The New Structure of Corporate Governance, Institutional Investors and Capital Structure: Evidence from Malaysia

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Abstract

Using a panel data of 237 main market Malaysian companies during 2002 to 2011, this paper examines the influence of institutional investors on capital structure after implementing new corporate governance mechanism in Malaysia in 2001. The results of System GMM estimator, in contrast with the previous studies in Malaysia, show that there is a negative relationship between institutional ownership and capital structure. This indicates that restructuring corporate governance in Malaysia has been effective and institutional investors have become more active in the market. We also find that institutional investors are not homogenous. The results reveal that there is a significant relationship only for pressure-insensitive institutions, namely those who have very little or no business relations with their investees. In addition, the findings show that in politically connected firms, institutional investors and especially the pressure-insensitive investors lose their monitoring power.

Keywords: Agency costs, asymmetric information, capital structure, corporate governance, Institutional investors

Introduction

Studies on the East Asia Financial Crisis (1997-1998) indicate that corporate governance mechanism, especially ownership structure, was not efficient enough in the affected countries including Malaysia (Claessens and Fan, 2002, Driffield et al., 2007, Alba et al., 1998, Chang, 2006). This weakness caused the firms to have higher debt ratios and increasingly dependent on banks for financing (Suto, 2003). Especially in Malaysia, the high dependency on debt has caused instability and excess investments before the crisis in 1997-98 (Suto, 2003), and it is believed that this was caused by weak corporate governance (Suto, 2003, Nadaraja et al., 2011, Driffield et al., 2007).

One of the most important problem about corporate governance in Malaysia and other affected countries is the low level of investment by institutional investors (Joher et al., 2011, Claessens and Fan, 2002) and their passive role in the market (Iskander and Chamlou, 2000, Claessens and Fan, 2002). Wahab, Zain, James, and Haron (2009) mention that the Asian Financial Crisis has started an increased awareness about the role of institutional investors. Iskander and Chamlou (2000) and Samuel (1996) argue that in the developing economies, institutional investors generally represent a small proportion of a diversified portfolio. Therefore, they may not be powerful enough to enforce efficiency, fairness, and transparency. In addition, it is less likely that they will have a powerful governance role in the developing countries. Especially in Malaysia, Suto (2003) and Thillainathan (1999) argues that, to escape from fiduciary responsibility, institutional investors had less incentive to monitor the firms that they hold shares.

After the crisis, the Malaysian government restructured the corporate governance system in the financial market. Based on the Malaysian Code on Corporate Governance (MCCG), the institutional investors should play an important role to guarantee good corporate governance practices. Partic-

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ularly, institutional investors are expected to influence decision making in firms. The Finance Committee on Corporate Governance (FCCG) also established the Minority Shareholders Watchdog Group (MSWG). The main purpose of this group was to encourage and support shareholder activism via institutional investors (Wahab et al., 2008). As a result, institutional investors in Malaysia have become a very powerful and large group that play a very important role in corporate governance mechanism to protect the interests of minority stockholders (Hashim and Devi, 2007). For example, the institutional investors in Malaysia hold about 51% of the stocks in the top 10 highest market capitalizations of firms listed on Bursa Malaysia (Saleh et al., 2010).

Fraser et al. (2006) and Joher et al. (2011) in a period before restructuring corporate governance find a positive relationship between institutional ownership and capital structure. The possible reason behind this positive relationship is that institutional investors were not big and active enough in the market to monitor firms and consequently they may have used debt financing as an internal monitoring mechanism. Therefore, it would be very useful to investigate the influence of institutional investors on the capital structure of firms after the East Asian Crisis, and especially restructuring corporate governance system. Thus, the first objective of this study is to highlight the influence of institutional ownership on capital structure after the implementation of new corporate governance system in Malaysia.

In addition, a special and important issue in Malaysia is the close link between business and politics (Fraser et al., 2006, Wahab and Rahman, 2009). The Malaysian government plays the role of political patron to selected companies. It has a significant influence over the capital market through direct equity ownership in listed firms, listing restrictions, control of the banking sector, and also via government-controlled institutional investors. Consequently, institutional investors in Malaysia are highly dominated by government control or management (Fraser et al., 2006). Therefore, we examine the moderating effect of political connection and institutional investors with capital structure. It is important to test such relationships because it can show the effectiveness of institutional investors' monitoring in politically connected firms.

Another issue is that almost all of the previous studies regarding institutional investors and capital structure did not classify institutional investors and consider them as a homogenous group, while many researchers believe that different types of investors have different abilities to monitor the managers of firms. Therefore, in this study we first examine the relationship between total institutional ownership (as a homogenous group) and capital structure. Then, based on their business relations with firms, they are classified into pressure-sensitive and pressure-insensitive investors. Pressure-insensitive investors have no or very little business link with firms that they hold shares and consequently they are more able to monitor managers.

The results of study indicate that there is a negative relationship between institutional ownership and capital structure. This implies that restructuring corporate governance mechanism has activated institutional investors in the market, they are more powerful than before and they can be a good monitoring mechanism in companies. In addition, we find that there is a significant relationship only for pressure-insensitive institutions. Further, in politically connected firms, institutional investors and especially the pressure-insensitive institutions which are under more government control, lose their monitoring power.

The following sections describe these issues: section 2 explains the role of institutional investors in Malaysia based on the new structure of corporate governance. In section 3 we argue regarding theoretical background about the relationship between institutional ownership and the capital structure of firms. In section 4 we describe the sample, data and methodology. Section 5 presents the descriptive statistics and discusses the results of regression models. Finally, in section 6 we conclude the paper.

New Structure of Corporate Governance in Malaysia and Role of Institutional Investors

The growth in institutional shareholdings has increased considerably in most countries. For example, in USA shareholding of institutional investors in outstanding common stock has increased from 6.1% in 1950 to 51% in 2009 (Tonello and Rabimov, 2010). In Malaysia, shareholding of institutional investors is relatively low if compared with that in the developed countries. In 2002, the proportion of institutional investors of total market capitalization was about 13% and Malaysian investors owned 99% of the investment (Hashim and Devi, 2007, Wahab et al., 2008). Not only the in-

vestment by institutional investors was low in Malaysia, but also they were passive players in the market. Thillainathan (1999) mentions that the institutional investors play just a passive role in corporate governance and they rely on third party research, primarily that by brokerage houses.

