

Article

Effect of Family Control on Earnings Management: The Role of Leverage

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Abstract: This study aims to examine whether family control has a positive effect on earnings management of manufacturing companies and whether leverage weakens the positive effect of family control on earnings management. This study uses panel data for the 2015–2019 observation year. The research population consists of companies listed on the Indonesian capital market. Sample selection was performed with a purposive sampling approach using certain criteria, namely: the company was not delisted during the observation period; the company has complete research data; and that the company is included in the criteria for family companies. The sample of the study consists of 84 companies with a total of 419 observations. We use panel data regression to prove our hypotheses. The findings of our research show that family control has a positive effect on earnings management and leverage weakens the positive effect of family control on earnings management. Additional tests confirm the main test. The implications of our research are expected to be input for determining regulations and policies related to restrictions on majority shareholders to protect minority shareholders.

Keywords: family control; leverage; accrual earnings management; modified jones model



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1. Introduction

Financial reports are a medium of communication between the management and stakeholders. Stakeholders use the information contained in financial statements as the basis for making economic decisions, and hence that information must have value and quality (Suwardjono 2014). Each entity is required to provide accurate or non-misleading financial information to stakeholders.

Accounting scandals that occur around the world have raised many questions and concerns regarding the quality of financial reporting (Brown et al. 2010). A number of accounting scandals occurred in the United States, including Enron, Tyco International, Qwest Communications International, and Xerox Corporation (Dechow and Schrand 2004). Previous research indicates that the quality of earnings is not good. Lyu et al. (2016) found that all the countries (13 Western European and nine East Asian countries) in the study conducted upward earnings and as many as 50% had an absolute value of discretionary accruals (ABDA) above the average of 0.059. Hong Kong's ABDA was the highest at 0.082. The research by Astami et al. (2017) support an indication that the company's earnings quality is still not good. Astami et al. (2017) examined earnings quality in the Asia-Pacific region, and found that New Zealand, Australia, and Taiwan reported earnings conservatively, i.e., practicing earnings management by lowering earnings. Meanwhile, other countries—Malaysia, Hong Kong, Singapore, Indonesia, China, and Taiwan—did the opposite.

Other supporting research is that of Mazzioni and Klann (2018) and Arthur et al. (2019). Mazzioni and Klann (2018) examined the quality of accounting information in an international context in 12 countries by considering the characteristics of the business environment. This study determined the ranking of quality of accounting information

(QAI), where a QAI value close to one indicates a higher level of earnings quality and a value close to zero indicates lower earnings quality. The average QAI is 0.442, this indicates that the quality of the information is still not good. [Arthur et al. \(2019\)](#) examined the effect of ownership concentration on reporting quality in 36 countries. Reporting quality is measured by the financial reporting quality index (FRQI). The higher the FRQI, the higher the assessment of a country's financial reporting quality. The average FRQI was 31.09 and as many as 53% of the 36 countries studied had FRQI numbers below the average.

Financial scandal cases can reduce investor confidence in financial management and reporting ([Biddle et al. 2009](#)). Previous accounting literature emphasizes that accounting information or financial statements must be of higher quality because it can provide more reliable and useful information for users, especially for the decision-making process ([Francis et al. 2004](#); [Villalonga and Amit 2006](#)). Income information is an important requirement for decision-making. Earnings information is a determining factor for all companies active in the capital market, especially when it involves intense competition with other market participants for the necessary resources. In this case, the quality of earnings becomes very important because it brings several advantages and unavoidable consequences for market participants.

[Dechow et al. \(2010\)](#) argue that high-quality earnings represent the company's fundamental earnings process that is relevant to specific decisions made by certain decision-makers. [Barth et al. \(2008\)](#) stated that the term "earnings quality" indicates the absence of earnings management. This means that if earnings management decreases, the quality of financial reporting increases ([Levitt 1998](#)).

Family control is an important ownership structure that gives rise to a special and unique ownership structure for public companies ([Li 2016](#)). Family control arises because of the ownership structure that is concentrated in family companies, leading to a strong family control in the company. In family companies, family members are actively involved in managing the company, because of their strong position as owners and management of the company ([Paiva et al. 2016](#)), they affect the firm decisions ([Setiawan et al. 2020, 2022](#)) and strengthened the family control. According to [Shleifer and Vishny \(1997\)](#) and [Fama and Jensen \(1983\)](#), when family owners have strong control in the company, agency conflicts change from conflicts between managers and shareholders (Agency Problem Type I) to conflicts between controlling shareholders and non-controlling shareholders (Agency Problem Type II). When the controlling shareholders gain effective control over the company, their decisions may involve opportunistic earnings management to hide their expropriating minority shareholders.

