

The Effects of Blockholding's Interlocking Directorates and Corporate Policies on Information Asymmetry

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Abstract

This study investigates the influence of blockholding interlocking directorates on information asymmetry within Malaysian listed firms, a crucial aspect of corporate governance. Understanding the interactions between ownership structures, corporate policies, and information asymmetry is essential for enhancing transparency in emerging markets. Data from the top 100 companies on Bursa Malaysia, spanning 2010 to 2018, were analyzed using a robust econometric approach. The findings reveal that blockholding interlocks are negatively related to information asymmetry, suggesting they help reduce information opacity. In contrast, institutional ownership shows a positive and significant relationship with information asymmetry, while managerial and individual ownership exhibit negative but insignificant relationships. Additionally, investment policy is positively linked to information asymmetry, whereas financing and payout policies show negative but insignificant relationships. These results underscore the varying impacts of ownership types and corporate policies on information asymmetry, providing insights into how corporate governance practices can enhance transparency. Future research could explore other governance mechanisms and different market conditions to expand on these findings.

Keywords: Blockholding Interlocks, Information Asymmetry, Ownership Structure (Managerial, Individual, Institutional), Ownership Concentration, Corporate Policies (Investment, Financing, Payout), Malaysian Listed Firms.

Introduction

The intricate landscape of corporate governance presents a dynamic environment where various factors influence the conduct of modern businesses. Among these factors, the phenomenon of interlocking directorates and the formulation of corporate policies play pivotal roles in shaping business practices. Interlocking directorates occur when the same

individual serves on the boards of directors of multiple companies, creating a web of connections that can have far-reaching implications (Scott, 1997).

One of the most persistent challenges in the realm of corporate finance and decision-making is information asymmetry. This situation arises when one party possesses significantly more or superior information compared to the other. In the context of publicly traded companies, information asymmetry can exist between management and investors, potentially leading to market inefficiencies and unfair advantages for those with better knowledge (Miller & Modigliani, 1961).

The Role of Blockholding Interlocks and Ownership Structure

When a shareholder owns a substantial portion of a company's common stock that is typically more than 5%, this is referred to as blockholding. Due to their significant ownership stake, blockholders often wield considerable influence over corporate decision-making (Dewayanto et al., 2020). A unique dynamic, known as interlocking directorates, occurs when these blockholders also serve on the boards of other companies, which could potentially lead to information asymmetry.

Ownership structure, encompassing the distribution of ownership among different types of investors (managerial, individual, and institutional), is another crucial factor influencing information asymmetry. Managerial ownership, for instance, can potentially lead to conflicts of interest if managers prioritize personal gain over shareholder value (Jensen & Meckling, 1976). Conversely, a strong presence of institutional investors, known for their in-depth financial analysis, can contribute to greater market transparency and reduced information asymmetry (Yau et al., 2019).

Corporate Policies and Information Asymmetry

Beyond ownership structure and interlocking directorates, specific corporate policies also play a role in shaping information asymmetry. Investment policy, for example, dictates how a company allocates its capital resources. An opaque investment strategy can create uncertainty for investors and potentially exacerbate information asymmetry (Johri et al., 2013). Similarly, financing policy, which revolves around the use of debt and equity to fund operations, can influence information asymmetry. A reliance on opaque financing methods or excessive debt levels might raise concerns about a company's financial health and increase information asymmetry (Johri et al., 2013). Finally, dividend policy, concerning the distribution of profits to shareholders, can also be a factor. Companies with inconsistent or unpredictable dividend payouts can contribute to information asymmetry, making it difficult for investors to assess future cash flows and make informed investment decisions (Johri et al., 2013).

Research Gap and Significance

While previous studies have examined the relationships between ownership structure, corporate policies, and information asymmetry (e.g., Amran & Ahmad, 2013; Paramanantham et al., 2018), the specific effects of interlocking directorates within blockholding structures have not been thoroughly explored. This research seeks to fill that gap by investigating how blockholding interlocks, in conjunction with ownership structures and corporate policies, influence information asymmetry in publicly listed Malaysian firms.

Understanding these interactions is vital for improving corporate governance practices in Malaysia. By clarifying the factors that contribute to information asymmetry, this study offers valuable insights for policymakers, regulators, and corporate boards. The findings could enhance transparency and reduce information asymmetry, thereby contributing to a more effective and equitable Malaysian capital market that serves the interests of both companies and investors.

Literature Review

Blockholding's Interlocking Directorates and Information Asymmetry

The literature review underscores the intricate relationship between blockholding's interlocking directorates and information asymmetry. Asymmetric information, influenced by factors such as disclosure consistency and corporate governance decisions, can lead to market distortions, as noted by Healy and (Palep 2001; and Beltran & Thomas 2010). Within this context, the presence of interlocking directorates, as extensively examined by scholars like Dahya et al. (1996) and Westphal & Stern (2006), becomes pivotal. These interlocking directorates, where directors serve on multiple boards, are both lauded for their potential to enhance transparency and criticized for potential conflicts of interest, echoing arguments from resource dependence theory (Pfeffer & Salancik, 1978; Turnbull, 1997).

Moreover, the concentration of ownership, particularly in family-run businesses, as studied by Caiazza et al (2022), adds another layer of complexity. Family blockholders often wield significant influence over director appointments and governance dynamics, impacting information flow and decision-making processes. Coffee (2005), suggests increased transparency as a potential remedy, advocating for enhanced disclosure requirements for companies with interlocking directorates. Considering these insights, it becomes evident that blockholding's interlocking directorates serve as conduits for information exchange within corporate networks. They can potentially mitigate information disparities among companies, although the extent of their impact may vary depending on individual actors and corporate culture. Thus, the hypothesis (H1) suggests that blockholding's interlocking directorates are negatively related to information asymmetry, emphasizing the critical role these interlocking relationships play in shaping the flow of information and governance dynamics within firms.

