comparing net earnings with total assets.

Leverage refers to the ability of the company to manage and finance its operations and investments with debt (Astutik & Venusita, 2020). Leverage displays the companies' capital structure that portrays the companies' risk profile (Landry et al., 2013). Furthermore, the tax shield or tax benefits generated from interest expense that is created from the debt the company holds also influences the amount of tax burdens paid by the firm (Mulya et al., 2024). Therefore, leverage is included as a control variable for this research. For this research, leverage will be determined by using the formula of debt-to-assets (Chen et al., 2010; Landry et al., 2013; Martinez & Ramalho, 2014; Stijvers & Niskanen, 2014; Mafrolla & D'Amico, 2016; Sanchez-Marin et al., 2016; Warsini et al., 2018; Bauweraert et al., 2019; Astutik & Venusita, 2020; Kawakibi et al., 2021; Francis et al., 2022; Alkausar et al., 2023; Anggraini & Wismawati, 2024; Surbakti et al., 2024), which is counted by comparing total debt with total assets.

Firm size refers to a scale to measure the size of a firm that is classified by measuring its total assets as a comparison to other firms (Eka et al., 2024). When a firm increases its size in total assets, it can be said that the company is growing (Mafrolla & D'Amico, 2016). The larger the firm size is, the higher the amount of assets and cash flow generated in operational years that can be taxably managed, therefore creating more opportunities for tax aggressive behaviors to appear. Additionally, higher firm size typically means a higher amount of human resources, such as accountants and tax staff that can be deployed to operate a higher degree of tax aggressive practices. Furthermore, tax aggressiveness is related to economies of scale and asset complexity (Flamini et al., 2021). Therefore, firm size is included as a control variable for this research. For this research, firm size will be counted using the natural logarithm of total assets (Chen et al., 2010; Landry et al., 2013; Mafrolla & D'Amico, 2016; Warsini et al., 2018; Clemente-Almendros et al., 2021; Francis et al., 2022; Alkausar et al., 2023; Anggraini & Wismawati, 2024; Surbakti et al., 2024).

Asset tangibility refers to the amount of fixed assets owned by the firm (Widodo & Juardi, 2020). This includes land, buildings, and machinery used to produce goods and facilitate the firm's operational activities. The higher the firms' tangibility ratio, the more assets can be used as collateral to gain debts or external capital (Widodo & Juardi, 2020). Like leverage, the amount of debt the company has is directly linked to the tax shield or tax benefits that are provided from the interest expense. Therefore, the difference in asset tangibility between firms might influence the tax-aggressive behavior of each firm. Therefore, asset tangibility is included as a control variable for this research. For this research, asset tangibility will be counted by comparing net fixed assets with total assets (Clemente-Almendros et al., 2021; Francis et al., 2022).

Hypothesis

A family firm is tightly connected with distinct financial, accounting and tax behaviors (Bergmann, 2024). When a firm is family-owned, it means that the characteristics of its tax decisions will differ from non-family-owned firms. Family firms are willing to pay more taxes than non-family firms, rather than to have penalties and reputational damage due to audits from tax authorities (Mulya et al., 2024). Additionally, Flamini et al. (2021) also argue that family firms have different tax aggressiveness behavior than non-family firms. Other research from Dechow and Singh (2023) found that ownership patterns and structure, such as a family firm, are a significant predictor of the tax aggressive behavior of the firm. Furthermore, Martinez and Ramalho (2014) found that when the managers of a firm are part of the founding family members, they tend to have different views on the costs and benefits of tax aggressiveness than non-family managers. This happened because of reputational damage, and the value of familial heritage is a very important cost of tax aggressiveness. However, members of non-family firms' stockholders and managers can leave the company when they feel the decline of the company, whereas family firms are not able to do so to preserve their reputation, so they might engage in excessive tax aggressive behavior to save the company from failing. Additionally, Mulya et al. (2024) also found that ownership structures, especially family-concentrated ownership, encourage businesses to be less aggressive in tax behaviors.