Therefore, the Finance Committee on Corporate Governance (FCCG) made two significant recommendations in 1999. The first recommendation was about the founding of the Malaysian Code on Corporate Governance (MCCG), which recognizes a structure for the best corporate governance practices. According to MCCG, the institutional investors have an important role to guarantee good corporate governance practices. Institutional investors are expected to involve themselves in the management boards of the firms and in the appointment of nonexecutive directors. Moreover, MCCG encourages institutional investors to keep good relationships with the firms and other shareholders and to have frequent dialogues with them. Particularly, FCCG (2000) considers three roles for institutional investors:

(a) Institutional shareholders have a responsibility to make considered use of their votes.

(b) Institutional investors should encourage direct contact with companies including constructive communication with senior management and board members about performance, corporate governance, and other matters affecting shareholders' interest.

(c) When evaluating companies' governance arrangements, particularly those relating to board structure and composition, institutional investors and their advisers should give due weight to all relevant factors drawn to their attention.

The second recommendation was about establishing a Minority Shareholders' Watchdog Group (MAWG). The main objective of this recommendation is to encourage and support shareholder activism via institutional investors. In fact, MSWG allows institutional investors to discuss and control any governance noncompliance of listed companies, because their activities can be detrimental and harmful to the minority shareholders' rights and interests (Wahab et al., 2007, Wahab et al., 2008).

With the amendments to the listing requirement of the Kuala Lumpur Stock Exchange in January 2001, the Malaysian Code was brought into full impact (Hashim and Devi, 2007, Mustapha and Ahmad, 2011). In same year, MSWG was formally created and five important institutional in-

vestors in Malaysia were included as initial members. They included Lembaga Tabung Angkatan Tentera (LTAT), Employees Provident Fund (EPF) as two pension funds, and Permodalan Nasional Berhad (PNB) as an investment fund, Lembaga Urusan Tabung Haji (LUTH) as a pilgrim fund and National Social Security Organisation of Malaysia (SOCSO) as an insurance company. These investors plus other large institutional investors in Malaysia such as Permodalan Nasional Berhad (PNB) and Khazanah Nasional have tried over the years to improve the governance practices in their investee by their engagement in management board and using their votes on key and significant issues at general meetings (Wahab et al., 2008, Hashim and Devi, 2007). Collectively, these five institutional investors hold about 70% of total institutional shareholdings in companies listed on the Main Board of Bursa Malaysia (Wahab, et al., 2008). Wahab et al. (2009) state that institutional investors have become more active players in corporate governance and they began to give up their traditional passive role.

Hypotheses Development

Institutional investors and capital structure

Based on the capital structure theories, the existence of agency costs and asymmetric information shape the capital structure of firm (Elyasiani et al., 2010, Li et al., 2009, Michaely and Vincent, 2012). Vanacker and Manigart (2010) state that agency costs and asymmetric information cause the existence of a considerably large wedge between the cost of internal financing and external financing. Institutional investors can change the firm's capital structure by mitigating agency costs and asymmetric information. However, there are two views about the role of institutional investors in mitigating agency cost and asymmetric information problems.

As regards to agency problem, some scholars such as Firth (1995), Harris and Raviv (1990), Jensen (1986), believe that mangers are worried about bankruptcy risk because they may lose their jobs, and this concern may push them to use less debt. Shleifer and Vishny (1986) state that block-holders (including institutional investors) have higher incentives to decrease agency costs because they can have larger benefits through monitoring. They also will have larger voting powers that will enable them to take corrective actions when it is necessary (active monitoring hypothesis). Brailsford et al. (2002), Brickley et al. (1988), Elyasiani et al. (2010), con-

sistent with the active monitoring hypothesis, find that it is more possible that institutional investors vote against the harmful changes which will decrease shareholders' wealth. Therefore, they will not allow mangers to use less debt than the level that is needed for value maximization.

Conversely, some other researchers believe that institutional ownership and debt can be substituted. Al-Najjar and Taylor (2008), Crutchley et al. (1999), Michaely and Vincent (2012), state that institutional investors have sufficient resources and incentives to mitigate the agency conflicts between shareholders and managers within a firm. Accordingly, to solve these conflicts, institutional monitoring can be considered as a substitute bonding mechanism to debt. Consequently, firms with a high institutional ownership need less debt in their capital structure for mitigating the agency conflicts between mangers and shareholders.

As regard to asymmetric information problem, institutional investors are professional groups and they make decisions based on scientific and fundamental analysis. They are large stockholders, and large shareholders can obtain private and better quality information from firm's managers and convey them to other owners (Elyasiani et al., 2010, Michaely and Vincent, 2012, Bartov et al., 2000). In addition, institutional investors, by forcing managers to increase information disclosure, are able to mitigate information asymmetry. As a result, the adverse selection costs of equity financing will be decreased and firms can finance by the issuance of new equity instead of debt financing (Elyasiani et al., 2010, Bushee and Goodman, 2007, Michaely and Vincent, 2012). In the signalling theory, institutional ownership can reduce the need for debt to signal equilibriums (Grier and Zychowicz, 1994, Michaely and Vincent, 2012, Zeckhauser and Pound, 1990). According to this view, institutional investors are a substitute for debt and consequently, there is a negative relationship between institutional ownership and debt financing. Conversely, Viswanath (1993) shows that firms have to issue stock optimally when asymmetric information problem is low to avoid underinvestment in projects with positive NPV in future. In fact, Viswanath (1993) develops the intuition of Myers and Majluf (1984) that because of the dilution costs of equity financing, firms may reject worthwhile projects. However, the future equity financing dilutive costs could be decreased by reducing the information gap between (potential) shareholders and managers. Therefore,

there is a complementary relationship between leverage and institutional ownership if institutional investors allow companies to relinquish issuing equity today (Michaely and Vincent, 2012). Therefore, it is acceptable to believe a positive relationship between institutional investors and leverage.