Research on earnings management in family firms gives inconsistent evidence. [Martin et al. \(2016\)](#) stated that family firms are less involved in earnings management, due to maintaining their reputation ([Al-Okaily et al. 2020](#); [Bansal 2021](#); [Gavana et al. 2017](#); [Cennamo et al. 2012](#)). Family firms have better earnings quality ([Boonlert-U-Thai and Sen 2019](#)). Research by [Fama and Jensen \(1983\)](#); [Schulze et al. \(2003\)](#); [Shleifer and Vishny \(1997\)](#) provide different evidence—family companies can manage earnings to increase their wealth, ignoring the interests of other shareholders and with the sole purpose of personal gain.

Previous studies provide evidence that earnings management associated with family control shows inconsistent results. The study of [Ishak et al. \(2011\)](#) found that the presence of a larger number of family members on the company's board can significantly reduce efforts to mitigate earnings management. According to [Fan and Wong \(2002\)](#), the greater the insider ownership of the controlling family, the stronger the motivation of the controlling family to take over minority interests and the higher the degree of earnings management. [Apriliyani and Diyanty \(2016\)](#) found that family ownership has a positive effect on the level of accrual earnings management and has a negative effect on the level of real earnings management. [Shaikh et al. \(2019\)](#) found that pyramid control has a positive effect on earnings management, both accruals and real. The research of [Cherif et al. \(2020\)](#) concluded that family ownership does not have effect on accrual earnings management, but a positive

effect on real earnings management. On the other hand, [Alhebbi and Al-Duais \(2020\)](#) and [Ghaleb et al. \(2020\)](#) find that family control restricts real earnings management.

Regarding the measurement of family influence, previous studies used several proxies, such as the criteria for share ownership by family members ([Le and Lee 2021](#); [Wan Mohamad and Wasiuzzaman 2020](#)) and share ownership and the presence of family members on the board of directors ([Martin et al. 2016](#); [Cherif et al. 2020](#)). [Tommasetti et al. \(2019\)](#) used the criteria for share ownership and the presence of family members in top management (CEO), while [Ishak et al. \(2011\)](#) used the proportion of family members on the company's board of directors.

Based on the arguments above, research on the quality of earnings in family firms associated with family control is still a pertinent area of study for several reasons. First, research on accounting behavior in family firms in Indonesia is still very limited. Research linking family-controlled businesses with earnings quality in Indonesia can be found in the researchers of [Suprianto and Setiawan \(2018\)](#); [Suprianto et al. \(2019\)](#); and [Kumala and Siregar \(2021\)](#). Thus, there is limited empirical evidence linking family-controlled businesses with earnings quality.

Second, family companies are present in large numbers in both developed and developing countries. One of the conclusions from a recent global survey of 2800 family businesses in 50 countries conducted by Price Waterhouse Coopers (PWC) stated that although the world economic conditions are still uncertain, almost two-thirds (64%) of family businesses recorded growth over the past year ([Saeno 2016](#)). Recent studies have found that family control is central in most countries in the world ([Prencipe et al. 2014](#)), and hence family businesses have a significant impact on economic growth. In developing countries, most companies are still controlled by family ownership ([Siregar and Utama 2008](#); [Bhaumik and Gregoriou 2010](#)). In Indonesia, the concentration of family ownership is high and the legal system is still weak regarding the protection of minority shareholders ([Widagdo 2014](#)). This indicates that family firms tend to have strong implications in terms of accounting practices.

Third, previous studies indicate mixed and inconsistent results. To overcome this, this study conducted an in-depth examination of the effect of family control based on its level, which was measured using an index that indicated the level of family control based on family involvement in management positions and on the board of commissioners. This measure is used with the consideration that Indonesia adheres to the consideration that the corporate governance system in Indonesia follows a two-tier system, which has two boards: the board of directors and the board of commissioners.

In addition, the inconsistency of previous research findings related to the effect of family control on earnings quality, possibly due to other variables that influence the effect of family control on earnings quality. Leverage is believed to be a corporate governance mechanism ([Agha 2011](#)), so it is hoped that leverage can weaken the positive influence of family control on earnings management.