When all other settings are equally similar, the difference between family firms and non-family firms in tax aggressiveness is based on the characteristics of family owners that are imbued in the company, against managers in non-family firms who act professionally on the costs and benefits of tax aggressiveness (Chen et al., 2010). This kind of difference occurred because family-owned firms have strong incentives to align the goals between company owners and to keep a good reputation of the family name (Anggraini & Wismawati, 2024). Family-owned firms are more concerned with reputation, because they hold greater equity and a longer investment period (Vincencova et al., 2015). Family firms effortfully try to obtain non-economic goals such as preservation of the family legacy and retaining the family values inside the business. The reputation-preserving behavior in family firms dictates how the firm approaches tax aggressive behaviors that can hurt family reputation, since the non-economic risk might outweigh the tax benefits from tax aggressive behaviors (Steijvers & Niskanen, 2014).

Since the act of tax aggressiveness is related to risk-taking (Bauweraerts et al., 2019), since it implies the potential for both positive and negative outcomes, then a conservative family will imbue its conservative trait into a company, on the contrary, an aggressive family will also imbue its opportunistic trait into the company as well (Astutik & Venusita, 2020). Other researchers, such as Landry et al. (2013) and Sanchez-Marin et al. (2016), also argue that family firms are more concerned about their reputation and prefer to avoid tax-aggressive behaviors. Therefore, family-owned firms tend to have different tax-aggressive behavior than non-family firms.

¹ H1. Family firm ownership has a negative impact on tax aggressiveness.

Research Framework

Based on hypothesis development, the framework of this research is displayed below:

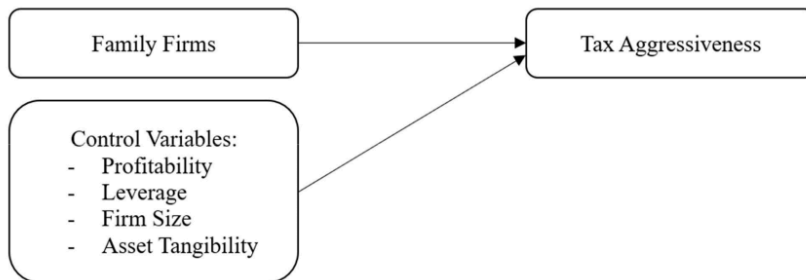


Figure 1. Model Research Framework

Methodology

Research Type

This research uses descriptive quantitative methods to try to solve the research hypothesis by using quantitative methods. The research will use secondary data in the form of financial statements as the primary source in this study, which means that the data used for this study is historical data that is provided through a third party, which in this case uses the data from the Refinitiv database, a Petra Christian University financial data bank.

Sample Criteria and Data Sources

¹¹ The population in this study is all the companies listed on the healthcare sector of IDX. The healthcare sector has been chosen because it is the most impacted sector during the pandemic, such as from tax relief incentives and exemptions that were provided by the government (Toly, 2024). This research uses a purposive sampling method for sample selection to obtain samples that are qualified for this research. This is done to gain a better understanding of the research object. The criteria chosen for the purposive sampling are presented below:

1. Companies must be active and registered in the healthcare sector of IDX from 2019 to 2023.

2. Companies must have complete financial statements for the period of 2019-2023.
3. Companies must not be at risk of bankruptcy during the period of 2019-2023.

Variables and Measurement

1. Tax Aggressiveness

Tax aggressiveness is a set of activities done to reduce tax burden in the company (Armstrong et al., 2012; Astutik & Venusita, 2020; Clemente-Almendros et al., 2021; Alkausar et al., 2023). This research measures tax aggressiveness using a proxy of ETR, that is counted as total tax expenses divided by pretax income (Chen et al., 2010; Flamini et al., 2021; Fan & Chen, 2023). ETR is chosen due to the data limitation that ultimately forces researchers to only depend on financial statements and is generally used as the measure for tax aggressiveness.

$$ETR = \text{income tax expense} / \text{earnings before tax}$$

2. Family Firm

Family firm is a condition where a family individual company controls a registered ownership of more than 5%, except financial institutions, state companies, foreign companies and the public whose ownership is not required to be recorded (Chen et al., 2010). A family firm is counted by using a proxy where if at least 5% of a company is held by a single household, then it is considered a family firm, so the proxy variable of FAMILY will have the value of 1, or else it will have the value of 0. For the case of a public subsidiary company where the majority stock is held by a private parent company that is a family firm, it is also considered a family firm, because even if it's through a holding company, it is still concentrated within a family (Birdthistle & Hales, 2023).