The previous studies in Malaysia such as Fraser et al. (2006) and Joher et al. (2011) find a positive relationship between institutional investors and debt ratio. However, most of the newest studies in the developed countries find a negative relationship. In fact, they infer that institutional ownership is a substitute mechanism for debt monitoring and consequently, as institutional ownership increases in a firm, debt financing decreases. Thus, we expect, with the new structure of corporate governance in Malaysia, institutional investors have become bigger and more efficient and as a result, they could be good substitutes for debt monitoring. Therefore, we assume a negative relationship between institutional ownership and capital structure in the Malaysian firms.

Hypothesis 1: There is a negative relationship between institutional ownership and capital structure in Malaysian firms after restructuring corporate governance.

Besides, most researchers such as Almazan et al. (2005), Chen et al. (2007), Cornett et al. (2007), believe that different investors have different degrees of monitoring, preferences, goals, institutions' diverse clienteles, and constraints. Therefore, institutional investors are classified into pressure-sensitive and pressure-insensitive investors in this study. Filatotchev et al. (2005) argue that they often have an obligation to support the management's decisions. Consequently, their governance role tends to be more passive in comparison with pressure-insensitive investors. Almazan et al. (2005) and Chen et al. (2007) also show that the pressure-insensitive institutional investors face lower monitoring costs than the pressure-sensitive institutions and they can provide more severe monitoring of the corporate management. Ferreira and Matos (2008) and Jara-Bertin et al. (2012) also reveal pressure-insensitive institutional investors are more able to pressure management and as a result, enhance shareholders' value and operating performance. Consequently, it is expected that pressure-insensitive investors have a stronger influence on capital structure than pressure-sensitive institutions.

Hypothesis 2: Pressure-insensitive institutional investors have a stronger negative relationship with

capital structure than pressure-sensitive institutions.

Institutional investors and political connection in Malaysia

One of the unique features in Malaysia is the connection between the government and many corporations. It is a consequence of National Economic Policy (NEP) in Malaysia that government intervened in Market to increase the Malay equity (Wahab et al., 2009). Johnson and Mitton (2003) argue that because of diverse ethnic ownership, the phenomenon of politically connected companies in Malaysia is rather unique in comparison with similar companies in other countries. It is documented that firms with close connections to the government can have multiple benefits and better access to major government contracts. For example, politically connected firms can get easy access to loan from government-backed banks and pension funds (Chang and Wong, 2004). Fraser et al. (2006) and Johnson and Mitton (2003) find that firms with political patronage have more debt. Almost all institutional investors in Malaysia are supported by various levels of government Fraser et al. (2006). Since most of the institutional investors in Malaysia are government controlled, they may be affected by politicians. The main institutional investors in Malaysia enjoy an investment advisory board that chiefly comprise ministers or individuals elected by the ruling party to supervise and monitor the investment decision of the institutional investors (Wahab and Rahman, 2009). However, political presence in institutional investors is for improving social obligation (Chang and Wong, 2004), which in this case requires institutional monitoring of capital structure. In addition, politicians have an incentive to impede controlling stockholders and managers from entering in behaviours that decrease the amount of resources over which politicians have discretion (Wahab and Rahman, 2009). However, politicians may employ institutional investors to follow their own interest and channelling all available resources to meet their own needs (Wahab and Rahman, 2009). Consequently, it is possible for institutional investors to lose their monitoring power in politically connected firms.

Hypothesis 3: The monitoring power of institutional investors decreases in politically connected firm.

Besides, most of the government controlled institutional investors in Malaysia are classified in the pressure-insensitive institutions and most of pressure-sensitive institutional investors are less government controlled. Therefore, it is expected that in politically connected firms, pressure-insensitive investors are weaker than pressure-sensitive institutions to monitor firms.

Hypothesis 4: Pressure-insensitive institutional investors lose more monitoring power than pressure-sensitive institutions in politically connected firms.

Methodology

Sample

This paper uses the main market listed companies of Malaysia as sample for the period between 2002 and 2011. We exclude financial firms, firms with incomplete data and firms with negative assets. To choose our sample, we select one of every two firms in the population using a systematic random sampling method. This is because the data of institutional investors in Malaysia are only accessible via annual reports and there is no database for this kind of data. Therefore, collecting data for all companies will take a very long time. The final sample includes 237 main market firms in different sectors. Therefore, we have 2,370 observations in our sample.

Measures

The dependent variable in this study is capital structure. Tong and Ning (2004) state that leverage is an ideal proxy for capital structure. Several alternative definitions of leverage have been used in the literature. Most studies considered some form of a debt ratio. Rajan and Zingales (1995) state that leverage could be defined in several ways, depending on the purpose of the analysis. In this study, we measure the leverage by the ratio of total debts to total assets as the dependent variable because it is the most common measure in capital structure studies.

The variable of interest in this study is institutional investors (IIS). We measure IIS, as the percentage of shareholding owned by all institutional investors in the company. We include a long series of owners as institutional investors such as banks and trusts, endowment funds, finance companies, foundations, government agencies, holding companies, investor advisors, insurance companies, pension funds, private equity firms, brokerage firms, research firms, and mutual funds. Moreover, following Brickley et al. (1988), Cornett et al. (2007), Filatotchev et al. (2005), Kochhar and David (1996), Li et al. (2007), to examine the impact of different types of institutional investors on our

results, this study categorizes institutional investors into two groups. One is pressure-sensitive group, which usually has current or potential business relationships with their investees through insurance services, loan, and mortgages. The other is pressure-insensitive group, which has no or very little business relationship with their investees. Pressure-insensitive institutional investors include private or public pension funds, investment companies, independent investment advisors, brokerage houses, stated-owned institutions, mutual funds, and so on. In contrast, financial institutions included banks, insurance companies are classified as pressure-sensitive institutional investors. Some of institutional investors such as Foundations and Endowment funds potentially could be classified as pressure-sensitive and pressure-insensitive. However, to be conservative, according to Almazan et al. (2005), Chen et al. (2007), Cornett et al. (2007), this study classifies these investors as pressure-sensitive investors. Institutional shareholding data for the period 2002–2011 are obtained from the annual reports of listed companies for each year individually. In addition, based on the previous capital structure studies and Malaysian context, some important control variables are considered to control some other variables that influence capital structure. These control variables include profitability, size of firm, tangibility, growth opportunities, non-debt tax shield, market timing, political connection and industry type. The list of politically connected firms is derived from Johnson and Mitton (2003) and Wahab and Aswadi (2012). Table 1 gives the definition of each variable.