This study contributes to the literature by clarifying agency theory in providing empirical evidence of several determinants of earnings quality in family firms, particularly family control. Family control in this study is measured by an index that considers the family's position on the board of directors and board of commissioners. This study also examines the effect of heterogeneity on family control using the dimensions of ownership, management, and supervision. Previous research on earnings quality in family firms mainly considers family firms as a homogeneous group ([Paiva et al. 2016](#)). When researching family firms, their heterogeneity must be taken into account. Focusing on the heterogeneity aspect of family firms can provide relevant information about different interests in the firm, therefore, different incentives for earnings management in different types of family firms ([Paiva et al. 2016](#)).

The literature review and hypothesis development is discussed in Section 2, methods in Section 3, results and discussion in Section 4, the robust test in Section 5, and then the conclusions, limitations, and suggestions for further research.

2. Literature Review and Hypotheses Development

2.1. Agency Theory

The agency theory framework begins with financial research in economic theory (Jensen and Meckling 1976), which is known as the principal–agent paradigm. Agency theory emphasizes the issue of contracts between the firm’s principals, generally the owners, and the firm’s agents, i.e., hired executives who control the use of resources. The agency model is considered one of the oldest theories in the management and economics literature (Daily et al. 2003). Agency theory addresses the problems that arise in firms due to the separation of owners and managers and emphasizes reducing these problems.

The separation of ownership and control increases agency costs for aligning interests through monitoring. Jensen and Meckling (1976) argue that agency costs can be eliminated when the company is led by the owner who manages the company. In this case, ownership and management are unified, which leads to the avoidance of agency costs and thus increased value for the firm (Jensen and Meckling 1976).

Previous literature has shown the development of the discussion of the theory that causes agency problems. Agency Problem Type I, which is a conflict of interest between owner and manager, is a classic agency problem described by Jensen and Meckling (1976).

Second, Agency Problem Type II is a conflict of interest between the controlling shareholder (majority) and the non-controlling shareholder (minority). Villalonga and Amit (2006) explain that large shareholders can use their controlling position in the company for personal gain at the expense of minority shareholders.

From an agency theory perspective, debt has both benefits and costs (Villalonga et al. 2015). On the benefits side, debt can be used as a governance mechanism to attenuate Agency Problem I. On the costs side, debt creates a new conflict of interest between shareholders and creditors (Agency Problem Type III).

2.2. Family Control and Earnings Management

Bassemir and Novotny-Farkas (2018) argue that family-controlled private companies exhibit accountability problems and low valuation due to strong control by family shareholders. According to Chi et al. (2015), family control is the cause of Type II agency conflicts, namely conflicts between majority shareholders (controlling shareholders) and minority shareholders (non-controlling shareholders).

Sacristán-Navarro and Gómez-Ansón (2007) argue that family-owned companies hold their shares through indirect, pyramidal, and cross-ownership to establish a chain of control that separates cash flow rights and control rights. Agency problems between majority and minority shareholders as a result of the separation between cash flow rights and control rights can result in opportunistic actions taken by majority shareholders to carry out earnings management. Several previous studies have found that family firms have less independent boards and fewer corporate governance disclosures than non-family firms (Ali et al. 2007; Anderson and Reeb 2003), due to the family’s desire to maintain family wealth. Research by Jin et al. (2021) provides evidence that the financial performance of family firms is worse than that of non-family firms. Sciascia and Mazzola (2008) found that family-controlled companies have worse financial performance when there are family members who occupy the top management of the company. This happens because family members who sit in top management lack competence and are less professional in managing the company. Other causes are that they have little social capital, the existence of conflicts between family members who are in managerial positions, and the tendency of family firms to pursue non-financial goals rather than financial ones. Several studies provide evidence that family control over a company can result in the expropriation of the controlling family against minority shareholders for their own interests. Sánchez et al. (2007) and DeAngelo and DeAngelo (2000) found that controlling families tend to expropriate in the form of reducing dividends so that they get a very large share of dividends.

Fan and Wong (2002) report that when the controlling owner effectively controls the company, the controlling owner also controls the quality of accounting information and

accounting reporting policies. As a result, the controlling owner will have a high level of motivation to report accounting information for personal use rather than as a reflection of the underlying economic situation.

