

THE MODERATING EFFECT OF OWNERSHIP STRUCTURE ON THE RELATIONSHIP BETWEEN FREE CASH FLOW AND ASSET UTILISATION

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ABSTRACT

Based on agency theory, ownership structure plays a role in monitoring managerial opportunistic behaviour. This study examines how different forms of ownership structures including foreign ownership, government ownership, and managerial ownership moderate the relationship between free cash flow and asset utilisation. This cross-sectional study involves companies listed on Bursa Malaysia. The results of a hierarchical multiple regression analysis show a negative relationship between free cash flow and asset utilisation. This finding indicates that free cash flow may be invested unproductively, thus contributing to inefficient usage of assets. This study has also empirically demonstrated that foreign and managerial ownership provides monitoring on the use of the companies' assets, especially in companies with high free cash flow. The findings contribute to the understanding of the role of the various dimensions of ownership structure in overseeing the use of the firm's assets.

Keywords: corporate governance, free cash flow, asset utilisation, foreign ownership, government ownership, and managerial ownership

INTRODUCTION

Asset utilisation measures which assets are capable of producing and what they actually produce (Ellis, 1998). Conversely, asset dis-utilisation represents losses in revenue in relation to the investment that may be attributable to the inefficient use of assets. Asset dis-utilisation may increase agency costs because managers do not act in the best interests of the owners (Fleming, Heaney & McCosker, 2005). The presence of free cash flow may lead to inefficient asset

utilisation as it allows managers to spend financial resources on activities that reduce shareholders' wealth and generate more agency problems (Jensen, 1986).

In the absence of effective monitoring, managers may choose to invest in low or negative net present value projects that reap financial or other rewards. Prior studies show that such opportunistic behaviour of managers may be monitored by shareholders to ensure that assets are utilised efficiently to increase the shareholders' value (Ang, Cole, & Lin, 2000; Fleming et al., 2005; Singh & Davidson, 2003). Evidence shows that an ownership structure, such as foreign ownership (Benfratello & Sembenelli, 2006; Yoo, 2005; Dalquist & Robertsson, 2001), government ownership (Ang & Ding, 2006; Feng, Sun, & Tong, 2004), or managerial ownership (Ang et al. 2000; Singh & Davidson, 2003), may provide monitoring of asset utilisation. However, there are limited studies examining the monitoring role of ownership on asset utilisation in the existence of free cash flow. Prior studies do not simultaneously examine the interacting effects of the above ownership variables. The relationships between free cash flow and asset utilisation in the presence of the different types of ownership structures remain unclear.

The objective of this study is to examine the relationships between free cash flow and asset utilisation and to understand whether such relationships are moderated by different types of ownerships (i.e., foreign ownership, government ownership, and managerial ownership). The study assumes that the different types of ownership provide monitoring to prevent managers' opportunistic behaviours regarding asset dis-utilisation under an excessive funds environment. The role of ownership is expected to reduce the undesirable effects of free cash flow and to improve asset utilisation.

This study contributes to the research on agency costs by integrating the concept of equity ownership and free cash flow. In the presence of free cash flow, ownership structure plays a significant role in monitoring the utilisation of assets. The study demonstrates an increase in the efficiency of asset utilisation of firms with high free cash flow as a result of monitoring by managers who are owners. The efficiency of asset utilisation for companies with a high free cash flow increases when foreign or managerial ownership is greater. The results seem to suggest that managers tend to engage in opportunistic behaviour when the foreign or managerial ownership is low. Government ownership is found to have an insignificant monitoring role on asset utilisation at any level of free cash flow. The results indicate that foreign and managerial ownerships are important monitors for the management of free cash flow and asset utilisation.

The remainder of the paper is organised as follows. The next section discusses the relevant literature on issues pertaining to free cash flow, asset

utilisation and the role of ownership structure, which then lead to the development of the hypotheses. The third section explains the research method, followed by a discussion of the results in section four. The paper ends with a summary and the conclusion of the research.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Free Cash Flow

Free cash flow is defined as the amount of cash flow in excess of that required for investments in profitable projects or those with positive net present values when discounted at the relevant cost of capital (Jensen, 1986). Free cash flow is internally generated capital, which can be used when companies are unable to obtain external funds due to an inefficient or imperfect market or information asymmetry between the management and capital providers (Myers & Majluf, 1984). Due to the higher costs of capital in an imperfect market, a firm may use its excess cash for investment (Aggarwal & Zong, 2006; Kim, 2005; Fuad & Mohd-Saleh, 2008). The excess cash may also be used to balance price fluctuation, which maintains the investment financing, particularly when the generated funds are in decline. Managers would increase the firm value by hedging the value of cash flow to avoid an imbalance between cash inflow and cash outflow (Froot, Scharfstein, & Stein, 1993). As predicted by the optimal saving hypothesis, managers would increase the value of a firm by generating capital before decisions are made on certain investments (Myers & Majkuf, 1984).