Table 1. Variables definition

Variable	Symbol	Measurement
Debt ratio	DR	Total debt to total book assets
Institutional investors	IIS	Institutional ownership to total shares outstanding
Pressure-sensitive institutional investors	PSIIS	Pressure-sensitive Institutional ownership to total shares outstanding
Pressure-insensitive institutional investors	PIIIS	Pressure-insensitive Institutional ownership to total shares outstanding
Profitability	PROFIT	EBITD to total book assets
Firm size	SIZE	Natural logarithm of total book assets
Tangibility	TANG	Total net fixed assets to total book assets
Growth opportunities	GO	Market-to-book value
Non-debt tax shield	NDTS	Depreciation expenses to total book assets
Market timing	MT	The stock price at time t to the price at time t-1
Political connection	POL	Dummy variable; code 1 is for politically connected firm and code 0 is for otherwise
Industry type	IND	Dummy variables, Property sector is omitted

Model Specification

We estimate the multivariate regressions using panel data methodology in which the debt ratio in each year is a function of various financial and ownership variables. Our particular focus is the influence of institutional ownership on capital structure. However, the relationship between institutional ownership and capital structure is subject to a potential simultaneity bias and consequently, endogeneity problem. If institutions are attracted to companies with less debt ratio, then a negative relation between institutional ownership and debt ratio might be seen even if that institutional ownership is not directly beneficial to debt ratio. In other words, it would be hard to distinguish between the hypothesis that institutional investors influence capital structure versus the hypothesis that they simply increase holdings in firms with less leverage. Therefore, we employ a dynamic panel estimation with GMM estimator to solve this problem.

Table 2. Summary Statistics

Variable	Obs	Mean	Std. Dev.	Minimum	Maximum	VIF model 1	VIF model 2
Panel A: Total firms							
DR	2370	0.2074	0.1657	0	0.9574	--	--
IIS	2370	0.1667	0.1878	0	0.9203	1.30	--
IIS*POL	2370	0.0200	0.0972	0	0.9203	1.16	--
PSIIS	2370	0.0309	0.0584	0	0.8043	--	1.14
PIIIS	2370	0.1358	0.1777	0	0.9102	--	1.30
PSIIS*POL	2370	0.0027	0.0211	0	0.4849	--	1.21
PIIIS*POL	2370	0.0172	0.0898	0	0.9102	--	1.26
PROFIT	2370	0.0801	0.1062	-1.3412	0.9496	1.18	1.18
SIZE	2370	12.9792	1.4371	5.4196	18.4517	1.25	1.26
GO	2370	1.0023	1.336	-22.2	30.07	1.12	1.13
MT	2370	1.1240	0.5947	0.141	6.9486	1.03	1.04
TANG	2370	0.3941	0.2009	0	0.9549	1.19	1.19
NDTS	2370	0.0264	0.0213	0	0.1646	1.22	1.23
Panel B: Political connected firms							
Variable	Obs	Mean	Std. Dev.	Minimum	Maximum		
DR	330	0.2699	0.1954	0.0000	0.6802		
IIS	330	0.2963	0.2416	0.0024	0.9203		
PSIIS	330	0.0409	0.0715	0.0000	0.4849		
PIIIS	330	0.0409	0.0715	0.0000	0.4849		
PROFIT	330	0.1173	0.1185	-0.2166	0.6891		
SIZE	330	14.1170	1.3381	11.1356	17.6922		
GO	330	1.8393	2.7366	-0.12	20.43		
MT	330	1.1034	0.4781	0.2766	4.1558		
TANG	330	0.4182	0.1996	0.0000	0.9177		
NDTS	330	0.0259	0.0221	0.0014	0.1224		
Panel C: Non-political connected firms							
Variable	Obs	Mean	Std. Dev.	Minimum	Maximum		
DR	2040	0.2029	0.1625	0.0000	0.9574		
IIS	2040	0.1573	0.1807	0.0000	0.8952		
PSIIS	2040	0.0302	0.0609	0.0000	0.8043		
PIIIS	2040	0.0302	0.0609	0.0000	0.8043		
PROFIT	2040	0.0774	0.1047	-1.3412	0.9496		
SIZE	2040	12.8968	1.4091	5.4196	18.4517		
GO	2040	0.9417	1.1502	-22.2	30.07		
MT	2040	1.1254	0.6023	0.141	6.9486		
TANG	2040	0.3924	0.2009	0.0000	0.9549		
NDTS	2040	0.0264	0.02129	0.0000	0.1646		

Notes: This table provides summary information for the dependent and independent variables used in the analysis. The mean, standard deviations, maximum, minimum and VIF are presented for all independent variables. The dependent variable DR is defined as total debt scaled by book asset. IIS is defined as total institutional

shareholdings to total shares outstanding. IIS*POL is an interaction variables between institutional investors and politically connected firms. PSIIS is defined as total pressure-sensitive institutional shareholdings to total shares outstanding. PIIIS is defined as total pressure-insensitive institutional shareholdings to total shares outstanding. PSIIS*POL is an interaction variable between pressure-sensitive institutional investors and politically connected firms. PIIIS*POL is an interaction variable between pressure-insensitive institutional investors and politically connected firms. PROFIT is defined as operating income before depreciation scaled by book assets. SIZE is defined as natural logarithm of total book assets. GO is defined as market-to-book value. MT is defined as the stock price at time t to the price at time t-1. TANG is defined as the net fixed assets scaled by book assets. NDTS is defined as depreciation expenses to total book assets.