There is some evidence showing that family firms apply a higher level of earnings management (Eng et al. 2019; Lisboa 2017; Chi et al. 2015; Li 2016). Other studies have found a positive relationship between family control and earnings management, for example, the study conducted by Teh et al. (2017) show that equity ownership owned by the controlling family has a positive effect on earnings management. Another study indicates that the level of family control has a positive effect on earnings management (Mokhtar and Elharidy 2019). Hypothesis 1 (H1) is thus stated as follows:

Hypothesis 1 (H1). *Family control has a positive effect on earnings management.*

2.3. Family Control, Leverage, and Earnings Management

Wang (2006) argues that the governance of family firms is usually weak because family members who are on the board do not carry out the monitoring function effectively, considering that family members also have positions of influence on the management team and the board of directors is held in the company. From the perspective of corporate governance, Gillan (2006) states that the capital structure is part of the company's internal governance. Agha (2011) states that leverage can be used as an effective internal governance tool that disciplines managers. Rodríguez-Pérez and van Hemmen (2010) as well as Alsharairi and Salama (2011) state that creditors play an important role in improving corporate governance and in monitoring companies, which will increase the credibility of corporate reports and limit the use of managerial discretion to manipulate earnings.

Gottardo and Moisello (2014) and Bacci et al. (2017) state that family ownership influences the firm's risk-taking behavior in terms of capital structure and debt level and that firms tend to take leveraged risks to avoid dilution of family control. Companies perform higher earnings management activities when they choose to take higher risk-taking (Alharbi et al. 2021). The previous studies indicate that leverage has a negative effect on earnings management (Zakaria et al. 2013; Zamri et al. 2013). Yasa et al. (2020) found that leverage has a negative effect on earnings quality.

Family firms are considered better borrowers as they depend on easier access to long-term debt (Crocì et al. 2011). This is due to the motivation to comply with strong debt commitments in order to improve relations with lenders, so that the company gains a good reputation and image for creditors. Thus, if the company needs funds from debt, it will have no difficulty in obtaining access to funding sources. This motivation aligns the goals of creditors and families in terms of compliance with debt contracts. Based on these arguments, this study formulates a hypothesis 2 (H2):

Hypothesis 2 (H2). *Leverage weakens the positive influence of family control on earnings management.*

3. Materials and Methods

3.1. Data and Sample

The population of this study are manufacturing companies listed on the Indonesia Stock Exchange. The sample selection of this research used the purposive sampling method with several criteria, namely: (a) the company was not delisted during the observation period; (b) the company has complete research data; (c) the company is included in the criteria for family companies. The definition of a family company is based on the percentage of ownership of at least 10% of the total outstanding shares either directly or indirectly with reference to Ben-Amar et al. (2013) and Attig et al. (2016).

The determination of a public company that is a family company is carried out by first identifying the largest owners (direct and indirect) in the composition of the company's shareholders, which can be seen in the company's annual report. The second step is to trace

the largest owner to the company profile and to various media and other sources to see the controlling shareholder of the company who comes from a particular family or business group.

Based on the criteria set in the sampling process, 419 observational data were obtained from 84 samples of manufacturing companies on the Indonesia Stock Exchange for the 2015–2019 period.

3.2. Measurement and Operationalization Variables

3.2.1. Dependent Variable

The dependent variable in this study is the quality of earnings proxied by earnings management. Our study uses the Modified Jones Model to measure earnings management. Previous research found that the Modified Jones Model is a strong model for detecting earnings management. [Dechow et al. \(1995\)](#) examined various models to separate total accruals into normal and abnormal components. The conclusion of the research is that the Modified Jones Model is the most effective model in identifying abnormal accruals that may reflect earnings management. [Chen \(2010\)](#) argued that the Modified Jones Model has better performance to detect earnings management compared to other earnings management measurement methods. The formula for the Modified Jones Model approach is found in the following way:

1. Calculate total accrual (TA) using the following formula.

$$TA_{it} = NI_{it} - CFO_{it}$$

2. Determining TA is estimated by Ordinary Least Square:

$$\left[\frac{TA_{it}}{A_{it-1}} \right] = \beta_1 \left(\frac{1}{A_{it-1}} \right) + \beta_2 \left(\frac{\Delta REV_{it}}{A_{it-1}} \right) + \beta_3 \left(\frac{PPE_{it}}{A_{it-1}} \right) + \epsilon_{it}$$

3. Determining non-discretionary accruals (NDA) using the regression coefficient in Formula 2 with the following formula:

$$NDAC_{it} = \beta_1 \left(\frac{1}{A_{it-1}} \right) + \beta_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} \right) + \beta_3 \left(\frac{PPE_{it}}{A_{it-1}} \right)$$

4. Determining discretionary accruals (DA) as a measure of earnings management with the following formula:

$$DA_{it} = \frac{TA_{it}}{A_{it-1}} - NDAC_{it}$$

Information: TA_{it} : Total accrual of company i in year t ; NI_{it} : Net income of company i in year t ; CFO_{it} : cash flow operation of company i in year t ; $NDAC_{it}$: nondiscretionary accrual of company i in year t ; DA_{it} : discretionary accrual of company i in year t ; $A_{it} - 1$: total assets of company i in year $t - 1$; ΔREV_{it} : The difference in the value of the company's revenue in year t with $t - 1$; ΔREC : value of net receivables receipt of company i through the difference between years t and $t - 1$; PPE_{it} : value of fixed assets (property, plant, equipment) of company i in year t .

