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# THE PREFERENCES OF MALAYSIAN INSTITUTIONAL INVESTORS: DO THEY CHANGE THEIR PREFERENCES DURING TIME?

**Majid Ashrafi**♣
*Universiti Sains Malaysia*

**Joriah Muhammad**
*Universiti Sains Malaysia*

## ABSTRACT

The main objective of this paper is to test which firm's characteristics attract Malaysian institutional investors. Using a panel of 237 main market Malaysian firms, the results of the fixed effects model show that institutional investors in Malaysia invest in firms with large size, more tangible assets, more ROA, more growth, less stock price volatility, less leverage, less managerial ownership and less business risk. We also find that there are some differences between the preferences of different types of institutions. The findings of this study reveal that pressure-sensitive institutions are more conservative than Pressure-insensitive investors. In addition, the results of this study show that institutional investors change their preferences during different periods and become less conservative in their investment decisions.

***Keywords:*** Capital Market; Fixed Effects Model; Institutional Investors; Investment Preferences.

## 1. INTRODUCTION

Over the last two decades, institutional investors has become an important component of financial markets (Gillan & Starks, 2007). The growth of institutional ownership in the mature markets since the 1970s was related with substantial growth and structural changes in capital markets, and the emerging markets are following a similar path of growing institutionalization of savings and capital market development (IMF, 2004). Institutional investors are now a dominant force in financial markets, representing a large fraction of equity ownership and an even larger proportion of trading volume. For example, in 2009 institutional investors accounted for more than 50% of total U.S. equity ownership, up from 7% in 1950 and 28% in 1970 (Tonello & Rabimov, 2010). Institutional investors' assets under management are also growing rapidly in most emerging markets. A key element in reducing the volatility of

♣ Corresponding Author: Majid Ashrafi, School of Management, Universiti Sains Malaysia, Penang, Malaysia. Tel: 0124019025, e-mail: mjd_ashrafi@yahoo.com

capital flows to emerging markets is the development of a stable investor base for emerging market securities. The prospects for developing such an investor base depend on such factors as the composition of the existing investor base, the economic and regulatory considerations influencing investors' asset allocations vis-à-vis emerging markets, the entry of new classes of investors, and the development of new instruments for transferring resources across national borders and hedging the associated risks (IMF, 2004). For example, in Malaysia after the financial crisis in 1997-98, corporate governance mechanism was restructured and this new structure has considered a very important role for institutional investors to activate them in the market and improve corporate governance system. The literature shows that not only institutional ownership was low in Malaysia in comparison with the developed countries but they also were passive players in the market and did not fulfill their monitoring and fiduciary role efficiently (Thillainathan, 1999; Wahab, How, & Verhoeven, 2007). After restructuring corporate governance institutional investors have become bigger and more active in the market and their gave up their passive role (Wahab & Rahman, 2009).

Although the previous studies has tested the relationship between institutional ownership and firm's characteristics in the developed countries but few studies have been conducted to determine the preferences of institutional investors in the emerging and developing countries. Therefore, in this study we are going to find out which factors influence institutional investors' portfolio decisions and see whether the preferences of institutional investors in the developing countries are different with those of the developed economies. This study also aims to check whether having business relationship with firms, influences the preferences of institutional investors or not. Therefore, we divide institutional investors into pressure-sensitive and pressure-insensitive institutions. In addition, we are going to know whether institutional investors change their preferences during different periods or not. Thus, there are three sub-periods in our study based on the Financial Global Crisis to test this hypothesis.

The results of study show that aggregate institutional investors invest in firms with large size, high tangibility, high profitability, low managerial ownership, low leverage, low business risk and low stock price volatility. But they do not care about dividend payment when they want to invest in a company. We also find that pressure-sensitive institutions are more conservative than pressure-insensitive investors. Finally, the results reveal that institutional investors change their preferences in different periods.