GMM estimator is the econometric technique that permits accounting for the problem of endogeneity of variables and error correlation. It is designed to handle endogeneity of regressors and fixed effects, while preventing dynamic panel bias. It also solves the potential biases caused by the correlation of institutional ownership and debt ratio over time (Bajo-Rubio et al., 2010). There are two types of GMM estimator: difference GMM and system GMM. A drawback of the difference GMM estimator of Arellano and Bond (1991) is that because of taking first differences, time-invariant variables are eliminated from model. Therefore, the estimator could not employ the cross-sectional information reflected in the differences between industry and politically connected firms. Another drawback is that in differences, lagged levels are often weak instruments for the equation, especially when we have a panel with small number of time periods and highly persistent data. This could lead to great finite-sample biases and weak precision in the estimators. To mitigate these problems related with the difference GMM estimator, a new estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998), namely the system GMM is used. The GMM estimator which combines the moment conditions for the differenced model with those for the levels model (Arellano and Bover, 1995, Blundell and Bond, 1998). Two specification tests are required to be passed for the consistency of the GMM estimator, the Sargan test of over-identifying restrictions and a serial correlation test in the disturbances (Arellano and Bond, 1991). The present paper employs the two-step estimator of the system GMM. In addition, since Sargan test is not robust to heterokedasticity (Bajo-Rubio et al., 2010), the system GMM with robust standard error is used for conclusion. But, for comparison purpose we report both robust and non-robust results. In all cases Arellando-Bond test shows that there is no serial correlation in the first differenced disturbances.

Results and Discussion

Table 2 presents descriptive statistics for the dependent and independent variables used in this study.

As shown in the Table 2, the average percentage of institutional stockholdings is 16.67% and the average of debt ratio was 20.7%. There is an increase by almost 4% in institutional ownership in proportion to 2002 reported by Wahab et al. (2008) and a decrease by almost 9% in debt ratio in comparison with the crisis period (1997-1998). Pressure-sensitive institutional investors hold, on average, 3% of the total shares, while pressure-insensitive institutional investors own, on average, 13.5% of the total shares. In addition, the maximum amount of institutional ownership is in politically connected firms (92.03%) and especially by pressure-insensitive institutions, and this is in line with our explanation that most of pressure-insensitive institutions are government linked. Moreover, in line with the previous findings in Malaysia, results of Table 2 in Panel B and panel C show that political connected firms have higher debt ratio in comparison with non-political connected companies (0.2699 VS 0.2029). The Variance Inflation Factors (VIF) analysis also indicates that there is not multicolinearity problem in our regression models.

Table 3 shows the regression results of the model (1). The Sargan and Arellano-Bond test shows that there is no problem about over-identifying restrictions and second-order serial correlation in the first-differenced error term, but to be conservative we report results with robust standard errors in column 3. In column 1 we regress only control variables, but in column 2 and 3 we insert our main independent variables, namely institutional investors and its interaction with politically connected firms.

The results of system GMM estimator, in column 3, confirm that higher institutional investment is in fact related to low leverage. This is consistent with the notion that institutional ownership enhances the monitoring of corporate managers. The result

is significant at 5% level and supports the substitution role of institutional investors for debt monitoring. This is in contrast with the previous studies in Malaysia such as Fraser et al. (2006) and Joher et al. (2011). This could be because these aforementioned studies covered the period before the restructure of corporate governance and institutional investors were not big and active enough to influence the market. Therefore, it can be concluded that with the new mechanism of corporate governance in Malaysia, institutional investors are more active than before in the market and they could be a good substitute for internal monitoring mechanism such as debt financing. The negative relationship between institutional investors and debt ratio is consistent with both agency and asymmetric theories. This result is also in line with the previous studies in other countries such as Al-Najjar and Taylor (2008) in Jordan; Bathala et al. (1994), Grier and Zychowicz (1994), Michaely and Vincent (2012), Samuel (1996) in USA; and Short et al. (2002) in UK. The result also differs from those of Brailsford et al. (2002), Firth (1995), Friend and Lang (1988), Huang and Song (2006), Pound (1988), that consistent with active monitoring hypothesis, find positive relationship between institutional investors and debt ratio.

Table 3. Total institutional investors and capital structure

Independent variables	Dependent variable: total debt ratio		
	(1)	(2)	(3)
IIS	---	-0.0889** (0.0344)	-0.0889** (0.0424)
IIS*POL	---	0.1694 (0.1416)	0.1694 (0.1846)
PROFIT	-0.1744*** (0.0377)	-0.1812*** (0.0377)	-0.1812*** (0.0603)
SIZE	0.05546*** (0.0142)	0.0578*** (0.0140)	0.0578*** (0.0217)
GO	0.0057*** (0.0019)	0.0054*** (0.0018)	0.0054** (0.0022)
MT	-0.0084*** (0.0028)	-0.0083*** (0.0029)	-0.0083** (0.0038)
TANG	0.1919*** (0.0302)	0.1877*** (0.0304)	0.1877*** (0.0412)
NDTS	-1.4953*** (0.3414)	-1.4534*** (0.3405)	-1.4534*** (0.4367)
POL	0.0396 (0.6239)	0.8906 (1.1616)	0.8906 (2.9842)
(Sector effects)			
Construction	-0.6909 (0.7823)	-1.7623 (1.4665)	-1.7623 (3.3900)
Consumer	-0.7768 (1.0800)	-2.0021 (1.9428)	-2.0021 (4.9400)
IND-PROD	-0.5443 (0.8610)	-1.5253 (1.6022)	-1.5253 (3.2898)
Plantation	-0.0262 (0.8051)	0.5572 (1.5022)	0.5572 (1.9909)
Technology	-0.1535 (0.5664)	-0.7535 (1.0322)	-0.7535 (1.9683)
Trading/Services	-0.4669 (0.8069)	-1.4821 (1.4833)	-1.4821 (3.0936)
Observation	2133	2133	2133
Sargan test	36.3474 0.4525	37.1318 0.4166	-- --
AR (1)	0.0000	0.0000	0.0000
AR (2)	0.6331	0.7036	0.7040

Notes: Using two-step system GMM, this table reports estimates from panel regressions of leverage on institutional investors. The dependent variable DR is defined as total debt scaled by book asset. IIS is defined as total institutional shareholdings to total shares outstanding. IIS*POL is an interaction variables between institutional investors and

politically connected firms. PROFIT is defined as operating income before depreciation scaled by book assets. SIZE is defined as natural logarithm of total book assets. GO is defined as market-to-book value. MT is defined as the stock price at time t to the price at time t-1. TANG is defined as the net fixed assets scaled by book assets. NDTS is defined as depreciation expenses to total book assets. POL is a dummy variable which takes the value of 1 if firm is politically connected. Sector effects = sector dummy (Construction, Consumer, IND-PROD, Plantation, technology and trading/services, with properties being the omitted sector). ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively. AR(1) and AR(2) are tests of first- and second-order serial correlation. Standard errors (reported in parentheses) are robust in column 3.