Blockholders (Managerial Ownership, Individual Ownership, Institutional Ownership) and Information Asymmetry

The relationship between blockholding and information asymmetry is complex, shaped by different ownership structures and governance practices. Blockholders, whether managers, individuals, or institutions, are key players in corporate governance and can strongly affect how information is shared within a company.

Studies have indicated that increased managerial ownership may contribute to reduced information asymmetry. Bertrand, Mehta, and Mullainathan (2002), provided empirical evidence that greater managerial ownership can diminish information asymmetry within business groups, which in turn enhances firm performance. Aggarwal et al (2011), likewise discovered that increased managerial ownership is associated with reduced information asymmetry, implying that managers with significant ownership are more likely to align their interests with shareholders, resulting in greater transparency and more accurate information disclosure.

In the case of individual ownership, especially when ownership is concentrated, it can help in reducing information asymmetry by promoting closer monitoring, control, and transparency within the firm. Research by Jensen and Meckling (1976) and Alzeaiden and Al-Rawash (2014), supports this view, arguing that individual owners, having a significant stake in the firm's performance, are more inclined to closely monitor the firm, which can result in reduced information asymmetry.

Institutional ownership also plays a critical role in mitigating information asymmetry. Bollen and Pool (2008) found that higher institutional ownership in mutual funds correlates with a reduction in conditional return smoothing, indicating that institutional investors contribute to lowering information asymmetry within the mutual fund industry. Li, Luo, and Zhao (2018) similarly found that higher institutional ownership is linked to reduced information asymmetry in the Chinese stock market, highlighting the critical role of institutional investors in gathering and analyzing comprehensive company information.

Overall, existing literature suggests that blockholding, whether through managerial, individual, or institutional ownership, can help reduce information asymmetry within firms, leading to better governance and enhanced firm performance. This understanding forms the foundation for hypotheses concerning the inverse relationship between blockholding and information asymmetry:

H2a: Managerial ownership is negatively related to information asymmetry.

H2b: Individual ownership is negatively related to information asymmetry.

H2c: Institutional ownership is negatively related to information asymmetry.

These hypotheses reflect the consensus in the literature that higher levels of ownership concentration, regardless of the owner type, are associated with reduced information asymmetry and improved corporate governance.

Ownership Concentration and Information Asymmetry

The structure and concentration of ownership within a company significantly influence its governance, value, performance, and the behavior of executives. Ownership can be categorized into various forms, such as management, institutional, individual, and governmental ownership. These different types of ownership impact the dynamics between managers and shareholders, thereby affecting a company's overall success. Jensen and Meckling (1976) and Coles, Lemmon, and Meschke (2012), research highlights the importance of ownership structure in corporate governance.

Ownership concentration, in particular, has a substantial effect on information asymmetry within firms. When ownership is highly concentrated, owners often have greater access to confidential information, which can lead to reduced information asymmetry (Heflin & Shaw, 2000). However, Byun, Hwang, & Lee (2011), suggest that ownership concentration may also enhance information asymmetry, particularly between major shareholders and other investors. Particularly in stock markets such as those in Canada and Iran, studies

conducted by Attig et al. (2006) and Omari et al. (2014) show a significant relationship between ownership concentration and information asymmetry.

Furthermore, ownership concentration is positively and strongly correlated with voluntary disclosure, which might help lessen information asymmetry, according to research done in Malaysia by Ho et al. (2014). However, there are obstacles, like the subjective nature of evaluating voluntary disclosure. The following describes the way the hypothesis is formulated in light of the literature review:

H3: Ownership concentrations are positively associated with information asymmetry.

This hypothesis suggests that higher levels of ownership concentration lead to increased information asymmetry within firms, highlighting the complex relationship between ownership structure and information transparency.

Corporate Policies and Information Asymmetry

Corporate policies, including investment, financing, and payout policies, play a crucial role in influencing information asymmetry within firms. These policies are documented sets of principles created to address internal and external factors affecting a company's goals, operations, and strategies (Johri et al., 2014). Transparent disclosure policies, strong corporate governance, insider trading regulations, and performance-based executive compensation plans can all help to reduce information asymmetry (Botosan & Plumlee, 2002; Yermack, 1996; Seyhun, 1988).

Investment policies can help firms reduce information asymmetry by providing valuable information about their prospects through activities such as R&D, advertising, and capital expenditures (Chen, Steiner, & Whyte, 1998; Golder & Tellis, 1997; Petersen & Rajan, 1994). Financing policies, whether through debt or equity, can also impact information asymmetry by signaling the firm's financial health and prospects to investors (Myers, 1977; Kaplan & Stromberg, 2009). Similarly, dividend policies can serve as signals of financial stability and confidence in prospects, thereby reducing information asymmetry (Miller & Modigliani, 1961; La Porta et al., 1999).

These findings suggest that corporate policies can be leveraged by firms to mitigate information asymmetry and improve market efficiency. However, firms must carefully consider their policy decisions and ensure transparency to avoid increasing information asymmetry. Based on the literature review, hypotheses were formulated to examine the relationships between corporate policies and information asymmetry:

H4a: Investment policy is negatively related to information asymmetry.

H4b: Financing policy is negatively related to information asymmetry.

H4c: Payout (dividend) policy is negatively related to information asymmetry.

Earning Potential, Firm Size, Board Size, and Macroeconomic Factors and Information Asymmetry

Earning potential, firm size, board size, and macroeconomic variables like GDP, exchange rates, interest rates, and inflation rates all have significant effects on information asymmetry within firms. Earning potential, which refers to the potential profits shareholders can earn from holding stock, can affect information asymmetry. High earning potential might attract more investors, complicating the assessment of whether a stock is appropriately valued and potentially increasing information asymmetry (Das & Ghosh, 2017; Nartea & Wu, 2019).