3.2.2. Independent Variable

The independent variable is family control. The measure of family control is indexed by considering the involvement of family members on the board of commissioners and the board of directors. This family involvement is scored as follows: (1) zero points if there is no family member holding the position of the board of commissioners or directors; (2) one point if there is a family member who holds a position in the board of commissioners or directors; (3) two points if there are multiple family members who occupy positions on the board of commissioners and directors.

3.2.3. Moderating Variable

The moderating variable used in this study is leverage with the size of the debt to assets ratio (DAR). Leverage is taken as a continuous variable that is a ratio of total debt to total assets (Anagnostopoulou and Tsekrekos 2017).

3.2.4. Control Variable

The control variables in this study are: (a) profitability as measured by return on assets (ROA), (b) company size as measured by LnAsset, and (c) growth as measured by the ratio of current year's sales to previous year's sales.

3.3. Research Model

This study follows a correlation research model to test the hypothesis as follows:

$$EM = \beta_0 + \beta_1 \text{FamCtrl} + \beta_2 \text{Lev} + \beta_3 \text{FamCtrl} * \text{Lev} + \beta_4 \text{ROA} + \beta_5 \text{Lev} + \beta_6 \text{Size} + \beta_7 \text{Growth} + \varepsilon$$

Notes: EM: earnings management, we use modified Jones (Dechow et al. 1995); FamCtrl: index of family control; Lev: leverage using debt to asset; FamCtrl*Lev: interaction between family control and leverage; ROA: return on assets; Size: Ln total assets; and growth: sales growth.

4. Results

The data in this study is panel data, so that data processing uses panel data regression. The first step to testing the hypothesis is to determine the best model. There are three models that were carried out to prepare for the stage of determining the best model in panel data research, namely the common effect model (CEM), fixed effect model (FEM), and random effect model (REM). The results of the estimation of these three models were used to select the best model through the Chow Test, Hausman Test, and Lagrange Multiplier Test. In this study, the best model chosen is the FEM by going through the Chow and Hausman tests, so that the classical assumption test used is the heteroscedasticity and multicollinearity test. There is no heteroscedasticity and multicollinearity.

4.1. Descriptive Statistics

Table 1 provides the information regarding descriptive statistics.

Table 1. Descriptive Statistics.

Variable	N	Minimum	Maximum	Mean	SD
EM	419	0.0002	0.5500	0.0516	0.0550
FamCtrl	419	0.0000	2.0000	1.3699	0.7821
Lev	419	0.0707	6.5042	0.5226	0.4036
FamCtrl*Lev	419	0.0000	13.008	0.6966	0.7865
ROA	419	−0.2201	0.2284	0.0329	0.0656
Size	419	11.4001	18.658	14.695	1.5466
Growth	419	−0.5000	4.7039	0.0568	0.2909

Notes: EM: earnings management, we use modified Jones (Dechow et al. 1995); FamCtrl: index of family control; Lev: leverage using debt to asset ratio; FamCtrl*Lev: interaction between family control and leverage; ROA: return on assets; Size: Ln total assets; and growth: sales growth.

The minimum value of earnings management (EM) is 0.0002, a maximum value of 0.55, and an average value of 0.0516. The independent variable in this study was family control. The distribution of family control data (FamCtrl) includes a minimum value of 0.00 and a maximum value of 2.00. Family control data is an ordinal type of data used to describe the level of family control in companies with categories of 0.1 and 2. The average value of family control is 1.3699, indicating that the family control of the company in the year of observation is quite high.

The moderating variable in this study is leverage (Lev); based on the processed data, the distribution of the leverage variable data includes a minimum value of 0.0707 and

a maximum value of 6.5042. The mean of ROA control variables is 0.0329; the average variable size was 14.695, while the average growth variable was 0.0568.

4.2. Analysis and Discussion

This study aims to test whether family control has an effect on earnings management, and whether leverage can be a moderating variable. The results of the hypothesis test are presented in Table 2. Based on this, it can be seen that the adjusted R^2 value is 0.2154. This figure can be interpreted in that the proportion of variation in the dependent variable can only be determined by the independent variable by 21.54%, while the remaining 78.46% variation in the dependent variable is determined by variables other than those proposed in this research equation model.