Free Cash Flow and Asset Utilisation

Free cash flow may result in an increase or a decrease of the firm value depending on its utilisation (McCabe & Yook, 1997). Effective asset utilisation would increase the firm value, whereas ineffective asset utilisation would decrease the firm value. Free cash flow creates the desire among managers to use the available funds for various activities that may or may not contribute to an increase in the firm's value (Jensen, 1986).

Managers tend to invest free cash flow in projects that bring personal perquisites by not following the proper planning procedure and ignoring the negative present value of the projects (Chung, Firth, & Kim, 2005). Such investment activities, on average, may generate returns that are lower than the cost of capital (Jensen, 1986). Consequently, high free cash flow increases asset dis-utilisation as managers invest the cash flow in unprofitable projects that satisfy their personal interests (Jensen, 1986). Prior studies show that

companies with high free cash flow invest more in less profitable investments compared to companies with low free cash flow (Griffin, 1988; Shin & Kim, 2002). The free cash flow hypothesis predicts that companies with excessive cash tend to experience a declining level of effectiveness of asset utilisation. The opportunistic behaviour of managers of companies with excess cash is explained by the free cash flow hypothesis (Jensen, 1986). Managers of companies with high free cash flow may demonstrate not only below optimal level performance but also involvement in free cash flow dis-utilisation (Ang et al., 2000). Based on the free cash flow theory, high free cash flow motivates managers to engage themselves in unprofitable projects that may reduce asset utilisation (Jensen, 1986). Managers tend to use high free cash flow to benefit themselves by sacrificing the interest of the principal (Jensen, 1986).

Thus, high free cash flow leads to an agency problem because managers tend to use the funds for activities that have little contribution to the value of the firm. However, identifying the agency cost of free cash flow is very difficult (Fleming et al., 2005). Managers do not disclose to investors the cash flow projection of investments or the underlying assumptions. Agency theorists argue that free cash flow may not be used for the improvement of a firm's long-term value due to managerial opportunism and the conflict of interests between shareholders and managers (Jensen, 1993). Past studies document that managers tend to use free cash flow to promote their personal interests at the expense of the shareholders' interests (Ang et al., 2000; Chung et al., 2005). Consequently, managers engage in asset dis-utilisation as part of fulfilling their own short-term interests. In addition, they use free cash flow to create their own compensations (Gul, 2001; Br-Bukit & Iskandar, 2009). Due to maximising managers' personal interests, the existence of free cash flow may result in an inefficient utilisation of assets.

Based on the above discussion, we conclude that free cash flow may motivate managers to retain cash in the firm and not to distribute it as dividends (Jensen, 1986). Managers would increase the controlling power on the firm's assets by using the free cash flow for the purchase of assets with personal benefit to them (Ang et al., 2000). This phenomenon is in line with the assumption that the use of free cash flow for excessive investment activities that are not related to the main activities of the companies contributes to the inefficient use of assets. Therefore, it is expected that free cash flow is related to the inefficient use of assets. The following hypothesis is proposed.

H1: Free cash flow is negatively related to asset utilisation.

Moderating Effects of Ownership Structure

Past studies provide evidence that ownership structure represents an important monitoring of the opportunistic behaviour of managers (Jensen & Meckling, 1976). Types of ownership structure include foreign ownership, government ownership, and managerial ownership. Owners have the motivation and power to monitor the utilisation of assets (Ang et al., 2000). Equity ownership provides control of the managerial opportunism by moderating the relationship between free cash flow and asset utilisation. In addition, the monitoring function of equity ownership reduces agency costs arising from the information asymmetry and separation of ownership and management (Watts & Zimmerman, 1983). The monitoring by shareholders through their rights on reducing the cost of equity is significantly stronger for firms that have severe agency problems due to free cash flow (Chen, Chen, & Wei, 2011). This study hypothesises that ownership structure strengthens the free cash flow-asset utilisation dynamic. The moderating effect of selected ownership monitors, including foreign ownership, government ownership, and managerial ownership, is discussed in the following sections.