Firm size is another important factor in determining information asymmetry. The results of research on this subject are conflicting; some studies (Affleck-Graves et al., 2002; Muiruri, 2014; Cheryta et al., 2017) find that larger firms may actually have less information asymmetry, while other studies suggest that larger firms may experience more information asymmetry as a result of their complex structures. Information asymmetry may also be impacted by the board of directors' size. Larger boards may be better at monitoring and reducing information asymmetry, whereas smaller boards might benefit from improved coordination and communication among members (Flaherty et al., 2006; Lode & Bajrei, 2018). Moreover, macroeconomic factors like GDP, exchange rates, interest rates, and inflation rates contribute to shaping information asymmetry. For instance, fluctuations in interest rates can signal underlying macroeconomic conditions and thereby affect information asymmetry (Carter et al., 2004).

In summary, the connections between earning potential, firm size, board size, and macroeconomic factors with information asymmetry are complex, showing how many factors can influence this issue.

Data and Methods

The study's methodology section explores into the research design, data collection methods, and analysis approaches utilised to investigate the relationship between corporate policies concerning information asymmetry and interlocking directorates in blockholder ownership.

Research Design

The study adopts a causal research design to examine cause-and-effect relationships, utilizing secondary data from various reputable sources such as annual reports and databases. Quantitative methods are chosen for their ability to analyze numerical data efficiently. Drawing from agency theory, adverse selection theory, efficient market hypothesis, and signaling theory, the study incorporates independent variables such as interlocking directorates, ownership structures, and corporate policies to explore their impact on information asymmetry.

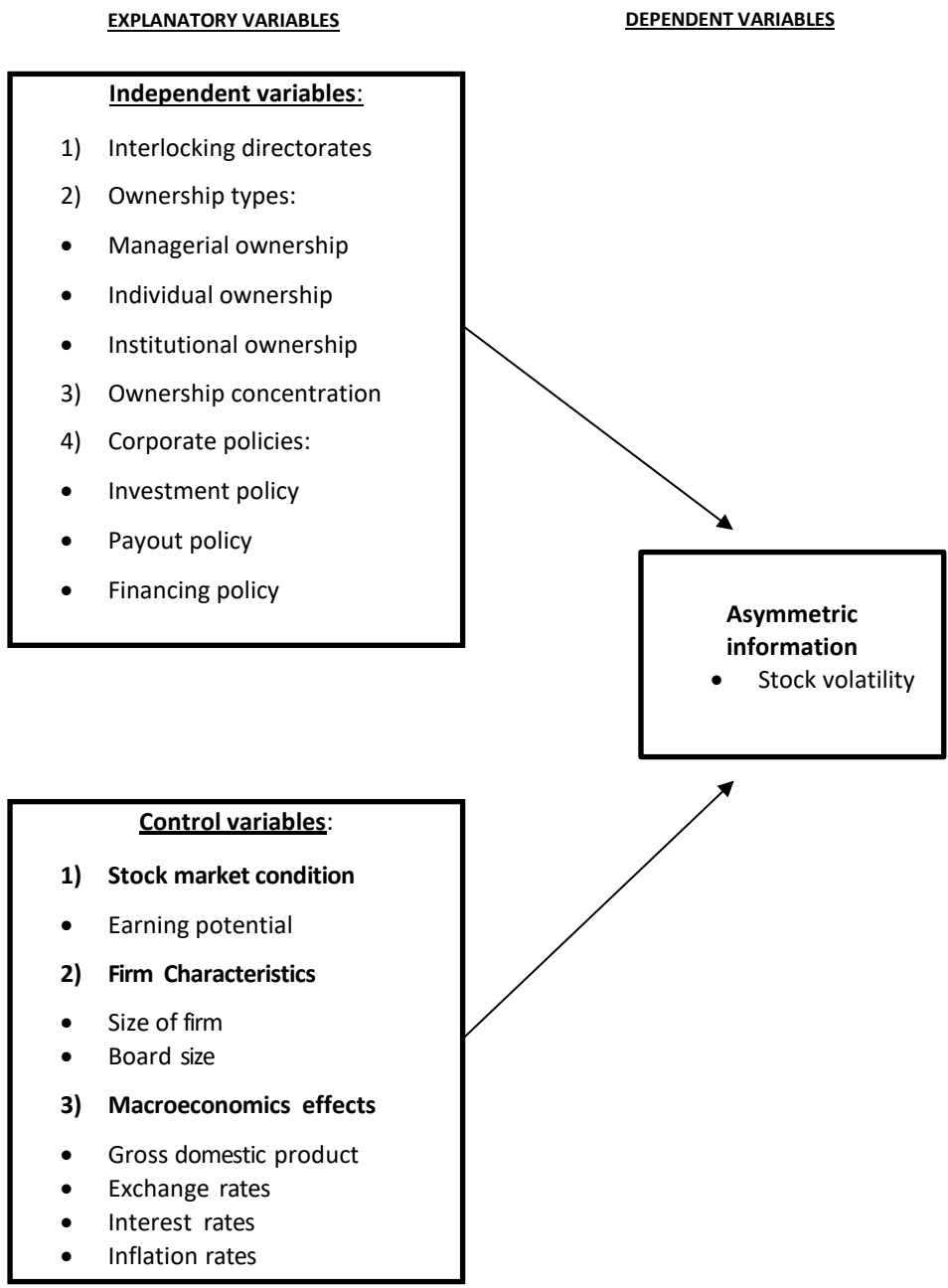


Figure 1: Research Framework

Research Models

Several estimation models are presented to analyze the relationship between interlocking directorates, ownership structures, corporate policies, and information asymmetry. Each model incorporates control variables to account for potential confounding factors.

Baseline Model

$$\text{Information Asymmetry} = f(EP, SZ, BS, GDP, XR, IR, INFR)$$

Equation
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$$IA_{i,t} = \beta_0 + \beta_1 EP_{i,t} + \beta_2 SZ_{i,t} + \beta_3 BS_{i,t} + \beta_4 GDP_t + \beta_5 XR_t + \beta_6 IR_t + \beta_7 INFR_t + \varepsilon_{i,t}$$

Equation
Error! No text of specified style in document..2

This equation outlines how the control variables in this study such as earning potential, firm size, board size, GDP, exchange rate, interest rate, and inflation rate relate to information asymmetry.