Table 4. Different types of institutional investors and capital structure

| Independent variables | Dependent variable: total debt ratio | | | | |
	(1)	(2)	(3)	(4)	(5)
PSIIS	---	-0.0275 (0.0673)	---	-0.0320 (0.0672)	-0.0320 (0 .0999)
PIIIS	---	---	-0.0972*** (0.0354)	-0.0995*** (0.0357)	-0.0995** (0.0432)
PSIIS*POL	---	-0.0497 (0.1466)	---	-0.0207 (0.1376)	-0.0207 (0.1633)
PIIIS*POL	---	---	0.5173*** (0.1948)	0 . 5 1 0 5 1 ** (0.1994)	0.5105 (0.3963)
PROFIT	-0.1744*** (0.0377)	-0.1735*** (0.0377)	-0.1744*** (0.0382)	-0.1738*** (0.0381)	-0.1738*** (0.0604)
SIZE	0.05546*** (0.0142)	0.0555*** (0.0138)	0.0582*** (0.0141)	0.0582*** (0.0137)	0.0582*** (0.0220)
GO	0.0057*** (0.0019)	0.0057*** (0.0019)	0.0055*** (0.0018)	0.0055*** (0.0017)	0.0055*** (0.0020)
MT	-0.0084*** (0.0028)	-0.0085*** (0.0028)	-0.0088*** (0.0029)	-0.0089*** (0.0029)	-0.0089** (0.0039)
TANG	0.1919*** (0.0302)	0.1912 *** (0.0302)	0.1927*** (0.0306)	0.1916*** (0.0306)	0.19161*** (0.0425)
NDTS	-1.4953*** (0.3414)	-1.4872*** (0.3380)	-1.4609*** (0.3396)	-1.4537*** (0.3354)	-1.4537*** (0.4447)
POL	0.0396 (0.6239)	0.0610 (0.6282)	1.2023 (1.6403)	1.2614 (1.6631)	1.2614 (3.9665)
(Sector effects)					
Construction	-0.6909 (0.7823)	-0.7266 (0.7838)	-2.0990 (2.1459)	-2.1821 (2.1721)	-2.1821 (4.5093)
Consumer	-0.7768 (1.0800)	-0.7955 (1.0844)	-2.1776 (2.8123)	-2.2544 (2.8464)	-2.2544 (6.1325)
IND-PROD	-0.5443 (0.8610)	-0.5793 (0.8640)	-1.8871 (2.3493)	-1.9686 (2.3736)	-1.9686 (4.2127)
Plantation	-0.0262 (0.8051)	-0.0181 (0.8115)	0.9665 (2.1901)	0.9827 (2.2199)	0.9827 (2.9257)
Technology	-0.1535 (0.5664)	-0.1840 (0.5711)	-1.0386 (1.5298)	-1.1012 (1.5442)	-1.1012 (2.6278)
Trading/Services	-0.4669 (0.8069)	-0.5073 (0.8121)	-1.9902 (2.1711)	-2.0649 (2.1931)	-2.0649 (4.0461)
Observation	2133	2133	2133	2133	2133
Sargan test	36.3474 0.4525	36.1025 0.4639	38.2851 0.3661	38.0478 0.3763	--- ---
AR (1)	0.0000	0.0000	0.0000	0.0000	0.0000
AR (2)	0.6331	0.6514	0.7033	0.7221	0.7225

Notes: Using two-step system GMM, this table reports estimates from panel regressions of leverage on different types of institutional investors. The dependent variable DR is defined as total debt scaled by book asset. PSIIS is defined as total pressure-sensitive institutional shareholdings to total shares outstanding. PIIIS is defined as total pressure-insensitive institutional shareholdings to total shares outstanding. PSIIS*POL is an interaction variable between pressure-sensitive institutional investors and politically connected firms. PIIIS*POL is an interaction

variable between pressure-insensitive institutional investors and politically connected firms. PROFIT is defined as operating income before depreciation scaled by book assets. SIZE is defined as natural logarithm of total book assets. GO is defined as market-to-book value. MT is defined as the stock price at time t to the price at time t-1. TANG is defined as the net fixed assets scaled by book assets. NDTS is defined as depreciation expenses to total book assets. POL is a dummy variable which takes the value of 1 if firm is politically connected. Sector effects = sector dummy (Construction, Consumer, IND-PROD, Plantation, technology and trading/services, with properties being the omitted sector). ***, **, and * represent statistical significance at the 1%, 5%, and 10% level. AR(1) and AR(2) are tests of first- and second-order serial correlation. Standard errors (reported in parentheses) are robust in column 5.

The coefficient on the interaction of institutional investors and politically connected firms is positive (0.1694) and statistically insignificant. This positive relation is in line with this view that politicians may employ institutional investors to follow their own interests and channelling all available resources to serve their own needs. This finding shows that the nature of firm being politically connected decreases the monitoring effect of institutional investors on capital structure. This might also indicate that in politically connected companies, institutional investors have a personal agenda and are more eager to fulfil political objectives rather than social objectives. Wahab and Rahman (2009) also find that politically connected firms with high level of institutional ownership are positively and significantly related to director remuneration, and this means that the effectiveness of institutional monitoring is mitigated in politically connected firms.