Foreign ownership

Foreign ownership is defined as the percentage of shares owned by foreign investors and plays an important role in monitoring firm management (Dahlquist & Robertson, 2001). Dahlquist and Robertson (2001) argued that the presence of foreign investors complements the monitoring provided by non-foreign investors and avoids any managerial influence over the unproductive use of assets. Foreign investors from countries with strong governance mechanisms and laws have experience regarding how to monitor the firm's management (Benfratello & Sembenelli, 2006).

The presence of foreign ownership is also expected to reduce information asymmetry, and, hence, decrease agency problems (Yoo, 2005; Dahlquist & Robertson, 2001) because foreign ownership would act effectively to control and monitor the managers' attempts to manipulate the accounts (Yoo, 2005). Foreign investors act in their best interests to fulfil their fiduciary duties in ensuring the quality of financial reporting to protect shareholders' interests and to enhance the benefits received from their investments (Yoo, 2005). Thus, companies whose shares are substantially owned by foreign investors are less likely to engage in opportunistic behaviour, such as asset dis-utilisation. A large foreign ownership would monitor the firm's management decisions and actions to ensure that free cash flow is used productively and efficiently.

This study hypothesises that monitoring by foreign shareholders is expected to keep the management from opportunistically using the company assets inefficiently. Foreign owners may impose stricter monitoring when free cash flow is high. They may use their management expertise and knowledge of production technology to help companies attain a higher level of productivity (Ito, 2004). Foreign investors with large ownership of the company shares are more motivated to monitor the management activities. The following hypothesis is formulated.

H2a: The negative free cash flow-asset utilisation relationship is weaker when foreign ownership is high than when foreign ownership is low.

Government ownership

Government ownership is defined as the percentage of shares owned by the government without its direct involvement in the operation or management of the company. Empirical studies provide mixed findings about the role of government ownership in monitoring a company's management (Ang & Ding, 2006; Feng, Sun, & Tong, 2004; Qiang, 2003). Some researchers question the effectiveness of government investor activism, noting the potential associated problems, including issues of agency costs arising from political connections (Boycko, Shleifer, & Vishny, 1996; Gill-de-Albornoz & Illueca, 2005).

A number of prior studies find that the presence of government shareholders benefits the companies (Ang & Ding, 2006; Feng, Sun, & Tong, 2004). Ang and Ding (2006) show that the Singaporean government-linked companies (GLCs) have higher valuations and better corporate governance than the non-GLCs. The Feng et al. (2004) study on thirty Singapore GLCs covering the period from 1964 to 1998 showed that share-issue privatisation has some positive impact on a company's performance. However, there was no evidence that the GLCs were less profitable than a selected group of non-GLCs that were matched by size and industry.

Other researchers, such as Mak and Li (2001), argued that GLCs may have less of an incentive to control agency problems because they have weaker accountability for financial performance, easier access to financing, less exposure to the market for corporate control, and weaker monitoring by shareholders. Gill-de-Albornoz and Illueca (2005) state that opportunistic behaviour might occur in companies that have a high percentage of government shares due to political pressure.

Although the findings of past studies are mixed, this study argues that managerial opportunism, such as asset dis-utilisation, may be monitored by large government ownership. More specifically, government shareholders may be actively involved in the decision-making processes undertaken by managers regarding how to use the company's resources, such as free cash flow that benefits stakeholders (Boycko, Shleifer, & Vishny, 1996). This study contends that government shareholders monitor decisions on the utilisation of free cash flow to achieve their political interests in line with the company's profit or interest. The presence of government ownership is expected to help strengthen the company monitoring mechanism. Based on the above discussion, it is expected that government ownership may moderate the relationship between free cash flow and asset utilisation in the following manner.

H2b: The negative free cash flow-asset utilisation dynamic is weaker when government ownership is high than when government ownership is low.

Managerial ownership

Managerial ownership is defined as the percentage of shares owned by the insiders or managers of a given company. The level of managerial ownership varies; the level can be used as a measure of agency conflict between the manager and the owner (Jensen & Meckling, 1976; Ang et al., 2000). The greater the insider ownership, the lower the likelihood of agency costs being incurred (Jensen & Meckling, 1976; Ang et al., 2000; Singh & Davidson, 2003). Companies with high insider ownership are more likely to use assets efficiently with the aim of maximising the shareholders' value. Managerial ownership helps reduce the manager's incentives to increase their personal interests by sacrificing the interest of the shareholders. Managers who are owners would be motivated to work harder and more efficiently, which, in turn, would result in a more productive and profitable utilisation of assets.