Estimation models

Model 1

$$IA_{i,t} = \beta_0 + \beta_1 ILD_{i,t} + \beta_2 EP_{i,t} + \beta_3 SZ_{i,t} + \beta_4 BS_{i,t} + \beta_5 GDP_t + \beta_6 XR_t + \beta_7 IR_t + \beta_8 INFR_t + \varepsilon_{i,t}$$

Equation
Error! No text of specified style in document..3

This equation is used to investigate the impact of interlocking directorates on information asymmetry with regard to variables including earning potential, firm size, board size, GDP, exchange rate, interest rate, and inflation rate.

Model 2

$$IA_{i,t} = \beta_0 + \beta_1 MO_{i,t} + \beta_2 IND_{i,t} + \beta_3 INST_{i,t} + \beta_4 SP_{i,t} + \beta_5 SZ_{i,t} + \beta_6 BS_{i,t} + \beta_7 GDP_t + \beta_8 XR_t + \beta_9 IR_t + \beta_{10} INFR_t + \varepsilon_{i,t}$$

Equation
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This equation is utilized to examine the relationship between managerial ownership, individual ownership, and institutional ownership in relation to earning potential, firm size, board size, GDP, exchange rate, interest rate, and inflation rate on information asymmetry.

Model 3

$$IA_{i,t} = \beta_0 + \beta_1 OC_{i,t} + \beta_2 EP_{i,t} + \beta_3 SZ_{i,t} + \beta_4 BS_{i,t} + \beta_5 GDP_t + \beta_6 XR_t + \beta_7 IR_t + \beta_8 INFR_t + \varepsilon_{i,t}$$

Equation
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This equation is used for the relationship between ownership concentration, earning potential, size of firm, board size, gross domestic product, exchange rate, interest rate and inflation rate on information asymmetry.

Model 4

$$IA_{i,t} = \beta_0 + \beta_1 INV_{i,t} + \beta_2 DEBT_{i,t} + \beta_3 DIV_{i,t} + \beta_4 SP_{i,t} + \beta_5 SZ_{i,t} + \beta_6 BS_{i,t} + \beta_7 GDP_t + \beta_8 XR_t + \beta_9 IR_t + \beta_{10} INFR_t + \varepsilon_{i,t}$$

Equation
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This equation is used for the relationship between investment policy, debt policy and dividend policy with earning potential, size of firm, board size, gross domestic product, exchange rate, interest rate and inflation rate on information asymmetry.

Where:

- IA_{i,t} = Firm's information asymmetry i at year t;
- ILD_{i,t} = Interlocking directorates for firm i at year t;
- MO_{i,t} = Managerial ownership for firm i at year t;
- IND_{i,t} = Individual ownership for firm i at year t;
- INST_{i,t} = Institutional ownership for firm i at year t;
- OC_{i,t} = Ownership concentration for firm i at year t;
- INV_{i,t} = Investment policy for firm i at year t;
- DEBT_{i,t} = Debt policy for firm i at year t;
- DIV_{i,t} = Dividend policy for firm i at year t;
- EP_{i,t} = Earning potential for firm i at year t;
- SZ_{i,t} = Size of firm for firm i at year t;
- BS_{i,t} = Board size for firm i at year t;
- GDP_t = Gross domestic product at year t;
- XR_t = Exchange rate at year t;
- IR_t = Interest rate at year t;
- INFR_t = Inflation rate at year t;

Measurement of Variables

Information asymmetry is measured using proxies such as stock return volatility, chosen for its ability to capture market knowledge asymmetry. Independent variables include interlocking directorates, ownership concentration, managerial ownership, investment policy, debt policy, dividend policy, among others, each measured using relevant financial metrics. Details on the measurement of variables are provided in Table 1.

Table 1
 Measurement of Variables

No.	Variable	Acronym	Measurement	Formula
1.	Information Asymmetry	IA	The volatility of stocks will be used as the main proxy for the information asymmetry.	Stock Volatility = $\frac{\sum \text{Daily Volatility}}{\text{Number of Days}}$
2.	Interlocking directorate	ILD	Dyadic analysis has been used to measure the overlapping	Interlocks is the categorical dyadic variable that converted into dummy that denote 0 is assigned for no interlocking, 1 is for one interlocking, 2 is for two interlocking, and so on.

3.	Blockholders	BH	directors. Total percentage of shares hold by the different types of block holder.	$f(x) = \sum \text{shares in \% by } x$ Where x = identity of block holder, Shares in % = percentage of shares
4.	Ownership Concentration	OC	Measure using Herfindahl Index and Concentration ratio.	Herfindahl Index = $\sum(x_1^2 + x_2^2 + x_3^2 + x_4^2 + x_5^2)$ Where x = the percentage of share hold by the n largest block holders.
5.	Investment Policy	INV	Share price divided by earning per share.	$PER = \frac{\text{Share Price}}{\text{Earning Per Share}}$
6.	Dividend (Payout) Policy	DIV	Dividend yield is taken from annual dividend per share and divided by the stock price. Dividing the annual dividends per share by the earnings per share.	Dividend Yield = $\frac{\text{Annual Dividend Per Share}}{\text{Stock Price Per Share}}$ Payout Ratio = $\frac{\text{Dividend Per Share}}{\text{Earning Per Share}}$
7.	Debt Ratio (Leverage)	DEBT	Debt (leverage) is total debt is divided by total asset.	Debt Ratio = $\frac{\text{Total Debt}}{\text{Total Asset}}$
8.	Earning Potential	EP	Earning per share is divide net income by the total number of shares outstanding.	EPS = $\frac{\text{Net Income} - \text{Dividend On Preferred Stock}}{\text{Average Outstanding Shares}}$
9.	Size of Firm	SZ	Firm size is measured by using the total asset of the company.	Firm size = total assets for the financial year ended at t
10.	Board size	BS	Total number of directors on the board of a company.	Board size = total number of directors on the board of a company.