3. Profitability

Profitability is the firm's ability to generate profits (Astutik & Venusita, 2020). Profitability will be determined by using the formula of return of assets, that is calculated by dividing net earnings by total assets (Chen et al., 2010; Landry et al., 2013; Steijvers & Niskanen, 2014; Mafrolla & D'Amico, 2016; Sanchez-Marin et al., 2016; Bauweraerts et al., 2019; Astutik & Venusita, 2020; Flamini et al., 2021; Francis et al., 2022; Alkausar et al., 2023; Fan & Chen, 2023; Anggraini & Wismawati, 2024).

$$ROA = \text{net earnings} / \text{total assets}$$

4. Leverage

Leverage is the firm's ability to manage and finance its operations and investments with debt (Astutik & Venusita, 2020). In other words, leverage is the percentage of the business that is run by debt. Leverage displays tax-shield benefits created from interest expense. Leverage will be determined by using the formula of debt-to-assets (Chen et al., 2010; Landry et al., 2013; Martinez & Ramalho, 2014; Steijvers & Niskanen, 2014; Mafrolla & D'Amico, 2016; Sanchez-Marin et al., 2016; Warsini et al., 2018; Bauweraert et al., 2019; Astutik & Venusita, 2020; Kawakibi et al., 2021; Francis et al., 2022; Alkausar et al., 2023; Anggraini & Wismawati, 2024; Surbakti et al., 2024), which is counted by comparing total debt with total assets.

$DTA = \text{total debt} / \text{total assets}$

5. Firm Size

Firm size is a scale to measure the size of a firm that is classified by measuring its total assets as a comparison to other firms (Eka et al., 2024). Firm size will be counted using the natural logarithm of total assets (Chen et al., 2010; Landry et al., 2013; Mafrolla & D'Amico, 2016; Warsini et al., 2018; Clemente-Almendros et al., 2021; Francis et al., 2022; Alkausar et al., 2023; Anggraini & Wismawati, 2024; Surbakti et al., 2024).

$SIZE = \ln(\text{total assets})$

6. Asset Tangibility

Asset tangibility is the amount of fixed assets owned by the firm (Widodo & Juardi, 2020), including land, buildings, and machinery used to produce goods and facilitate the firm's operational activities. Asset tangibility will be counted by comparing net fixed assets with total assets (Clemente-Almendros et al., 2021; Francis et al., 2022).

$TANG = \text{net fixed assets} / \text{total assets}$

Research Framework and Regression Analysis

This research uses multiple linear regression analysis. Regression analysis will be done using STATA, an analytical software that is recommended for handling panel data, which is a combination of cross-sectional data and time series data. To correctly utilize panel data to obtain research findings, multiple tests must be done to choose the most appropriate effect estimates. In panel data regression analysis, three estimates of effect must be chosen beforehand, namely the common effect, fixed effect, and random effect.

The different effect estimates will determine which approach the data will be analyzed with. Common effect uses regular multilinear regression with panel data, fixed effect uses ordinary least squares (OLS), and random effect uses generalized least squares (GLS). To determine which effect of estimates works best for the research, three tests must be done first, which is the Chow test, Hausman test, and the Lagrange multiplier test. The Chow test determines whether it's better to use common effect or fixed effect, the Hausman test determines whether it's better to use random effect or fixed effect, and the Lagrange multiplier test determines whether it's better to use common effect or random effect.