Managerial ownership would participate actively in monitoring of the use of the company's free cash flow to ensure that only value-added projects are executed (Warfield, Wild, & Wild, 1995). Managerial ownership would play an insider role to ensure that free cash flow is only used for the company's long-term gains, which maximises shareholders' interests. Agency theorists suggest that managerial ownership would provide inputs into the decision-making process (Jensen & Meckling, 1976). Alignment theorists specify that insider ownership helps align the interests of the management and owners (Ang et al., 2000; Jensen & Meckling, 1976; Singh & Davidson, 2003). It is argued that managerial ownership would directly contribute to the success of asset utilisation.

Managers who own substantial company shares are able to directly influence the company decisions to utilise free cash flow only for projects with positive net present values. These managers monitor free cash flow to ensure that only profitable projects that benefit shareholders are approved (Warfield et al., 1995). In other words, the management would participate actively in the decision and utilisation of free cash flow to produce long-term gains that maximise the shareholders' returns. Managerial ownership directly contributes to the efficient utilisation of assets, particularly when a large amount of free cash flow is available. This study hypothesises that managerial ownership would weaken the negative relationship between free cash flow and asset utilisation. The following hypothesis is proposed.

H2c: The negative free cash flow-asset utilisation dynamic is weaker when managerial ownership is high than when managerial ownership is low.

METHODOLOGY

Research Model

This cross-sectional study develops a model for the relationship between free cash flow and asset utilisation, and the moderating effect of each type of ownership on the relationship. The model, with company (i) for the year 2005 is as follows.

$$\text{ASSET_UT} = \alpha_0 + \alpha_1\text{IND} + \alpha_2\text{SIZE} + \alpha_3\text{DEBT} + \alpha_4\text{AUD} + \alpha_5\text{ROA} + \alpha_6\text{FCF} + \alpha_7\text{FRGN} + \alpha_8\text{GOV} + \alpha_9\text{MGT} + \alpha_{10}\text{FCF*FRGN} + \alpha_{11}\text{FCF*GOV} + \alpha_{12}\text{FCF*MGT} + \varepsilon$$

where:

ASSET_UT	=	Asset utilisation
IND	=	Industry
SIZE	=	Size of company
DEBT	=	Total debt
AUD	=	Auditor size
ROA	=	Return on assets
FCF	=	Free cash flow
FRGN	=	Foreign ownership
GOV	=	Government ownership
MGT	=	Managerial ownership

Operationalisation of Variables

Asset utilisation as the dependent variable

This study measures asset utilisation (ASSET_UT) as the division of total sales over total property, plant and equipment (as shown in Table 1). This measure is adopted from Ang et al. (2000) who argue that the ratio represents the revenue per dollar of investment that may be attributed to the efficient use of assets.

Independent variables

Free cash flow (FCF) is measured by dividing net operating income after tax, interest and dividend by the lagged total assets. This measure is consistent with Chung et al. (2005). Foreign ownership is defined as the percentage of outstanding shares owned by foreign investors (Ang & Ding, 2006). To assess government ownership, this study first identifies government ownership in the sample companies and calculates the total percentage of shares owned by the government for each sample company (Ang & Ding, 2006). Examples of government owned entities include Lembaga Tabung Angkatan Tentera, Permodalan Nasional Berhad, and Skim Amanah Saham Bumiputera. Finally, managerial ownership is measured in terms of the percentage of shares outstanding that are owned directly by the members of management and board of directors (Chen & Steiner, 1999; Tandelilin & Wilberforce, 2002; Miguel, Pindado, & de la Torne, 2005).

Control Variables

This study includes five control variables that have been shown in the existing literature to be associated with asset utilisation (Ang et al., 2000; Fleming et al., 2005): Industry, size, debt, auditor and return on assets. Industry (IND) is a set of dummy variables for seven industries including construction, trade service, technology, real estate, agriculture, consumer goods, and industrial products. Size (SIZE) is the natural logarithm of sales at the end of the fiscal year. Total debt (DEBT) is the total debt divided by total assets. Auditor size (AUD) is the type of audit firms, Big 4 versus non-Big 4. Return on assets (ROA) is the net income after tax divided by total assets. Table 1 provides a list of the variables and a summary of their definitions and operationalisation.