Data and Samples

The 100 leading non-financial companies that were listed on Bursa Malaysia between 2010 and 2018 comprised the research sample; these companies were selected based on their market representation. Data on interlocking directorates and blockholder ownership were manually gathered from annual reports. The study employed panel data analysis, using yearly data on share price volatility, dividend yield, payout ratio, and debt ratio sourced from Thomson Reuters Datastream. The statistical methods that were applied included descriptive statistics such as mean, maximum, minimum, and standard deviation, as well as multivariate analysis for evaluating hypotheses.

The Pearson correlation coefficient was used to assess relationships between variables, and panel regression with fixed effects was applied to account for unobserved individual and time-specific effects. The fixed effects model selection was validated by the Hausman test, and heteroscedasticity was determined using the Breusch-Pagan LM test. Additionally, tests for autocorrelation and multicollinearity were conducted, with strategies outlined for addressing any detected issues. This thorough methodology allowed for a detailed examination of the relationships between blockholder ownership, interlocking directorates, and information asymmetry in corporate policies.

Empirical Results

Descriptive Statistics

Table 2

Results of the Descriptive Statistics on the Independent and Dependent Variables.

Variable	Mean	Std. Dev.	Min	Max
SRV	21.887	9.285	5.752	58.72
ILD	0.683	1.368	0	9
MO	2.141	8.627	0	65.89
IND	0.327	2.437	0	26.163
INST	29.189	28.476	0	82.28
OC	1.870	0.628	1	2.999
INV	18.915	16.624	1.949	241
DEBT	0.558	0.132	0.200	0.889
DIV	0.546	0.387	0	3.576
SP	7.458	11.097	0.081	90
SZ	14.153	1.719	8.508	17.735
BS	9.236	2.111	5	17
GDP	312000000	27300000	255000000	359000000
XR	3.5140	0.4525	3.0559	4.1433
IR	1.770	0.306	1.431	2.498
INFR	2.628	2.263	0.174	7.267

The dependent and independent variables' descriptive statistics, which were obtained from 900 observations, are shown in Table 2 in index form. Interlocking directorates, management ownership, individual ownership, institutional ownership, ownership concentration, and company policies such investment, payout, and financing are independent variables, and information asymmetry is the dependent variable. Control variables include earning potential, firm size, board size, GDP, exchange rates, interest rates, and inflation rates.

The SRV has a mean value of 21.887 and a standard deviation of 9.285. With an average of 0.683 and a standard deviation of 1.368, ILD ranges from 0 to 9. The mean and standard deviation of MO and IND are 2.141 and 8.627, respectively, and 0.327 and 2.437, respectively. The average value for INST is 29.189, with a standard deviation of 28.476, while the average value for OC is 1.870, with a standard deviation of 0.628.

The average and standard deviation of INV and DEBT are 18.915 and 16.624, respectively, and 0.558 and 0.132, respectively. DIV indicates a 0.387 standard deviation and a mean of 0.546. The average for SP is 7.458 with a standard deviation of 11.097, while the average for SZ is 14.153 with a standard deviation of 1.719. BS has an average of 9.236 and a 2.111 standard deviation. The GDP has a standard deviation of 27,300,000 and an average of 312,000,000. XR displays a 3.5140 mean and a 0.4525 standard deviation. INFR has a mean of 2.628 and a standard deviation of 2.263, while IR has an average of 1.770 and a standard deviation of 0.306.

Correlation

A correlation matrix illustrating the relationships between the independent and dependent variables is shown in Table 3. Each variable is stated in the first row and column, and each variable is represented by a diagonal value of 1.000 at all times. The interest rate (IR) and the inflation rate (INFR) have a notable correlation of 0.5560, but as both are measures of information asymmetry, this is not indicative of multicollinearity. IR shows a significant positive correlation with stock return volatility (SRV) at the 5% significance level, while INFR has a positive but statistically insignificant correlation with SRV.

The independent variables ILD, MO, and IND display insignificant negative correlations with SRV, and INST does not exhibit any significant correlation. Significant at the 5% level is the positive association between ownership concentration (OC) and SRV. At the 1% level, there is also a positive and significant association between investment (INV) and SRV. Conversely, DEBT and DIV have negative correlations, with DEBT being significant at the 5% level. Both SP and SZ have significant negative correlations with SRV, with SZ being significant at the 10% level. Board size (BS) shows a positive but insignificant correlation with SRV, while GDP has a negative but insignificant correlation. Finally, XR displays a significant negative correlation with SRV at the 5% level.

Table

3

Correlation Matrix

	SRV	ILD	MO	IND	INST	OC	INV	DEBT	DIV	SP	SZ	BS	GDP	XR	IR	INFR
SRV	1															
ILD	-0.0164	1														
MO	-0.0152	0.1510	1													
IND	-0.0302	0.0247	0.0200	1												

IN	0.04	0.24	-	-	1														
ST	86	50	0.02	0.04															
		***	61	19															
OC	0.12	0.03	-	-	0.03	1													
	40	19	0.10	0.06	94														
	**		60*	13															
IN	0.10	-	-	-	0.12	0.04	1												
V	00*	0.02	0.05	0.03	60	01													
		49	09	53	**														
DE	-	-	-	0.05	-	0.01	-	1											
BT	0.13	0.10	0.00	02	0.13	46	0.00												
	10	70	09		80		69												
	**	*			**														
DI	-	0.01	-	-	0.06	0.05	0.15	-	1										
V	0.03	76	0.14	0.06	79	38	30	0.02											
	15		70	27			***	51											