After determining which effect estimate fits this research the most for each test, the effect that appears most is chosen as the best effect estimate (for example, common-fixed-fixed = fixed effect, or common-common-random = common effect, etc.). After the best estimate is chosen, the multiple linear regression formula is described as below:

$$TA = \alpha + \beta_1 \text{FAMILY} + \beta_2 \text{ROA} + \beta_3 \text{DTA} + \beta_4 \text{SIZE} + \beta_5 \text{TANG} + \varepsilon$$

where:

α	= constant
β	= coefficient of the independent variable
TA	= tax aggressiveness
FAMILY	= family firm
ROA	= return on assets
DTA	= debt-to-assets
SIZE	= firm size
TANG	= asset tangibility
ε	= standard error

Findings

Research Samples Profile

This research is done using a total of 34 healthcare companies that were listed during 2019-2023. Among those companies, two of them are eliminated due to violation of sampling criteria, three of them do not have sufficient data, leaving us with 29 companies as our final sample. A total of five years of observations are taken from each company, except for 18 observation years due to missing data, which creates 127 total years of observation as research samples. Furthermore, during the data processing steps in the research, a total of ten years of observation is eliminated due to its high residual value, causing classic assumption violations such as normality problems and heteroskedasticity problems, leaving us with a net of 117 research samples.

Descriptive Statistics

Descriptive statistics are used to display distribution, the value of ⁴⁹minimum and maximum, as well as the mean and standard deviation of each variable used in this research. During the process of data analysis, classic assumption violations such as normality and multicollinearity are solved by transforming TA to log (TA) and orthogonizing SIZE to o(SIZE). According to Table 1, the value of TA is between -0.1562 and 0.8349, ⁵²with a mean of 0.2451 and a standard deviation of 0.2043. Furthermore, from 2019 to 2023, the average ROA of the research sample is 0.0727, which means that the average healthcare company is running a profit in the long run during 2019-2023.

Table 1. Descriptive Statistics before Transformation

Variable	Quantity	Minimum	Maximum	Mean	Standard Deviation
TA	117	-0.1562	0.8349	0.2451	0.2043
FAMILY	117	0	1	0.3932	0.4906
ROA	117	-0.0558	0.3974	0.0727	0.0667
LEV	117	0.0450	0.8585	0.3575	0.2054
SIZE	117	24.8046	30.9358	28.4706	1.3048
TANG	117	0.0362	0.9645	0.4767	0.2427

Table 2. Descriptive Statistics after Transformation

Variable	Quantity	Minimum	Maximum	Mean	Standard Deviation
Log TA	117	-0.8124	0.3611	-0.1963	0.2378
FAMILY	117	0	1	0.3932	0.4906
ROA	117	-0.0558	0.3974	0.0727	0.0667
LEV	117	0.0450	0.8585	0.3575	0.2054
oSIZE	117	-2.8218	1.8975	1.97e-17	1.0043
TANG	117	0.0362	0.9645	0.4767	0.2427

Furthermore, to check for collinearity, this research uses Pearson correlation and Spearman correlation to check whether collinearity between variables exists. If there is a correlation above 0.7, then it can be concluded that multicollinearity between variables in this model exists. The difference between Pearson and Spearman is that Pearson correlation uses raw data, while Spearman correlation uses ranks and non-parametric measures to check collinearity between variables.

Table 3. Pearson Correlation

	logta	family	roa	lev	osize	tang
logta	1.0000					
family	0.0211	1.0000				
roa	-0.2200	-0.1419	1.0000			
lev	0.1315	0.2601	-0.3215	1.0000		
osize	0.1401	0.2053	0.0111	-0.0076	1.0000	
tang	0.0635	-0.1282	-0.3517	-0.2521	-0.0012	1.0000

Table 4. Spearman Correlation

	logta	family	roa	lev	osize	tang
logta	1.0000					
family	0.0876	1.0000				
roa	-0.2912	-0.1078	1.0000			
lev	0.1898	0.3098	-0.3121	1.0000		
osize	0.0562	0.2451	0.1233	-0.0013	1.0000	
tang	0.0328	-0.1326	-0.3877	-0.2337	0.0215	1.0000

Based on the result of both Pearson and Spearman correlation, it can be concluded that multicollinearity between variables does not exist in the model, since no correlation between variables in both Pearson and Spearman correlation reaches more than 0.7.

To find the best estimate model, three tests are deployed, which are the Chow test, the Hausman test, and the Lagrangian multiplier test to determine the best estimate model for this research. Based on the most preferred model, this research uses the most appropriate model that, according to Table 5 below, is a random effect model that uses generalized least squares.