Table 1
Variable definition and operationalization

Variables	Definition	Operationalization
<i>Dependent Variable</i>		
ASSET_UT	Asset utilization	Asset utilization is the ratio of sales to property, plant and equipment (Ang et al., 2000)
<i>Control Variables</i>		
IND	Industry	A set of dummy variables for seven industries
SIZE	Size of the firm	The natural logarithm of sales
DEBT	Total debt	Total debt divided by total assets
AUD	Auditor	Audit firm size, Big 4 (coded 1) vs. non-Big 4 (coded 0)
ROA	Return on assets	The net income after tax divided by total assets
<i>Independent Variables</i>		
FCF	Free cash flow	Net operating income after tax, interest expense and dividend divided by the lagged total assets (Chung et al., 2005)
FRGN	Foreign ownership	Percentage of foreign shareholders (Ang & Ding, 2006)
GOV	Government ownership	Percentage of government shareholders (Ang & Ding, 2006)
MGT	Managerial ownership	Percentage of managerial shareholders (Chen & Steiner, 1999; Tandelilin & Wilberforce, 2002; Miguel et al., 2005)

RESULTS

Sample

The sample comprises 616 public companies listed on Bursa Malaysia in 2005. The sample excludes 66 companies in the finance industry, which is a highly regulated industry, and small industries including hotel, Infrastructure Project Companies (IPC), and mining. Details of the filtering process of the sample are reported in Table 2. The final study sample is 477.

Table 2
Description of sample

Particulars	Number of Companies Year 2005	
Total number of companies on the Main Board of Bursa Malaysia		616
Less companies in:		
Finance industry	53	
Hotel industry	5	
IPC industry	6	
Mining industry	2	66
Less companies with missing data		73
Final number of sample companies		139
		477

Data Collection

Data on foreign ownership, government ownership and managerial ownership are collected from the companies' annual reports. Data for asset utilisation, free cash flow and control variables are collected from *Data Stream International*, a financial database provider.

Descriptive statistics

Table 3 presents the mean values of the variables. The mean value of asset utilisation is 2.318, indicating that the sale is approximately 2.3 times the amount of property, plant and equipment. The table shows that the mean value of free cash flow is 3.258. The company equity ownership consists of 5.4% foreign ownership, 5.3% government ownership, and 30.3% managerial ownership. The mean value of debt to total assets is 24.2%, and the return on total assets is 3.2%.

Prior to conducting the correlation analysis, the normality test using skewness and kurtosis is performed to ensure that data for both dependent and independent variables are normally distributed (Keller & Warrack, 2003). The results show that all of the study variables are normally distributed with minor exceptions on the kurtosis values. According to Vaus (2002), this is not a serious problem with regard to the normality assumption, particularly when the sample size is larger than 100, which is sufficient to approximate a normal distribution of values.

Table 3
Descriptive statistics

	Min	Max	Mean	Std. Dev.
ASSET_UT	0.000	2.013	2.318	2.703
SIZE	5.616	1.676	1.243	1.438
DEBT	0.000	1.513	2.426	2.293
AUD	0	1	0.69	0.464
ROA	-6.541	2.900	2.279	1.104
FCF	-7.038	5.273	3.258	9.632
FRGN	0.000	0.523	0.054	0.078
GOV	0.000	0.636	0.053	0.084
MGT	0.000	0.982	0.303	0.264

Correlation analysis

The correlations between independent variables are tested to see whether there are any multicollinearity problems with the data. Table 4 presents Pearson correlation coefficients for the variables at the 0.05 level of significance. The table shows that the correlation coefficients are low. The highest coefficient is 0.526, representing the correlation between return on assets and debt. Gujarati (2003) states that the multicollinearity problem only exists if the correlation coefficients between explanatory variables are above 0.8.

Table 4
Correlation between variables

ASSET_UT	SIZE	DEBT	AUD
1	0.270**	-0.113**	0.040
	1	0.017	0.133**
		1	-0.152**
			1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Results of multiple regressions

The study uses hierarchical multiple regressions to analyse asset utilisation on the basis of several variables, including free cash flow, equity ownership structure and a number of control variables. Step 1 tests the direct relationships between the explanatory variables and asset utilisation. In this step, the study relates free cash flow, three types of ownership structure, and control variables

to asset utilisation. Step 2 tests the moderating effects of the three types of ownership structure (foreign ownership, government ownership, and managerial ownership) on the relationship between free cash flow and asset utilisation. The results are summarised in Table 5.

The results in Table 5 show a significant negative relationship between free cash flow and asset utilisation ($B = -10.671$, $p < 0.01$). The results also indicate that when free cash flow increases, the efficiency of asset utilisation decreases and that companies become less efficient in utilising the assets when they have higher free cash flow. Thus, H1 is supported.