SP	-	-	-	-	0.15	-	0.06	-	0.1	1									
	0.06	0.04	0.11	0.05	30	0.08	91	0.09	730										
	20	97	60	83	***	45*		17*	***										
			**																
SZ	-	-	-	-	0.09	-	0.02	0.21	0.0	0.15	1								
	0.31	0.09	0.14	0.10	69*	0.21	24	30	702	30									
	30	72*	60	00*	80		***		***										
	***		***		***														
BS	0.00	0.02	-	-	0.01	-	0.10	0.01	-	-	0.2	1							
	08	30	0.09	0.04	10	0.15	40*	68	0.0	0.08	730								
			26*	40		90		527	93*	***									

G	-	-	0.00	0.00	0.22	0.03	0.07	-	-	0.04	0.0	-	1						
DP	0.07	0.04	84	80	6	46	86	0.04	0.0	40	469	0.0							
	88	99			***			54	389		142								
XR	-	-	-	0.02	0.33	0.08	0.11	-	0.0	0.06	0.1	-	0.2	1					
	0.11	0.06	0.00	30	10	61*	9	0.00	414	49	140	0.0	920						
	90	52	16		***		**	15			**	135	***						
	**																		
IR	0.11	0.04	-	-	-	-	-	0.03	-	-	-	0.0	-	-	1				
	30	81	0.02	0.01	0.33	0.04	0.15	54	0.0	0.08	0.0	078	0.4	0.60					
	**		02	59	7	14	80	694	64*	720		980	90						
					***		***					***	***						
IN	0.07	0.03	-	-	-	0.01	-	0.03	-	-	-	0.0	-	-	0.5	1			
FR	71	12	0.00	0.01	0.27	30	0.11	22	0.0	0.07	0.0	067	0.7	0.09	560				
			37	03	8	40		112	32	253		310	27*	***					
					***		**					***							

Notes: Asterisk ***, ** and * represent 1, 5 and 10 percent level of significance, respectively

Baseline Regression Results

This section outlines the baseline model used to examine how various control variables such as earning potential, firm size, board size, GDP, exchange rates, interest rates, and inflation rates affect information asymmetry. The panel data analysis results are shown in Table 4, which includes the coefficients and p-values for fixed effects with clustering. The significance levels for the 10%, 5%, and 1% levels are indicated by the symbols ***, **, and *, respectively.

The analysis shows that earning potential has a statistically insignificant and negative impact on information asymmetry ($\beta = -0.0103$), aligning with the results of Ichimura et al. (2020). The results of Cheryta et al (2017), are in line with the marginally significant negative effect of firm size on information asymmetry ($= -0.0285$, p 0.10). Board size and information

asymmetry have a positive relationship, but the relationship is not statistically significant ($\beta = 0.415$), which is consistent with the findings presented by Lode and Bajrei (2018). In contrast, exchange rates and interest rates demonstrate significant negative effects on information asymmetry ($\beta = -3.769$, $p < 0.05$; $\beta = -10.54$, $p < 0.01$), while the inflation rate is positively and significantly associated with information asymmetry ($\beta = 2.466$, $p < 0.05$). Overall, the model explains 11.75% of the variance in information asymmetry, with an F-statistic of 4.830 ($p < 0.0000$), based on 620 observations. These results demonstrate that information asymmetry is impacted by macroeconomic and firm-specific factors.

Table 4
Results of Baseline Model of this Study

Variables	Information Asymmetry
Constant	-666.1148 (-2.2400)
Earning Potential (EP)	-0.0103 (-0.1700)
Firm Size (SZ)	-1.7520*** (-3.8700)
Board Size (BS)	0.4150 1.1700
Gross Domestic Product (GDP)	27.8400* 2.4000
Exchange Rate (XR)	-3.7690** (-2.7900)
Interest Rate (IR)	-10.5400* (-2.5500)
Inflation Rate (INFR)	2.4660** 2.7700
Year Dummy	Yes
Industry Dummy	No
R-square	0.1175
F-statistics	4.8300
Prob (F-statistic)	0.0000
No. of Observations	620

Notes: Asterisk ***, ** and * represent 10%, 5% and 1% level of significance, respectively. The figures in parentheses are t-statistics.

Instrumental Panel Regression

Relationship between Interlocking Directorates and Stock Return Volatility

This study examined how interlocking directorates affect stock return volatility, uncovering a significant negative correlation between the two ($\beta = -4.048$, $p < 0.10$). As shown in Table 5, this finding suggests that companies with fewer interlocking directorates tend to experience lower stock return volatility, which implies that these companies may pursue more conservative investment approaches. Specifically, firms with fewer interlocking directorates are 404.8% less likely to pursue higher stock return volatility compared to those with more interlocking directorates, challenging the assumption that interconnected directorates inherently increase risk-taking and stock return volatility due to exploitative behaviors.

In addition to the impact of interlocking directorates, the study identified other influential factors. Firm size and earning potential were found to negatively correlate with stock return volatility, with higher earning potential reducing information asymmetry by 17.1% ($\beta = -0.171$, significant at the 1% level) and larger firms reducing information asymmetry by 214.6% ($\beta = -2.146$, significant at the 10% level). On the other hand, board size, GDP, and inflation rate showed positive but non-significant relationships with stock return volatility. Additionally, the exchange rate ($\beta = -5.187$) and interest rate ($\beta = -15.78$) exhibited negative but non-significant relationships.

These findings suggest that while interlocking directorates are traditionally thought to increase risk-taking and stock volatility, the opposite may be true. Firms with fewer interlocking directorates tend to adopt more conservative investment strategies, thereby reducing volatility. However, the presence of interlocking directorates alone does not fully explain risk-taking behaviors; factors such as organizational culture, strategic goals, and board preferences also play crucial roles. This research contributes to our understanding of corporate governance and the way it affects financial stability by providing a thorough analysis of the ways in which interlocking directorates influence the volatility of stock returns.