In Table 4, we divide the institutional shareholdings into pressure-sensitive and pressure-insensitive investors. In column 1 we put only control variables. In column 2 we add the pressure-sensitive institutions and their interaction with politically connected firms. In column 3 we insert the pressure-insensitive institutions and their interaction with politically connected firms. In column 4 the results of regression model 2 with all variables are presented and the results of column 5 are with robust standard errors.

The results of System GMM estimator, consistent with our hypothesis, show that although pressure-sensitive and pressure-insensitive investors have negative coefficients, but there is a significant relationship only for pressure-insensitive investors. In fact, this result, in line with the literature, shows that institutions with no or very little business relations with their investees are more able to monitor managers and conduct decision making (Almazan et al., 2005, Chen et al., 2007, Cornett et al., 2007, Jara-Bertin et al., 2012). In addition, as we expected, in politically connected firms pressure-insensitive institutional investors are weaker than

pressure-sensitive investors. The coefficient on the pressure-insensitive institutions in total firms changes from -0.0995 to 0.5105 in politically connected firms and in non-robust results (column 4), the coefficient even become positive and significant. However, the coefficient on pressure-sensitive institutions is still negative and insignificant although it decreases from -0.0320 in total firms to -0.0207 in politically connected firms. This is because most governmental institutional investors are classified in the pressure-insensitive group, thus in politically connected firms, they could not monitor managers efficiently and follow managers' decisions. Wahab and Rahman (2009) also find that in politically connected firm, there is a positive relationship between pressure-insensitive institutional investors with director and executive director remuneration. They state that pressure-insensitive institutions do monitor the companies but the fact that a company is politically connected reduces their monitoring power.

Sensitivity checks

Our regression analysis confirms a negative link between institutional investors and capital structure. However, in Table 5, we run three sensitivity tests to examine if the results of the main models still hold or not. First, following Chen et al. (2007) we measure institutional ownership as the shareholding of top 5 institutional investors to check the concentration effect of them on leverage. Second, following Crutchley et al. (1999), Michaely and Vincent (2012) we insert managerial ownership to test whether institutional holdings have an effect on debt ratio above and beyond that of insider shareholdings. Finally, according to Frank and Goyal (2009) we change the dependent variable and use long-term debt ratio instead of total debt ratio.

The results of Table 5 in columns 1 show that after substituting top 5 institutional investors' shareholding for total institutional ownership, still there is significant relationship with debt ratio at 5% lev-

el. However, the magnitude of coefficient increase from -0.088 for total institutional ownership to -0.094 for top 5 institutional investors' shareholding. It is consistent with Shleifer and Vishny (1986) that more concentrated institutional investors are more effective at decreasing agency and asymmetric information problems. In addition, in line with the previous results, top 5 institutional investors also lose their monitoring power in politically connected firms. The interaction variable of top 5 institutional investors and politically connected firms has an insignificant and negative relationship with debt ratio.

Table 5. Sensitivity checks about the relationship between institutional investors and capital structure

Independent variables	Total debt ratio			Long-term debt ratio	
	(1)	(2)	(3)	(4)	(5)
5IIS	-0.0945** (0.0351)	---	---		
5IIS*pol	-0.0011 (0.0018)	---	---		
IIS	---	-0.0885** (0.0425)		-0.0506* (0.0288)	---
IIS*Pol	---	0.1694 (0.1840)	---	0.1223 (0.0777)	---
PSIIS	---	---	-0.0312 (0.0994)	---	0.0456 (0.0469)
PIIIS	---	---	-0.0992** (0.0434)	---	-0.0728** (0.0328)
PSIIS*POL	---	---	-0.0215 (0.1633)	---	-0.0950 (0.1411)
PIIIS*POL	---	---	0.5135 (0.3995)	---	0.2478*** (0.0810)
PROFIT	-0.1839*** (0.0397)	-0.1807*** (0.0602)	-0.1731*** (0.0603)	-0.0469*** (0.0145)	-0.0462*** (0.0143)
SIZE	0.0545*** (0.0141)	0.0572*** (0.0211)	0.0573*** (0.0214)	0.0347*** (0.0128)	0.0349*** (0.0126)
GO	0.0056*** (0.0018)	0.0054** (0.0021)	0.0054 *** (0.0020)	0.0045*** (0.0014)	0.0046*** (0.0014)
MT	-0.0085*** (0.0028)	-0.0083** (0.0038)	-0.0088** (0.00393)	-0.0041 (0.0031)	-0.0042 (0.0030)
TANG	0.1895*** (0.0302)	0.1901*** (0.0401)	0.1947*** (0.0414)	0.1258*** (0.0283)	0.1319*** (0.0287)
NDTS	-1.4769*** (0.3409)	-1.4448*** (0.4422)	-1.4420*** (0.4501)	-0.2852 (0.2856)	-0.2960 (0.2777)
POL	0.4205 (0.7340)	0.8554 (2.9425)	1.1988 (3.8940)	0.0625 (0.1355)	0.0646 (0.1221)
MO	---	0.01483 (0.0738)	0.0202 (0.0752)	---	---
(Sector effects)					
Construction	-1.150 (0.8898)	-1.7284 (3.3665)	-2.1299 (4.4821)	-0.0650 (0.4124)	0.1143 (0.3787)
Consumer	-1.3564 (1.2361)	-1.9588 (4.9162)	-2.1839 (6.1013)	0.0999 (0.2216)	0.1494 (0.2073)
IND-PROD	-0.8896 (0.9492)	-1.4864 (3.2713)	-1.9086 (4.1939)	0.1321 (0.2036)	0.1858 (0.1996)
Plantation	0.1240 (0.8386)	0.5483 (1.9633)	0.9652 (2.8944)	0.1737 (0.3625)	0.2561 (0.3400)
Technology	-0.3404 (0.6021)	-0.7323 (1.9788)	-1.0714 (2.6532)	0.1188 (0.2974)	0.2129 (0.2875)
Trading/Services	-0.7815 (0.8786)	-1.4376 (3.0588)	-1.9941 (3.9960)	0.1021 (0.2117)	0.1597 (0.2046)
Observation	2133	2133	2133	2133	2133
Sargan test	36.1287 0.4626	37.2146 0.4129	38.2152 0.3691	37.4177 0.4039	36.7965 0.4318
AR (1)	0.0000	0.0000	0.0000	0.0000	0.0000
AR (2)	0.6686	0.7009	0.7187	0.2171	0.2422