The results also show a significant negative relationship between asset utilisation and government ownership at $p < 0.01$. However, the relationships between asset utilisation and both foreign and managerial ownerships are not significant. The results suggest that government ownership leads to inefficient utilisation of assets.

Step 2 in Table 5 presents the results of the regression analysis whereby the interactions between free cash flow and each ownership variable are included. The adjusted R^2 of the model increases by 3.4% from 18.6% to 22.0%. The change of the adjusted R^2 is significant ($p < 0.01$), which indicates that the interactions between ownership variables and free cash flow contribute significantly to the model. The results show that both the foreign and managerial ownerships significantly moderate the relationship between free cash flow and asset utilisation ($p < 0.01$). The results show no significant moderating effect of government ownership on the free cash flow and asset utilisation relationship. The results provide support for H2a and H2c but provide no support for H2b.

The results show that monitoring asset utilisation is more effective among companies with high foreign ownership and high free cash flow. This finding shows that foreign ownership provides an effective monitoring of asset utilisation, particularly when companies have high free cash flow. Foreign ownership may not be able to monitor asset utilisation effectively when its level of ownership is low regardless of whether the company has a high or low level of free cash flow. Thus, the monitoring by foreign ownership on asset utilisation would depend on the level of ownership and free cash flow. Companies with high foreign ownership would utilise their assets more efficiently, particularly when the size of free cash flow is higher. However, the monitoring by foreign ownership on asset utilisation is not significant when free cash flow is low.

Table 5
Hierarchical regressions on asset utilization (dependent variable)

Variables	Step 1		Step 2	
	Std. Coeff.	<i>t</i> -value	Std. Coeff.	<i>t</i> -value
<i>Constant</i>		-2.311		-2.554
<i>Control variables^a</i>				
Size of the firm	0.255***	5.083	0.285***	5.741
Total debt	-0.112**	-2.309	-0.162***	-3.325
Auditor	0.005	0.117	0.023	0.523
Return on assets	0.091*	1.826	0.069	1.402
Free cash flow	-0.149***	-3.150	-0.452***	-5.502
<i>Ownership</i>				
Foreign ownership	-0.014	-0.313	-0.083*	-1.660
Government ownership	-0.076*	-1.705	-0.087**	-1.967
Managerial ownership	-0.058	-1.304	-0.129***	-2.652
<i>Interactions</i>				
Free cash flow × Foreign ownership			0.176***	2.934
Free cash flow × Government ownership			0.023	0.484
Free cash flow × Managerial ownership			0.270***	3.813
<i>F value change</i>	<i>8.415***</i>		<i>7.394***</i>	
<i>R²</i>	<i>0.211</i>		<i>0.249</i>	
<i>Adjusted R²</i>	<i>0.186</i>		<i>0.220</i>	

^aincluded 6 dummy variables on industries (not shown)

Notes: ***Significant at 0.01 level, **significant at 0.05 level, * significant at 0.10 level

The results also show that when managerial ownership is high, the monitoring over asset utilisation among companies with high free cash flow is more effective than the monitoring over asset utilisation among companies with low free cash flow. High managerial ownership provides a more effective monitoring of asset utilisation for companies with high free cash flow. However, when managerial ownership is low, there is no difference in the monitoring effect over asset utilisation between companies with high or low free cash flow. Thus, the extent of monitoring by managerial ownership on the use of assets differs significantly depending on the level of ownership and the size of free cash flow. The effectiveness of asset utilisation monitoring among companies with high managerial ownership is significantly improved as the size of free cash flow increases. In contrast, the monitoring effectiveness of the different levels of managerial ownership is not significant when free cash flow is low. As the level of free cash flow increases, high managerial ownership enhances the managers' efficiency in utilising the assets. Thus, managerial

ownership moderates the relationship between free cash flow and asset utilisation such that the negative effect of free cash flow on asset utilisation has weakened when the level of managerial ownership becomes higher. The higher the level of free cash flow, the more efficient is the asset utilisation among companies with a high level of managerial ownership.

Additional analysis

This study performs an additional analysis by adding ownership concentration into the model as an alternative measure of companies' ownership structures. Concentrated owners play a significant role in monitoring their companies' activities. The strength of monitoring differs between different levels of ownership concentration (Morck, Shleifer, & Vishny, 1988; Bukart, Gromb, & Panunzi, 1997). The top three largest shareholders are more likely to restrict managerial opportunism (Renneboog, 2000). This argument is based on the fact that a high-percentage of ownership would have a considerable voice right and cash incentive. Shareholders with a significant percentage of ownership would want to avoid reporting company losses, as they have the power and the right to keep their interests satisfied.