Table 5

Results of Interlocking Directorate and Information Asymmetry on stock return volatility

Variables	Information Asymmetry
Constant	-953.9000 (-0.3200)
Interlocking Directorate (ILD)	-4.0480*** (-3.5300)
Earning Potential (EP)	-0.1710* (-2.1000)
Firm Size (SZ)	-2.1460*** (-4.7800)
Board Size (BS)	0.4520 1.3000
Gross Domestic Product (GDP)	39.5600 0.3400
<i>Exchange Rate (XR)</i>	-5.1870 (-0.3900)

Interest Rate (IR)	-15.7800 (-0.3900)
Inflation Rate (INFR)	3.6610 -0.4200
Year Dummy	Yes
Industry Dummy	Yes
R-square	0.2859
F-statistics	4.1800
Prob (F-statistic)	0.0000
No. of Observations	207

Notes: Asterisk ***, ** and * represent 10%, 5% and 1% level of significance, respectively. The figures in parentheses are t-statistics.

Relationship between Ownership Types and Stock Return Volatility

This study investigates the influence of different types of ownership. Management, individual, and institutional on information asymmetry, as measured by stock return volatility. The analysis uses a regression model that incorporates these ownership types along with firm characteristics and macroeconomic variables.

variables do not significantly affect stock return volatility in this study. According to Table 6, managerial ownership has a negative but statistically insignificant effect on stock return volatility ($\beta = -0.0499$, $p > 0.05$), supporting hypothesis 2a and consistent with the findings of Kini and Mian (1995) and Mustapha and Ahmad (2011). Individual ownership also exhibits a negative but statistically insignificant relationship with stock return volatility ($\beta = -0.0189$, n.s.), in line with hypothesis 2b and the work of Tresna and Ekaputra (2018). In contrast, institutional ownership shows a positive and statistically significant correlation with stock return volatility at the 10% level ($\beta = 0.0611$, $p < 0.01$), suggesting that higher institutional ownership is associated with greater information asymmetry. This is supported by previous research indicating that such firms often have narrower bid-ask spreads (Amihud & Jegadeesh, 2005; Demsetz & Lehn, 1986) and are more likely to offer detailed earnings forecasts and financial disclosures (Gow, 2003; Healy et al., 1994).

Regarding control variables, earning potential is positively and significantly related to stock return volatility ($\beta = 0.0611$, $p < 0.01$), whereas firm size has a significant negative impact ($\beta = -1.583$, $p < 0.10$). Board size also shows a positive and significant relationship with stock return volatility ($\beta = 0.344$, $p < 0.01$). Macroeconomic factors, such as GDP and inflation rate, have positive but statistically insignificant effects on stock return volatility, while exchange rate and interest rate show negative and non-significant relationships.

The regression model explains approximately 22.29% of the variance in stock return volatility, with an R-squared value of 0.2229 and an F-statistic of 3.4000 ($p < 0.0000$). Year and industry-specific effects are controlled through dummy variables, based on 592 observations. Overall, the results indicate that while managerial and individual ownership do not significantly impact stock return volatility, institutional ownership is significantly associated with increased information asymmetry. Additionally, firm characteristics such as size and board composition are influential, while macroeconomic

Table 6
Results of Ownership Types and Information Asymmetry

Variables	Information Asymmetry
Constant	-240.9083 (-0.7300)
Managerial Ownership (MO)	-0.0499 (-1.1800)
Individual Ownership (IND)	-0.0189 (-0.1200)
<i>Institutional Ownership (INST)</i>	<i>0.0611***</i> 4.2100
Earning Potential (EP)	-240.9083 (-0.7300)
Firm Size (SZ)	-1.5830*** (-7.2600)
Board Size (BS)	0.3440* 2.000
Gross Domestic Product (GDP)	10.9900 0.1800
Exchange Rate (XR)	-1.8940 (-0.2700)
Interest Rate (IR)	-3.2550 (-0.1500)
Inflation Rate (INFR)	1.2210 0.2600
<i>Year Dummy</i>	<i>Yes</i>
<i>Industry Dummy</i>	<i>Yes</i>
R-square	0.2229
F-statistics	3.4000
Prob (F-statistic)	0.0000

No. of Observations 592

Notes: Asterisk ***, ** and * represent 10%, 5% and 1% level of significance, respectively. The figures in parentheses are t-statistics.

Relationship between Ownership Concentration and Stock Return Volatility

Using the Herfindahl Index as a proxy for ownership concentration, this study examined at the way ownership concentration affected information asymmetry. Table 7 presents the results, which show a substantial negative relationship ($\beta = -1.01$, $p < 0.01$) between ownership concentration and stock return volatility. This result is in line with the study conducted by Fan and Wong (2002), which similarly discovered a negative correlation between information asymmetry and ownership concentration. Earning potential, firm size, board size, GDP, exchange rates, interest rates, and inflation rates were among the many aspects taken into consideration in the analysis.

Among these, firm size ($\beta = 0.163$, n.s.), interest rate ($\beta = 1.047$, n.s.), and inflation rate ($\beta = 0.281$, n.s.) exhibited positive but insignificant relationships with stock return volatility. Conversely, earning potential ($\beta = -0.0747$, n.s.), board size ($\beta = -0.226$, n.s.), and gross domestic product ($\beta = -2.847$, n.s.) showed negative and insignificant relationships. The exchange rate displayed a significant negative relationship with stock return volatility ($\beta = -5.305$, $p < 0.05$). The regression model explained 12.5% of the variance in stock return volatility, as indicated by the R-square value of 0.125 and an F-statistic of 9.160 ($p < 0.0000$). The study involved 620 observations. These findings suggest that higher ownership concentration reduces information asymmetry, aligning with previous research and providing further insights into the factors influencing stock return volatility.