## 2. DETERMINANTS OF INSTITUTIONAL OWNERSHIP

The main focus of the paper is to examine the determinants of the percentage of institutional ownership of firms in Malaysia. We consider some firm-level characteristics that attract or prevent institutional investors as suggested by different streams of research. We first examine the preferences of aggregate institutional investors and then test the preferences of pressure-sensitive versus pressure-insensitive institutions. The major institutional investors' preferences previously documented are the following:

### *2.1. Firm Size (SIZE)*

Institutional investors prefer to invest in large firms in the belief that they have a low risk of bankruptcy. This is because large firms have the required resources and ability to minimize the risk of their stock investment. Therefore, they are less subject to financial distress and bankruptcy risk (Al-Najjar & Taylor, 2008; Tong & Ning, 2004). Holding the shares of too many mid sized and small companies would lead to high expenses, involve more labor, and not necessarily bring expected return, while there may be economies of scale in owning stocks of large companies (Tong & Ning, 2004). Size may also be the scope for moral hazard and a proxy for information asymmetry. Larger companies may have less asymmetric information due to the degree of scrutiny they receive from capital markets and rating agencies. As firm size increases the costs of monitoring decrease because it becomes a shared undertaking. Moreover, size can act as a proxy for prudence and liquidity considerations (Utete, 2008).

### *2.2. Tangibility*

Agency theory suggests that the optimal capital and ownership structures may be used to minimize agency costs (Jensen, 1986). Thus, a negative relationship between asset tangibility and ownership structure is expected. This is because tangible assets can act as collateral for higher levels of debt. Therefore, maybe institutional investors prefer to invest in firms with low tangible assets. (Al-Najjar & Taylor, 2008). Inversely, Tong and Ning (2004) argue that tangibility can signal the good performance of public firm. Thus, they consider a positive relationship between tangibility and institutional ownership.

### *2.3. Business risk*

Institutional investors tend to invest in firms with low BRs because firms with high volatility in their returns are likely to have a high probability to default and to become bankrupt. Therefore, a negative relationship is expected between firm's BR and the firm's institutional ownership (Al-Najjar & Taylor, 2008).

### *2.4. Stock Price Volatility*

Fiduciary motives can make institutional investors prudently prevent very risky shares. Gompers and Metrick (2001) find conflicting evidence in the U.S. as institutional investors tend to prefer shares with high volatility. Moreover, high-levels of volatility have been linked to good corporate investment decision-making and to a lower probability of expropriation of outside investors by insiders. In this sense, institutional investors could reveal a preference for more efficient stocks, i.e., with higher volatility (Ferreira & Matos, 2008).

### *2.5. ROA*

It is expected that institutional investors prefer to invest in profitable firms. This is because more profitability lowers the likelihood of default and facing financial difficulties and bankruptcy (Al-Najjar & Taylor, 2008). However, Tong and Ning (2004) find profitability is negatively

associated to average shares held by institutional investors. Ferreira and Matos (2008) state that because of the oversight by end investors, many asset managers are under pressure to justify their choice of stock investments. One common index to justify an investment choice to ultimate fund owners of funds is a stock's past profitability. Therefore, a positive relationship is expected between profitability and institutional ownership.

### *2.6. Dividend*

Firms with a reputation for paying a stream of dividends will be monitored by the capital market (Short, Keasey, & Duxbury, 2002). Institutional ownership may act as alternative monitoring device, and so this will reduce the need for capital markets as external monitoring system (Zeckhauser & Pound, 1990). Thus, according to agency theory, there is a positive relationship between dividend payments and institutional ownership (Short et al., 2002; Zeckhauser & Pound, 1990). However, the existence of institutional investors decreases the need for dividends to signal good performance (Short et al., 2002). Therefore, signaling theory proposes a trade-off between dividends and institutional ownership, i.e. a negative relationship.

### *2.7. Growth*

Firms with high-growth opportunities provide a positive signal about the firm's future performance. Hence institutional investors prefer to invest in high-growth firms rather than lower ones. In addition, Hovakimian, Hovakimian, and Tehranian (2004) propose that high growth firms may bring more capital gains to institutional investors than lower growth ones. This is because institutional investors, as taxpayers, would prefer to invest in capital-gain stocks to delay tax payments and to avoid double taxation. Thus, a growth opportunities of firm are considered to be a positive signal for institutional investors (Al-Najjar & Taylor, 2008). The higher the real investment prospects of a firm, the more likely is to draw institutional investors' attention (Ferreira & Matos, 2008).