It is argued that highly concentrated ownership is expected to be more effective in controlling managers than less concentrated ownership because of the relevant expertise of the concentrated owners in analysing company performance and, hence, is not easily deceived by the fraudulent acts of the management (Bukart et al., 1997). Highly concentrated ownership is normally retained long-term because of the difficulty of selling at a higher price due to the large size. Bukart et al. (1997) argued that long-term ownership provides an incentive for the owner to monitor the management conduct more effectively, particularly in companies with high free cash flow. Thus, the existence of a large concentrated ownership is expected to weaken the negative relationship between free cash flow and asset utilisation. Essentially, managers of companies with substantially large, concentrated shareholders become less able to engage in an opportunistic behaviour. One inhibiting behaviour of the management is the threat of legal action against managers taken by large investors (Core, Guay, Buskirk 2003).

Past studies have reported mixed findings regarding the monitoring effectiveness of ownership concentration (e.g., Hiraki, Tnoele, Ito, Kuroki, & Masuda 2003; Chen, Cheung, Stouraitis, & Wong, 2005). Hiraki et al. (2003) find a positive relationship between ownership concentration and company value of Japanese manufacturing companies, while Hiraki et al. (2003) show a greater alignment of managerial interests with those of stockholders of Japanese manufacturing companies. Chen et al. (2005), however, find no significant

relationship between ownership concentration and company value in Hong Kong. The Chen et al. (2005) finding does not support the alignment hypothesis. The insignificant result may be attributed to the managerial entrenchment hypothesis whereby managers with large shareholdings misuse this power for their own self-interest at the expense of the wellbeing of the minority shareholders.

However, there is very little evidence concerning the relationship between ownership concentration and performance in South East Asian countries (Chen et al., 2005; Claessens, Djankov, & Lang, 2000). Standards of corporate governance and investor protection are also lower in this region compared to those of the U.S. or Japan (La Porta et al., 1998). Within the South East Asian environment, it is argued that a highly concentrated ownership has a strong incentive to effectively monitor the management of its company (Bukart et al., 1997). Highly concentrated ownership relates to the ability of investors to strongly restrain the opportunistic behaviour of the managers (Renneboog, 2000). In contrast, less concentrated ownership reflects weaker monitoring ability because company monitoring involves costs. When concentrated ownership receives lower income, the incentive to monitor becomes less. It is expected that effective concentrated ownership monitoring would increase the efficiency of asset utilisation. Ownership concentration is determined by the top three largest shareholders, as per the analysis of shareholdings reported in the annual reports (Renneboog, 2000).

The results of the analysis are summarised in Table 6. The table shows that the interaction between free cash flow and ownership concentration has a significant positive coefficient of 0.439. The results show that ownership concentration significantly moderates the free cash flow and asset utilisation relationship (adj. $R^2 = 20.8\%$, $p < 0.01$). The results suggest that concentrated ownership provides effective monitoring by increasing the efficiency of asset utilisation. Thus, the results imply the importance of concentrated ownership in monitoring the opportunistic behaviour of the management to ensure that the management's actions are in line with the shareholders' interests.

The interaction between free cash flow and ownership concentration suggests that highly concentrated ownership provides strong monitoring for companies to utilise their assets more efficiently when free cash flow is high. The results suggest that highly concentrated ownership provides effective monitoring of the managers against engaging themselves in non-value-maximising expenditures, particularly when free cash flow is high. Among companies with less concentrated ownership, the efficiency in asset utilisation does not differ significantly with the different levels of free cash flow.

Table 6
Hierarchical regressions on asset utilization (dependent variable)

Variables	Step 1		Step 2	
	Std. Coeff.	t-value	Std. Coeff.	t-value
<i>Constant</i>		-2.367		-2.119
<i>Control variables^a</i>				
Size of the firm	0.224***	4.592	0.225***	4.702
Total debt	-0.095**	-1.935	-0.103**	-2.126
Auditor	-0.007	-0.150	0.004	0.083
Return on assets	0.092*	1.880	0.103**	2.126
Free cash flow	-0.137***	-2.957	-0.543***	-4.870
Ownership concentration	0.066	1.472	0.002	0.039
Free cash flow × Ownership concentration			0.439***	3.989
<i>F Value change</i>	9.600***		15.911*	
<i>R²</i>	0.203		0.230	
<i>Adjusted R²</i>	0.182		0.208	