Table 2. Regression Analysis.

Research Variable	Coefficient	Standard Error	t-Statistic	Prob
(Constant)	−0.4180	0.1753	−2.3847	0.0177
FamCtrl	0.0254	0.0096	2.6391	0.0087 ***
Lev	0.0752	0.0256	2.9385	0.0035 ***
FamCtrl*Lev	−0.0350	0.0134	−2.6177	0.0093 ***
ROA	−0.1291	0.0733	−1.7612	0.0791*
Size	0.0289	0.0118	2.4477	0.0149 **
Growth	0.0017	0.0097	0.1770	0.8596
Adj R^2	0.2154			
F Statistic	2.2896			
Prob (F Statistic)	0.0000			

Notes: EM: earnings management, we use modified Jones ([Dechow et al. 1995](#)); FamCtrl: index of family control; Lev: leverage using debt to asset ratio; FamCtrl*Lev: interaction between family control and leverage; ROA: return on assets; Size: Ln total assets; and growth: sales growth. *** = 1% significant, ** = 5% significant, * = 10% significant.

We found empirical evidence that family control has an effect on earnings management as indicated by a t value of 2.6391 with a significance level of 1%, as presented in Table 2. Based on the tests that have been carried out, this study accepts Hypothesis 1 (H1).

Table 2 provide evidence that family control has a positive effect on earnings management. This indicates that family involvement in management and ownership increases earnings management actions. Our research findings confirm previous studies that found that family control has a positive effect on earnings management ([Almeida-Santos et al. 2013](#)), that family firms affect earnings management ([Chi et al. 2015](#)), and that family ownership has a positive effect on the level of accrual earnings management ([Apriliani and Diyanty 2016](#)). In addition, our research findings confirm previous studies showing that family firms are more involved in earnings management than non-family firms ([Chi et al. 2015](#); [Martin et al. 2016](#); [Cherif et al. 2020](#)). Thus, we can provide evidence of an entrenchment effect as suggested by [Wang \(2006\)](#). The findings suggest that active family management and family control have more opportunity to engaged in earnings management.

While the increasing level of family involvement in the management of the company causes the boards of family companies to tend to be less independent and often dominated by family members, family companies manipulate accounting earnings at the expense of minority shareholders and seek personal gain. This means that controlling families in Indonesia, which typically maintain excessive control through pyramidal ownership structures or cross-ownership, can provide greater incentives and ability to expropriate minority shareholders, including by engaging in opportunistic earnings management ([Claessens et al. 2002](#)).

We found that the interaction between family control and the level of leverage (FamCtrl*Lev) shows a t-value of −2.6177 with a significance level of 1%. Based on the tests that have been carried out, this study accepts Hypothesis 2 (H2). Our research found that

leverage moderates the effect of family control on earnings management, and show a negative slope. Thus, we provide evidence that leverage is an effective corporate governance mechanism to discipline managers, according to the argument of [Agha \(2011\)](#). We can also prove that creditors have a role in corporate governance, and hence it will restrict managers not taking opportunistic actions by manipulating earnings ([Alsharairi and Salama 2011](#)). [Palumbo and Rosati \(2022\)](#) found that companies are less involved in earnings management when their bank debt is higher. Thus, banks can limit earnings management actions by monitoring them effectively.

Testing the influence of the control variable on earnings management indicates that ROA has a negative effect on earnings management, while firm size has the opposite effect. The growth variable has no effect on earnings management.

5. Robustness Test

To provide further evidence, this study performed a series of additional regressions to investigate the relationship between family control and earnings management to strengthen the findings of main test. Moreover, this additional test is intended to capture the effect of family control heterogeneity on earnings management and uses another measure to show the presence of family control, namely the percentage of share ownership by the family. Other measures used are the percentage of family members on the board of directors and the board of commissioners, considering that Indonesia adheres to a two-tier system of corporate governance. In family-controlled firms, this two-tier system provides the opportunity to directly influence reported earnings by actively participating in the executive board. In addition, it can also exercise influence and control indirectly through voting rights or membership of the supervisory board ([Franzoi et al. 2021](#)). We provide evidence that additional tests confirm the results of main test.

5.1. Family Shareholding and Earnings Management

Table 3 shows that it confirms main test. Table 4 shows that family share ownership has a positive effect on earnings management as evidenced by the t significance value of 2.5414 with a significance level of 5%. Our research findings support the previous studies, including [Bataineh et al. \(2018\)](#), [Kumala and Siregar \(2021\)](#), and [Widagdo et al. \(2021\)](#).