### *2.8. Managerial ownership*

The presence of stringent fiduciary responsibilities can lead some institutional investors to prefer firms with better governance mechanisms, which may reduce the possibility of negative outcomes due to managerial fraud or negligence (Del Guercio, 1996). Jensen and Meckling (1976) show that the agency costs can be reduced by increasing managerial ownership, with the aim of aligning the interests of managers with those of outside shareholders. Therefore, in the context of institutional investors, we would expect them to be attracted to firms with high insider ownership. However, some of the empirical evidence points to the contrary that institutional investors may not be attracted by firms with high managerial ownership because managers may have been entrenched. For example, Bathala, Moon, and Rao (1994) and Hussain (2000) find that the ownership of directors is negatively associated with institutional ownership, proposing a potential substitute effect between these two ownerships.

### *2.9. Leverage*

Leverage is a proxy for the degree of monitoring intensity because creditors provide an alternate mechanism by which managers can be disciplined. Leverage should therefore have a

negative effect on institutional ownership as it lightens the burden of monitoring, particularly for those institutions that need assistance (Utete, 2008). Firms with more outstanding debt have less need for outsider oversight. As large investors, institutional investors are potentially outside monitors of managers' activities. Thus, it is expected to find lower institutional ownership in firms that currently have high levels of debt (Ferreira & Matos, 2008). Tong and Ning (2004) also state that a high debt ratio is a threatening sign to investors, implying future fiscal difficulty or even bankruptcy. Therefore, institutional investors prefer firms with lower leverage.

## 3. SAMPLE, VARIABLE DEFINITION AND METHODOLOGY

### *3.1. Sample*

The focus of this study is on the main market Malaysian companies during 2002 to 2011. After excluding financial firms and firms with incomplete data, we randomly select one of every two company in the population. Selecting one of every two firms is because institutional and managerial ownership data must be collected manually, consequently gathering data for all companies will takes very long time. The final sample firms compose of a panel of 237 firms in different sectors.

### *3.2. Methodology*

We investigate the determinants of institutional ownership in Malaysia, in particular, the fraction held by total and different groups of institutions. We first examine the preferences of total institutional ownership. Then, following Cornett, Marcus, Saunders, and Tehranian (2007); Filatotchev, Lien, and Piesse (2005); Li, Moshirian, Pham, and Zein (2007); Wahab, How, and Verhoeven (2008), to examine the preferences of different types of institutional investors, this study categorizes institutional investors into two groups: pressure-sensitive investors, which usually has current or potential business relationships with their investees, such as banks and insurance companies and pressure-insensitive institutions, which has no or very little business relationship with their investees such as investment companies and mutual funds. After that, we test to see whether institutional investors change their preferences in different periods. For doing this, we divide the period of study in three sub-periods based on the Global Financial Crisis: 2002-2006 the period before the Crisis, 2007-2008 the period of the Crisis and 2009-2011 the period after the Crisis. Then, the results of different periods could be compared to understand changes in the preferences of institutional investors during time. Our analysis focuses on 9 stock characteristics including: tangibility, ROA, growth, leverage, return standard deviation, and Stock Price Volatility, firm size, dividend yield and managerial ownership. Table 1 presents the definitions for variables used in this study.

**Table 1:** Definition of variables

| Variable | Abbreviation | Definition |
|---|---|---|
| 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 |
| Tangibility | TANG | Total net fixed assets to total book assets |
| Return on assets | ROA | Net income to total assets |
| Growth | GO | Market to book value |
| Stock Price Volatility | SPV | Stock price at time t to the price at time t-1 |
| Leverage | LEV | total debt to total book assets |
| Firm size | SIZE | Natural logarithm of total book assets |
| Dividend | DIV | Cash dividend paid to total book assets |
| Managerial ownership | MO | Managerial shareholding to total shares outstanding |
| Business risk | BR | The standard deviation of return on assets |

## 4. RESULTS AND DISCUSSION

Table 2 presents the descriptive statistics for variables used in the study.