Table 7

Results of Ownership Concentration and Information Asymmetry

Variables	Information Asymmetry
Constant	-666.1148 (-2.2400)
Ownership Concentration (OC)	-1.0100* (-2.3400)
<i>Earning Potential (EP)</i>	-0.0747 (-1.5900)
Firm Size (SZ)	0.1630 0.5100
Board Size (BS)	-0.2260 (-1.7900)
Gross Domestic Product (GDP)	-2.8470 (-1.1300)
Exchange Rate (XR)	-5.3050** (-3.0300)
Interest Rate (IR)	1.0470 0.7400
Inflation Rate (INFR)	0.2810 1.2200
Year Dummy	No

Industry Dummy	No
R-square	0.1250
F-statistics	9.1600
Prob (F-statistic)	0.0000
No. of Observations	620

Notes: Asterisk ***, ** and * represent 10%, 5% and 1% level of significance, respectively. The figures in parentheses are t-statistics.

Relationship between Policy and Stock Return Volatility

Using the Herfindahl Index to measure ownership concentration, this study examined how corporate policies affect information asymmetry. The findings, detailed in Table 8, reveal that investment policy is positively and significantly associated with stock return volatility ($\beta = 0.0581$, $p < 0.05$). In contrast, debt policy ($\beta = -2.921$, n.s.) and dividend policy ($\beta = -15.1$, n.s.) have negative but insignificant relationships with stock return volatility. Among the control variables, earning potential ($\beta = -0.0815$, n.s.) shows a negative but negligible link with stock return volatility. Firm size ($\beta = -1.351$, $p < 0.05$) and exchange rate ($\beta = -6.17$, $p < 0.01$) both have negative and significant associations with stock return volatility. However, board size ($\beta = 0.393$, n.s.), gross domestic product ($\beta = 0.667$, n.s.), and interest rate ($\beta = 0.597$, n.s.) all show positive but insignificant relationships with stock return volatility. Notably, the inflation rate ($\beta = 0.516$, $p < 0.01$) has a significant and positive link with stock return volatility. The model explains 24.29% of the variance in stock return volatility, as indicated by the R-square value of 0.2429 and an F-statistic of 5.250 ($p < 0.0000$). The study is based on 593 observations. These findings suggest that while investment policy increases stock return volatility, debt and dividend policies do not significantly impact it. Additionally, firm size and exchange rates are significant factors in reducing volatility, whereas inflation increases it. This analysis provides valuable insights into how corporate policies and firm-specific factors influence information asymmetry in financial markets.

Table 8

Results of Corporate Policies and Information Asymmetry

Variables	Information Asymmetry
Constant	30.5991 (0.4400)
Investment Policy (INV)	0.0581** 2.6400
Debt Policy (DEBT)	-2.9211 (-0.5100)
Dividend Policy (DIV)	-15.1046 (-1.0700)
Earning Potential (EP)	-0.0815 (-1.2000)
Firm Size (SZ)	-1.3510** (-3.2400)
Board Size (BS)	0.3930 1.2400
Gross Domestic Product (GDP)	0.6670 0.2600

Exchange Rate (XR)	-6.1700* (-2.4300)
Interest Rate (IR)	0.5970 0.4100
Inflation Rate (INFR)	0.5160* 2.4700
Year Dummy	No
Industry Dummy	Yes
R-square	0.2429
F-statistics	5.2500
Prob (F-statistic)	0.0000
No. of Observations	593

Notes: Asterisk ***, ** and * represent 10%, 5% and 1% level of significance, respectively. The figures in parentheses are t-statistics.

Conclusion

This research investigates the impact of interlocking directorates within blockholder corporate policies on information asymmetry in Malaysia from 2010 to 2018. Control variables including earning potential, firm size, board size, GDP, interest rate, exchange rate, and inflation rate are all included. The study focuses on eight independent variables: interlocking directorates, managerial ownership, individual ownership, institutional ownership, ownership concentration, investment policy, debt policy, and dividend policy.

Key findings reveal that blockholding interlocking directorates significantly reduce information asymmetry by 10%. This reduction is attributed to the enhanced information and insights gained from directors serving on multiple boards, promoting greater transparency and informed decision-making. However, the impact of interlocking directorates can vary based on individuals involved, governance practices, and information sharing.

The study also finds varying effects of different ownership types on information asymmetry. Managerial and individual ownership show a negative but insignificant relationship with information asymmetry, aligning with previous studies. Institutional ownership, on the other hand, is positively and significantly correlated with information asymmetry because institutional investors seek confidential information to trade. Ownership concentration exhibits a strong negative association with information asymmetry, supporting findings from earlier research indicating that high ownership concentration correlates with low earnings informativeness. Regarding corporate policies, investment policy shows a positive and significant relationship with information asymmetry, while debt and dividend policies display a negative but insignificant relationship. Overall, the research underscores the importance of well-connected directors in mitigating information asymmetry and highlights the nuanced effects of ownership structures and corporate policies on information transparency.

This study investigates the impact of blockholding interlocking directorates on information asymmetry in Malaysia from 2010-2017, a novel area in corporate governance research. Utilizing data from the top 100 publicly listed companies, the study reveals that

interlocking directorates significantly reduce information asymmetry, attributing this to enhanced information sharing and informed decision-making. The research also examines ownership structures and corporate policies, finding that institutional ownership increases information asymmetry, while managerial and individual ownership have a negative but insignificant effect.

Recommendations for future research include exploring interlocking directorates in different markets and industries, investigating other ownership structures like family and government ownership, and examining the impact of governance and disclosure policies on information asymmetry. Comparative studies to identify effective strategies for reducing information asymmetry are also suggested. For practitioners, the study advises appointing directors with interlocking directorates, diversifying ownership structures, promoting transparency and disclosure, evaluating corporate policies' impact, and monitoring ownership changes.

The study's limitations include its focus on Malaysia, the specific time frame of 2010-2018, and the sample limited to the top 100 firms listed on Bursa Malaysia. Future research should expand geographically to include international comparisons, extend the time frame for data collection, and consider broader samples to enhance generalizability across different countries, times, and sectors.

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