Notes: Using two-step system GMM, this table reports the results of some sensitivity tests about the relationship between institutional investors and capital structure. The dependent variable DR is defined as total debt to total book asset in columns 1-3 and long-term debt to total book assets in columns 4 and 5. 5IIS is defined as total shareholding by top 5 institutional investors. 5IIS*POL is an interaction variables between top 5 institutional investors and politically connected firms. IIS is defined as total institutional holdings to total shares outstanding. IIS*POL is an interaction variables between institutional investors and politically connected firms. PSIIS is defined as total pressure-sensitive institutional shareholdings to total shares outstanding. PIIIS is defined as total pressure-insensitive institutional shareholdings to total shares outstanding. PSIIS*POL is an interaction variable between pressure-sensitive institutional investors and politically connected firms. PIIIS*POL is an interaction variable between pressure-insensitive institutional investors and politically connected firms. PROFIT is defined as operating income before depreciation scaled by book assets. SIZE is defined as natural logarithm of total book assets. GO is defined as market-to-book value. MT is defined as the stock price at time t to the price at time t-1. TANG is defined as the net fixed assets scaled by book assets. NDTS is defined as depreciation expenses to total book assets. POL is a dummy variable which takes the value of 1 if firm is politically connected. MO is defined as direct managerial shareholding to total shares outstanding. Sector effects = sector dummy (Construction, Consumer, IND-PROD, Plantation, technology and trading/services, with properties being the omitted sector). ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively. AR(1) and AR(2) are tests of first- and second-order serial correlation. Standard errors (reported in parentheses) are robust in all results.

The results of Table 5 in columns 2 and 3 also indicate that after controlling for managerial ownership's effect, there is still a significant and negative relationship for institutional ownership at 5% level. Bathala et al. (1994) and Crutchley et al. (1999) state that the use of debt and managerial ownership are inversely related to institutional ownership in the firm. In other word, they argue that institutional ownership substitute for both managerial ownership and leverage in controlling agency costs. Chen and Steiner (2005) also find substitution effects between institutional ownership and managerial ownership. In fact, managerial ownership influences capital structure via an interaction with agency costs, a channel through that institutional ownership potentially affects capital structure. However, we do not find such substitute relationship between managerial ownership and institutional shareholdings in this study. In general, we find the influence of institutional ownership on debt ratio to be robust even after controlling for managerial holdings.

In addition, according to Table 5 (columns 4 and 5) when long-term debt ratio is used instead of total debt ratio, the negative relationship between total institutional investors and debt ratio still exists but it is significant at 10% level while it was significant at 5% level (Table 3). It is because of heterogeneity of institutional investors. Table 5 shows that there is a positive relation for pressure-sensitive and negative relation for pressure-insensitive institutions. Thus, the effect of pressure-sensitive institutions reduces the effect of pressure-insensitive investors. The positive relationship for pressure-sensitive institutions can be reasonable, although

it is still insignificant, because bank and insurance companies are classified in this category and they are conservative investors (Baert and Vander Vennet, 2009). Since short-term financing increase the default risk, they push firms to use long-term debt instead of short-term financing. On the other side, pressure-insensitive institutions still have negative and significant relationship at 5% level, although it was significant at 1% level when total debt ratio is used as dependent variables (Table 4). The interaction of institutional investors and politically connected firms still has a positive and insignificant relationship. The interaction of pressure-sensitive institutional investors and politically connected firms still has a negative and insignificant association and the interaction variable for pressure-insensitive institutions again has positive and insignificant relationship.

Conclusions

In this paper, we examine the influence of institutional ownership on capital structure after the implementation of new corporate governance structure in Malaysia in 2001. Using a panel data from 237 the main market Malaysian firms over the period of 2002-2011, the results show that there is a significant and negative relationship between institutional ownership and debt ratio. This is in contrast with the previous studies conducted in Malaysia that covered the period before restructuring corporate governance. This finding indicates that with the new structure of corporate governance in Malaysia, institutional investors have become more ac-

tive in the market and they play a more effective role in monitoring firms. In addition, our research also provides evidence of selectivity in terms of various types of institutional investors. The literature on institutional investors shows that they are heterogeneous and they have different abilities to monitor managers. Therefore, we divide institutional investors into pressure-sensitive and pressure-insensitive institutions. Our results reveal that there is a negative and significant association only for pressure-insensitive institutions. This supports the literature that pressure-insensitive investors due to the lack of business relation with their investees, are more able to monitor managers than pressure-sensitive investors. Moreover, since the previous studies such as Fraser et al. (2006), Wahab and Rahman (2009) state that most institutional investors in Malaysia are government controlled, we examine the effect of institutional investors on capital structure in politically connected firms by adding an interaction variable. The results show that institutional investors lose their monitoring power in politically connected firms and it is more severe for the pressure-insensitive institutions.

Generally, the findings of this study suggests that the public resources spent on improving corporate governance, particularly regarding the institutional investors, were successful and market regulators should continue this improvement to enhance the power of institutional investors for monitoring. Further, it may be necessary for market regulators to address the issue of interest conflict which impede institutional investors from exercising their effects and stops them from fully exercising their fiduciary responsibilities. In addition, since the results show that institutions with less or no business relationship with their investees have stronger monitoring power, policy makers should pay more attention to this kind of institutional investors and encourage the investment by pressure-insensitive institutions to improve corporate governance in the market. Also, because institutional investors, due to government controlling, lose their monitoring power in politically connected firms, in order to better monitoring, policy makers should encourage investment by more independent institutions in the market and especially in firms with weaker corporate governance like politically connected firms. In addition, the results of this study can give institutional investors some incentives to exercise their voice to affect decision making in firms.

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