**Table 2:** Summary Statistics

| Variable | Observation | Mean | Minimum | Maximum | SD |
|---|---|---|---|---|---|
| IIS | 2370 | 0.1667 | 0.0000 | 0.9203 | 0.1887 |
| PSIIS | 2370 | 0.0309 | 0.0000 | 0.8043 | 0.0584 |
| PIIIS | 2370 | 0.1358 | 0.0000 | 0.9102 | 0.1777 |
| TANG | 2370 | 0.3941 | 0.0000 | 0.9549 | 0.2009 |
| ROA | 2370 | 0.1123 | -1.3412 | 0.9496 | 0.1062 |
| GO | 2370 | 1.0023 | -22.2000 | 30.0700 | 1.3360 |
| SPV | 2370 | 1.1240 | 0.1410 | 6.9486 | 0.5947 |
| LEV | 2370 | 0.2074 | 0.0000 | 0.9574 | 0.1657 |
| SIZE | 2370 | 12.9792 | 5.4196 | 18.4517 | 1.4371 |
| DIV | 2370 | 0.0172 | 0.0000 | 0.6842 | 0.0381 |
| MO | 2370 | 0.1147 | 0.0000 | 0.7435 | 0.1497 |
| BR | 2370 | 0.0520 | 0.0012 | 0.9384 | 0.1041 |

IIS averages 16.67 percent with a range between 0 and 92.03 percent. Wahab et al. (2008), in their sample, report institutional investors own 13% shareholdings in Malaysia in 2002. Therefore, there is an increase by almost 4% in institutional ownership after restructuring corporate governance. Pressure-sensitive and pressure-insensitive institutional investors respectively hold an average of 3.09 and 13.58 percent of institutional shareholdings. The average TANG is 39.41 percent with a range between 0 and 95.49 percent. The mean ROA is 11.23 percent with a range between -1.34 and 94.96 percent. GO has a 1.0023 mean value with a range between -22.2 and 30.07 percent. The average SPV is 1.12 with a range between 0.141 and 6.94. LEV has an average of 20.74% with a range between 0 and 95.74%. The average firm size is 12.97 percent with a range between 5.4196 and 18.45%. The average DIV is 1.72% with a range between 0 and 68.42%. The mean of MO is 11.47% with a range between 0 and 74.35%. The average BR is 5.20% with a range between 0.01 and 93.84%.

Table 3 shows the regression result for the preferences of aggregate institutional investors. The results of the Breusch and Pagan LM test and Hausman test indicate that the fixed

**Table 3:** The preferences of total institutional investors

| Independent variables | Pooled OLS | Random effects | Fixed effects |
|---|---|---|---|
| TANG | -0.0417** | 0.0497*** | 0.0513*** |
| | (0.0187) | (0.0157) | (0.0163) |
| ROA | 1.1412*** | 0.4341*** | 0.3289** |
| | (0.1646) | (0.1530) | (0.1600) |
| GO | 0.0067** | 0.0033** | 0.0029* |
| | (0.0029) | (0.0015) | (0.0016) |
| SPV | -0.0154*** | -0.0112*** | -0.0110*** |
| | (0.0059) | (0.0028) | (0.0028) |
| MO | -0.2305*** | -0.1229*** | -0.0923*** |
| | (0.0244) | (0.0259) | (0.0277) |
| SIZE | 0.0446*** | 0.0156*** | 0.0071* |
| | (0.0027) | (0.0034) | (0.0038) |
| LEV | -0.1036 | -0.0837*** | -0.0726*** |
| | 0.0227 | (0.0189) | (0.0196) |
| **Independent variables** | **Pooled OLS** | **Random effects** | **Fixed effects** |
| DIV | 0.2453** | 0.1052 | 0.0818 |
| | (0.1077) | (0.0659) | (0.0669) |
| BR | -1.1919*** | -0.4537*** | -0.3474** |
| | (0.1686) | (0.1532) | (0.1600) |
| Observation | 2370 | 2370 | 2370 |
| Fvalue | 63.42*** | 10.40*** | 48.57*** |
| Adj R-squared | 0.1916 | 0.0344 | 0.8310 |
| Breusch and Pagan LM test | | 3870.06 | |
| | | 0.0000 | |
| Hausman test | | | 37.5783 |
| | | | 0.0000 |

***Notes:*** ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

effects model is the best estimator. For comparative purpose, we present the results of three pooled OLS, Random effects and Fixed effects models. The standards errors (reported in the parentheses) are robust for autocorrelation and heteroskedasticity problem in all results. In addition, based on the correlation matrix and also Variance inflation factor (VIF) analysis (unreported) we do not have multicollinearity problem in this study.