Table 5. Estimate Model Tests

Estimate Model Test	P-value	Conclusion
Chow Test	$0.0002 < 0.05$	Fixed Effect Model Preferred
Hausman Test	$0.1070 > 0.05$	Random Effect Model Preferred
Lagrangian Multiplier Test	$0.0136 < 0.05$	Random Effect Model Preferred
Conclusion		Random Effect Model

Since the estimated model result shows a random effect model, then classic assumption tests are deemed unnecessary (Gujarati & Porter, 2009). Therefore, normality test, heteroskedasticity test, and multicollinearity test are ignored for generalized least squares model.

Regression Results

This research shows a few findings regarding the impact of independent variables and control variables on tax aggressiveness as the dependent variable in this research.

According to Table 6, family has no significant impact on tax aggressiveness. While the coefficient of family is -0.0284, which means that families have an inverse relationship with tax aggressiveness due to its negative value, the relationship is concluded as insignificant due to its p-value of $0.692 > 0.05$, which shows insignificance. Therefore, the first hypothesis that states that family firm ownership has a negative impact on tax aggressiveness is rejected.

This finding is in alignment with the findings of Flamini et al. (2021) which shows that family ownership has no impact on tax aggressiveness. However, this finding also rejects other previous research findings, such as Martinez and Ramalho (2014); Sunaryo (2016); Sucahyo (2020); Clemente-Almendros et al. (2021); and Almaharmeh et al. (2024) that found that family ownership has a significantly positive effect on tax aggressiveness, as well as the findings of Chen et al. (2010); Mafrolla and D'Amico (2016); Bauweraerts et al. (2019); Puji et al. (2019); Itan and Artamevia (2022); Yolie and Elivia (2022); Anggraini and Wismawati (2024); and Surbakti et al. (2024) that found that family ownership has a significantly negative effect on tax aggressiveness.

The difference of findings might be caused by the difference of tax aggressiveness calculation, where some researchers use ETR (Landry et al., 2013; Steijvers & Niskanen, 2014; Mafrolla & D'Amico, 2016; Flamini et al., 2021; Alkausar et al., 2023; Fan & Chen, 2023), some other researchers use Cash-ETR (Chen et al., 2010; Astutik & Venusita, 2020; Flamini et al., 2021; Kawakibi et al., 2021) and Book-Tax-Difference or Book-Tax-Gap (Martinez & Ramalho, 2014; Sanchez-Marin et al., 2016; Bauweraerts et al., 2019; Anggraini & Wismawati, 2024) to determine the value of tax aggressiveness. The difference in measures might contribute to contradicting findings, as well as the unique characteristics of the data sample used in each research.

Table 6. Generalized Least Squares Result

Random-effects GLS regression	Number of obs	=	117
Group variable: Company	Number of groups	=	29
R-squared:	Obs per group:		
Within = 0.0591	min	=	1
Between = 0.0526	avg	=	4.0
Overall = 0.0628	max	=	5
corr(u_i, X) = 0 (assumed)	Wald chi2(5)	=	6.65
	Prob > chi2	=	0.2478

logta	Coefficient	Std. err.	z	P> z	[95% conf. interval]	
family	-.0283947	.0717862	-0.40	0.692	-.169093	.1123036
roa	-.5878676	.4018541	-1.46	0.143	-1.375487	.199752
lev	.188831	.1521467	1.24	0.215	-.1093711	.4870332
osize	.0146834	.0322259	0.46	0.649	-.0485432	.0779099
tang	.0693939	.1402118	0.49	0.621	-.2054162	.3442041
_cons	-.2416747	.122345	-1.98	0.048	-.4814665	-.001883
sigma_u	.15037971					
sigma_e	.1945847					
rho	.37392662	(fraction of variance due to u_i)				