Table 3. Family Shareholding and Earnings Management.

Research Variable	Coefficient	Standard Error	t-Statistic	Prob
(Constant)	−0.4893	0.1797	−2.7228	0.0068
FOwnership	0.0011	0.0004	2.5414	0.0115 **
Lev	0.1212	0.0351	3.4512	0.0006 ***
FOwnership*Lev	−0.0020	0.0006	−3.1862	0.0016 ***
ROA	−0.0966	0.0740	−1.3042	0.1931
Size	0.0327	0.0121	2.6932	0.0074 ***
Growth	0.0036	0.0096	0.3706	0.7112
Adj R ²	0.220206			
F Statistic	2.326279			
Prob (F Statistic)	0.000000			

Note: EM: earnings management, we use modified Jones ([Dechow et al. 1995](#)), FOwnership: family ownership using family shareholding; Lev: leverage using debt to asset ratio; FOwnership*Lev: interaction between family ownership and leverage; ROA: return on assets; Size: Ln total assets; and growth: sales growth. *** = 1% significant, ** = 5% significant.

Research by Widagdo et al. provides evidence that family ownership has a positive effect on earnings management. This indicates that compared to non-family companies, family owners tend to encourage company management to manage earnings as an act to hide expropriation against minority shareholders. This action can be taken because the same family members are domiciled as owners and management of the company.

5.2. Family Directors and Earnings Management

Based on Table 4, we found that family directors have a positive effect on earnings management. We provide empirical evidence that confirm the previous research conducted by [Ishak et al. \(2011\)](#) and [Franzoi et al. \(2021\)](#).

Table 4. Family Directors and Earnings Management.

Research Variable	Coefficient	Standard Error	t-Statistic	Prob
(Constant)	−0.4245	0.1778	−2.3872	0.0175
FDirector	0.0744	0.0398	1.8677	0.0627 *
Lev	0.0511	0.0200	2.5469	0.0113 **
FDirector*Lev	−0.1478	0.0697	−2.1198	0.0348 **
ROA	−0.1301	0.0736	−1.7667	0.0782 *
Size	0.0309	0.0120	2.5842	0.0102 **
Growth	0.0053	0.0097	0.5443	0.5866
Adj R ²	0.2065			
F Statistic	2.2225			
Prob (F Statistic)	0.0000			

Notes: EM: earnings management, we use modified Jones ([Dechow et al. 1995](#)); FDirector: family director using percentage of family members on the board of directors; Lev: leverage using debt to asset ratio; FDirector*Lev: interaction between family director and leverage using deb to asset ratio; ROA: return on assets; Size: Ln total assets; and growth: sales growth. ** = 5% significant, * = 10% significant.

[Ishak et al. \(2011\)](#) found that the proportion of family members on the board is positively associated with discretionary accruals. [Franzoi et al. \(2021\)](#) found that greater family management presence on the executive board was associated with more accrual-based earnings management practices with reduced earnings. [Franzoi et al. \(2021\)](#) also found that family presence in the management is associated with more real earnings management activities through discretionary costs. This indicates that families use their strong positions as shareholders and members of the executive board to take over other shareholders and manage earnings to meet targets while maintaining family wealth. [Gavana et al. \(2019\)](#) argues that family control over the company allows the family to place its members on the CEO or board of directors who can influence executive actions in the company. [Kumala and Siregar \(2021\)](#) state that in family-controlled companies, families can place their members on the management board and influence the decision-making process for their own benefit, i.e., the entrenchment effect.

5.3. Family Members on the Board of Commissioners and Earnings Management

In governance with a two-tier system, the board of commissioners carries out the supervisory function and provides advice to the board of directors. In accordance with its function, the board of commissioners should supervise the opportunistic actions of management, one of which is earnings management.

Our research findings indicate that a family board of commissioners has a positive effect on earnings management. Table 5 shows that there is a positive influence with a significance level of 5%. Previous research has found that larger supervisory boards are associated with more positive discretionary accruals ([Franzoi et al. 2021](#)). This shows that the role of the board of commissioners is not effective in carrying out its supervisory and advisory functions. In the context of a family firm, family members at the board of directors and the board of commissioners, strengthen the family control. This family control provides more opportunities for earnings management actions to hide takeover actions against minority shareholders.

Table 5. Family Members on the Board of Commissioners and Earnings Management.