^a included 6 dummy variables on industries (not shown)

Notes: ***Significant at 0.01 level, **significant at 0.05 level, * significant at 0.10 level

DISCUSSIONS AND CONCLUSION

A growing body of research has noted the element of managerial opportunism in the use of high free cash flow, resulting in inefficient utilisation of assets (Jensen, 1986; Stulz, 1990). This study extends this line of research by investigating the moderating role of ownership monitors (including foreign ownership, government ownership and managerial ownership) in monitoring the relationship between free cash flow and asset utilisation. Based on a sample of 477 companies listed on Bursa Malaysia, this study provides evidence that asset utilisation is significantly less efficient for companies with high free cash flow. This finding is consistent with the free cash flow hypothesis (Jensen, 1986) and suggests that managers do not use high free cash flow to invest in positive present-value projects or in shareholders' wealth-maximising projects. Consequently, the efficiency of asset utilisation decreases. This finding is consistent with the argument of Myers and Majluf (1984) that some companies use their free cash flow to amass liquid assets and financial slack, especially in situations where the cost of issuing equity is high. The accumulation of cash as

a slack enables managers to undertake positive present-value projects without being forced into the equity market (Myers & Majluf, 1984).

The results of this study demonstrate the significant moderating roles of foreign and managerial ownerships on managerial decisions in using free cash flow for the maximisation of shareholders' wealth. This notion is consistent with the alignment hypothesis proposed by Jensen and Meckling (1976). The results show an effective monitoring of foreign ownership on asset utilisation among companies with high free cash flow, particularly when the level of ownership is high. High foreign ownership would weaken the negative relationship between free cash flow and asset utilisation, resulting in an increase in the efficiency of utilisation of assets. Other than foreign ownership, managerial ownership is shown to moderate the relationship between free cash flow and asset utilisation. With the presence of high managerial ownership, the inefficient use of assets resulting from the availability of high free cash flow is reduced. Asset utilisation among companies with a high level of managerial ownership and high cash flow is more efficient.

The results from analysing the monitoring effect of ownership concentration as an alternative measure of companies' ownership structure indicates the significant role of ownership concentration in providing effective monitoring of the management against engaging themselves in inefficient use of free cash flow, such as through non-value-maximising activities.

This paper offers a significant contribution regarding the monitoring role of ownership variables on the behaviour of the management in the utilisation of assets, particularly when free cash flow exists. First, this study has empirically demonstrated the interaction effect of ownership monitors on asset utilisation when a firm has free cash flow. Foreign and managerial ownerships are effective monitors that deter managers' opportunistic behaviours, such as asset dis-utilisation. Many previous studies have examined the direct effects of ownership variables without considering their interaction role in monitoring the utilisation of free cash flow. This study integrates the insights on the free cash flow hypothesis and ownership structure literature.

This study has some limitations. First, a precise measure of asset utilisation is difficult to determine (Banker et al., 1989). Further research into this area may offer better measures of asset utilisation. Future research is also necessary to further explore the relationship between asset utilisation and earnings management because managers are motivated to manage the company earnings to obscure managers' poor performance (Yoon & Miller, 2002). Thus, there is a possibility that low asset utilisation may lead to managerial willingness to manage earnings. Another limitation is that this study reports a

relatively small percentage of foreign ownership shareholdings (5.4% on average) in this sample of companies. Thus, the sample of foreign ownership should contain a higher percentage to avoid undue managerial influence. Further research may be necessary to address this issue.

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This study investigated the moderating effect of institutional ownership on the relationship between free cash flow and assets efficiency in Tehran Stock Exchange over the period 2008-2012. The results showed that there is a significant and negative relationship between free cash flow and asset efficiency. It means that in those firms which have a high level of free cash flow, managers are opportunists. Therefore, it caused to decrease in asset efficiency and increase in agency costs. The difference between the two can be traced to the fact that Free Cash Flow to Firm excludes the impact of interest payments and net increases/decreases in debt, while these items are taken into consideration for FCFE. Free Cash Flow to Equity (FCFE) is the amount of cash a business generates that is available to be potentially distributed to shareholders. CAPM (Capital Asset Pricing Model) is a model that describes the relationship between expected return and risk of a security. CAPM formula shows the return of a security is equal to the risk-free return plus a risk premium, based on the beta of that security.