The implication ¹⁴ that family ownership does not significantly influence tax aggressiveness rejects previous research implications, where family ownership is considered impactful on dictating how the company is run and how it responded to financial and taxation matters (Bergmann, 2024; Mulya et al., 2024). Even though previous findings show that family firms have different approaches (Duhoon & Singh, 2023) and tendencies (Martinez & Ramalho, 2014) than non-family firms, the evidence on healthcare firms shows otherwise. The suspicion of how family ownership are not as impactful in public healthcare firms than the findings of other researches might be caused by the structure of publicly traded stock, where due diligence, board meetings and shareholders meetings are executed professionally without the intervention of founding family or majority shareholder family's reputational concerns or heritage value in ⁵⁰ tax aggressiveness (Mulya et al., 2024), since ³ the result of this study shows that family ownership does not increase or decrease tax aggressiveness. This implies that ³ the difference from family and non-family firms in tax aggressiveness, based on the characteristics of family owners that are imbued to the company (Chen et al., 2010), might not be as significant as the past result shows, when considering public firms.

The findings that family firms do not significantly influence tax aggressiveness give meaning ³⁸ that family firms and non-family firms may behave similarly in financial and tax reporting, even though the characteristics of family firms, of maintaining good reputation and family heritage, might shift the public's perspective (Steijvers & Niskanen, 2014; Vincencova et al., 2015; Anggraini & Wismawati, 2024). Furthermore, the tendencies of the family's behavioral patterns, such as conservatism and opportunism, are not effectively applied to healthcare firms' financial and taxation actions.

⁹ The value of R-squared is 0.0628, which means that this model can explain ⁴ 6.28% of the changes in tax aggressiveness, whereas the remaining 0.9372 or 93.72% will be explained by other variables outside the research model. For the case of this research, healthcare firms during 2019-2023 are experiencing massive fluctuations due to COVID-19, massive demand surge on healthcare products such as masks, syringes, first aid kits, swab test kits, oxygen tanks, inhalers, etc. Furthermore, various tax relief incentives and exemptions were provided to the healthcare sector (Toly, 2024), which might ³⁸ have an impact on the changes of tax aggressiveness during the

pandemic. Therefore, these events and healthcare industries' unique characteristics might take part in why ¹⁴family ownership does not significantly influence tax aggressiveness in healthcare firms.

Conclusion

This research is done with the purpose of finding whether family firm ownership significantly influences tax aggressiveness in healthcare firms. Using samples from 34 healthcare ⁵⁷firms that were publicly listed in the Indonesian Stock Exchange for the period of 2019-2023, this research uses 117 years of observation as research samples that were processed and analyzed into panel data and were run using STATA software. By using generalized least squares to regress the relationship between variables, the result shows ¹⁴that family ownership does not significantly influence tax aggressiveness; therefore, the hypothesis ⁴of this research is rejected. The value of R-squared is 0.0628, which means that 6.28% of changes in tax aggressiveness can be explained by this model, while the remaining 93.72% of changes in tax aggressiveness are described by variables outside of this research model.

This research acknowledges some limitations that may hinder research results. The research data only covers publicly listed healthcare firms, where most Indonesian firms are unlisted, often small-to-medium enterprises (SME) that are privately managed by a small number of teams of individuals. Due to lack of research prowess, time and funds, reaching out to include SME healthcare firms are currently out of the options. Furthermore, research data is obtained through Refinitiv, which covers numbers and accounts that were publicly posted ⁵⁹in the form of financial reports, while the process of calculating tax expense itself might vary from one company to another. Therefore, it is hard to be sure whether the data obtained from one company to another is on an equal basis. Another thing that must be mentioned is that this research is done on healthcare firms during the pandemic, which means that there is a surge of demand that must be mentioned, as well as the incentives and other reliefs that healthcare firms receive in the form of policies. This might influence the result and reduce the percentage of influence on tax aggressiveness itself.

Based on those limitations, this research has some suggestions on future research regarding how family ownership influences tax aggressiveness in healthcare firms in Indonesia. First, by

acknowledging the value of R-squared of 0.0628 or 6.28% means that the research model still has a lot of room to be improved, therefore including other independent variables and control variables, as well as mediating or moderating variables to check whether those variables can weaken or strengthen the impact of family firms toward tax aggressiveness is advised. Second, including multiple variations of tax aggressiveness measures such as ETR, cash ETR, net cash ETR, and book-tax-difference or book-tax-gap might help give better clarity on how tax aggressiveness is influenced by multiple variables. Third, the public healthcare firms might not be able to serve as a generalization on all healthcare firms or all public firms in Indonesia, since there is a lot of unique characteristics on the industry itself, therefore future research can use other industries to check on whether the research result is similar or different than the findings of this research. Therefore, future research by replicating this research on other industries is advised.