Research Variable	Coefficient	Standard Error	t-Statistic	Prob
(Constant)	−0.3987	0.1739	−2.2929	0.0225
FCommissioner	0.0640	0.0306	2.0885	0.0375 **
Lev	0.0701	0.0249	2.8162	0.0052 ***
FOwnership*Lev	−0.0976	0.0393	−2.4810	0.0136 **
ROA	−0.1173	0.0741	−1.5841	0.1141
Size	0.0282	0.0117	2.4074	0.0166 **
Growth	0.0004	0.0097	0.0400	0.9681
Adj R ²	0.211433			
F Statistic	2.259274			
Prob (F Statistic)	0.000000			

Notes: EM: earnings management, we use modified Jones ([Dechow et al. 1995](#)); FCommissioner: family commissioner using percentage of family members on the board of commissioners; Lev: leverage using debt to asset ratio; FOwnership*Lev: interaction between family commissioner and leverage; ROA: return on assets; Size: Ln total assets; and growth: sales growth. *** = 1% significant, ** = 5% significant.

Based on Table 5, it can be concluded that family control has an effect on earnings management. The combination of share ownership, family position on the board of directors, and family position on the board of commissioners strengthen family control, which can affect reported earnings. Thus, families have a strong interest in influencing company decisions and managing earnings for their own benefit.

Our findings support the entrenchment effect as proposed by [Wang \(2006\)](#). [Fan and Wong \(2002\)](#) argue that earnings management can be performed more by companies with concentrated ownership characteristics, compared to dispersed ownership. This opportunistic action can be carried out because concentrated ownership can result in control over company resources and information. As a result, they have a great opportunity to take opportunistic actions, in the form of earnings management to protect their interests.

Robustness test as presented at Tables 3–5 support Hypothesis 2, i.e., leverage can weaken family control over earnings management. This is in line with [Agha \(2011\)](#) who stated that leverage is part of the corporate governance mechanism. From a family firm perspective, the family's concern about the long-term viability of the business and their longer investment horizon helps build a close relationship between the family and the debt provider, which also reduces the incentive of family owners to take over creditors ([Schmid 2013](#)). Thus, the level of corporate debt will affect family companies in reporting company earnings.

On the other hand, family firms will be reluctant to use equity financing to avoid dilution of family control. Therefore, whenever external finance is needed, debt will be the preferred choice for family companies. This argument is supported by [Santos et al. \(2020\)](#) which shows that the average leverage of companies listed on the Indonesia Stock Exchange (IDX) is 0.5791, which is quite high. [Santos et al. \(2020\)](#) also found that the average leverage of family companies is relatively high, at 0.5926. Thus, family companies must build trust, reputation, and a good image for creditors, so that companies do not experience difficulties in accessing funding from creditors. This is in line with the statement by [Gómez-Mejía et al. \(2007\)](#), that family companies are risk-averse, but also risk-taking to maintain the social wealth owned by the family.

6. Conclusions

This study examined the effect of family control on earnings management with leverage as a moderating variable. We found that family control has a positive effect on earnings management. We also provide evidence that the leverage variable moderates the effect of family control on earnings management and indicates that leverage can weaken the effect of family control on earnings management, so that the quality of earnings reports is better.

The robustness test using other measures for family control confirms the finding from the main test. Family share in ownership, family position on the board of directors, and

family position on the board of commissioners give the same evidence, which supports the entrenchment effect. Meanwhile, leverage becomes a governance mechanism tool to discipline managers to reduce opportunistic actions, by carrying out earnings management.

The implications of our research for regulators are expected to be input for determining regulations and policies related to restrictions on majority shareholders to protect minority shareholders as well as determining the pattern of corporate governance by adjusting to the operating environment of the institution. This is considering that the findings support the entrenchment effect.

This research has limitations. The family control measure only considers demographic factors or components of involvement, which only captures the presence of the family in the company, namely through the ownership of family positions on the board of commissioners and directors. This study has not captured how family members behave in the company, commonly known as the essence approach. This approach focuses on synergistic behavior and the synergies of resources contributed to the business by families (Zellweger et al. 2010). Another limitation of our research is that the scope of our research is only on manufacturing companies, so that our research conclusions cannot be generalized.

Future research should expand the scope of the heterogeneity of family firms, for example, by basing the involvement of multiple generations in both ownership, management, and supervision, and by referring to Martínez-Romero and Rojo-Ramírez (2016). In addition, it is necessary to develop research methods that can capture the behavior of family members in the company. Future research is expected to broaden the scope of research, and not only research in the manufacturing sector.

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