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Appendix 1: Statistical Results

Statistic Descriptives

Variable	Obs	Mean	Std. dev.	Min	Max
ta	117	.2451002	.204286	-.1562145	.8349048
family	117	.3931624	.4905533	0	1
roa	117	.072739	.06672	-.0558032	.3974104
lev	117	.3574632	.2054188	.044959	.8584956
size	117	28.47059	1.304755	24.80456	30.93576
tang	117	.476631	.2426565	.0361792	.9644527

Variable	Obs	Mean	Std. dev.	Min	Max
logta	117	-.1963088	.2377575	-.812414	.3610985
family	117	.3931624	.4905533	0	1
roa	117	.072739	.06672	-.0558032	.3974104
lev	117	.3574632	.2054188	.044959	.8584956
osize	117	1.97e-17	1.004301	-2.821831	1.897497
tang	117	.476631	.2426565	.0361792	.9644527

Collinearity

Pearson / Pairwise

	logta	family	roa	lev	osize	tang
logta	1.0000					
family	0.0211	1.0000				
roa	-0.2200	-0.1419	1.0000			
lev	0.1315	0.2601	-0.3215	1.0000		
osize	0.1401	0.2053	0.0111	-0.0076	1.0000	
tang	0.0635	-0.1282	-0.3517	-0.2521	-0.0012	1.0000

Spearman

F test that all u_i=0: $F(28, 84) = 2.73$ Prob > F = 0.0002

F 0.0002 = Better to use a fixed effect model than a common effect model.

Hausman Test

	Coefficients		(b-B) Difference	sqrt(diag(V_b-V_B)) Std. err.
	(b) fe	(B) re		
roa	-.457033	-.5878676	.1308346	.2516331
lev	.5721803	.188831	.3833492	.1838984
osize	-.2113885	.0146834	-.2260719	.0906999
tang	.2339383	.0693939	.1645443	.2322915

b = Consistent under H0 and Ha; obtained from **xtreg**.
B = Inconsistent under Ha, efficient under H0; obtained from **xtreg**.

Test of H0: Difference in coefficients not systematic

$$\text{chi2}(4) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 7.61$$

Prob > chi2 = **0.1070**

Chi2 0.1070 = Better to use a random effect model than fixed effect model.

Lagrangian Multiplier Test

Breusch and Pagan Lagrangian multiplier test for random effects

$$\text{logta}[\text{Company},t] = Xb + u[\text{Company}] + e[\text{Company},t]$$

Estimated results:

	Var	SD = sqrt(Var)
logta	.0565286	.2377575
e	.0378632	.1945847
u	.0226141	.1503797

Test: Var(u) = 0

$$\text{chibar2}(01) = 4.88$$

Prob > chibar2 = **0.0136**

Chibar2 0.0136 = Better to use random effect model than common effect model.

Generalized Least Squares

Random-effects GLS regression	Number of obs	=	117
Group variable: Company	Number of groups	=	29
R-squared:	Obs per group:		
Within = 0.0591	min =		1
Between = 0.0526	avg =		4.0
Overall = 0.0628	max =		5
corr(u_i, X) = 0 (assumed)	Wald chi2(5)	=	6.65
	Prob > chi2	=	0.2478

logta	Coefficient	Std. err.	z	P> z	[95% conf. interval]	
family	-.0283947	.0717862	-0.40	0.692	-.169093	.1123036
roa	-.5878676	.4018541	-1.46	0.143	-1.375487	.199752
lev	.188831	.1521467	1.24	0.215	-.1093711	.4870332
osize	.0146834	.032259	0.46	0.649	-.0485432	.0779099
tang	.0693939	.1402118	0.49	0.621	-.2054162	.3442041
_cons	-.2416747	.122345	-1.98	0.048	-.4814665	-.001883
sigma_u	.15037971					
sigma_e	.1945847					
rho	.37392662	(fraction of variance due to u_i)				

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