The results of Fixed effects model show that there is a positive relationship between institutional ownership and tangibility. It means tangibility can signal the good performance of public firm to investors. Al-Najjar and Taylor (2008); Tong and Ning (2004) do not find same result in their study. Institutional investors have a tendency to invest in more profitable firms and there is a positive relationship between institutional ownership and ROA. It is in line with Ferreira and Matos (2008) but Al-Najjar and Taylor (2008); Tong and Ning (2004); Wahab et al. (2007) do not find same results. They state that there is limited evidence that institutional investors prefer firms with high ROA. All institutions have a tendency to invest in companies with investment opportunities. There is a positive and significant at 10% level association between institutional ownership and growth. This could be because high-growth companies in comparison with lower growth firms bring more capital gains to institutional investors. Al-Najjar and Taylor (2008); Ferreira and Matos (2008); Tong and Ning (2004) find the same result. There is a negative and significant relationship for all risk proxies (PSV, BR and LEV). It indicates that institutional investors tend to invest in firms with low risk, because firms with higher volatility in their returns and stock price and also firms with more leverage are more likely to have a higher probability of default and to become bankrupt. Firth (1995) suggests that there should be a positive relationship between IIS and LEV because institutional investors hold diversified portfolios and can, therefore, tolerate higher debt ratios. However, if monitoring by debt holders and monitoring by institutions are viewed as substitutes, then IIS may be negatively related to LEV. Al-Najjar and Taylor (2008); Ferreira and Matos (2008); Tong and Ning (2004) find the same result. There is a negative relationship between institutional ownership and managerial shareholding. The above findings generally support that Malaysian institutional investors consider managerial ownership as a substitute control mechanism. Bathala et al. (1994); Hussain (2000); Khurshed, Lin, and Wang (2011); Wahab et al. (2007) find same result. The results show a positive and significant at 10% level relationship between institutional shareholding and firm size. It shows that institutional investors prefer to invest in large companies although it is significant at 10% level. Large firms have the required ability and resources to minimize the risk of their stock investment and hence are less subject to financial distress and bankruptcy risk (Ferreira & Matos, 2008). Bushee, Carter, and Gerakos (2009) argue that Firm size is an important factor in international investment because institutions have concerns about liquidity and transaction costs. Larger firms have richer public information environments and greater external monitoring by analysts and the media. Al-Najjar and Taylor (2008); Dahlquist and Robertsson (2001); Falkenstein (1996); Ferreira and Matos (2008); Tong and Ning (2004) find the same result. Consistent with Al-Najjar and Taylor (2008), we also find no evidence that Malaysian institutional investors consider the dividend policy of the company when they want to invest in it. Previous studies suggest that Dividend is an important factor for institutional shareholding for example Tong and Ning (2004); Wahab et al. (2007), who find that dividend yield is one of the most influential variables affecting institutional ownership.

Table 4 shows the results of the preferences of pressure-sensitive and pressure-insensitive institutions. The results of the Breusch and Pagan LM test and Hausman test indicate that the fixed effects model is the best estimator.

**Table 4:** The preferences of PSIIS and PIIIS

| Independent variables | Pooled OLS | | Random effects | | Fixed effects | |
|---|---|---|---|---|---|---|
| | **PSIIS** | **PIIIS** | **PSIIS** | **PIIIS** | **PSIIS** | **PIIIS** |
| TANG | -0.0173** | -0.0244 | -0.0036 | 0.0499*** | 0.0019 | 0.0494*** |
| | (0.0066) | (0.0178) | (0.0079) | (0.0139) | (0.0090) | (0.0143) |
| ROA | -0.0280 | 1.113*** | 0.1361* | 0.2490* | 0.1828** | 0.1460 |
| | (0.0587) | (0.1567) | (0.0765) | (0.1354) | (0.0879) | (0.1405) |
| GO | 0.0010 | 0.0056** | 0.0011 | 0.0020 | 0.0012 | 0.0017 |
| | (0.0010) | (0.0028) | (0.0008) | (0.0014) | (0.0008) | (0.0014) |
| SPV | 0.0016 | -0.0170*** | -7.2805 | -0.0109*** | -0.0002 | -0.0107*** |
| | (0.0021) | (0.0056) | (0.0015) | (0.0024) | (0.0015) | (0.0024) |
| MO | -0.0039 | -0.2344*** | 0.0028 | -0.1192*** | -0.0005 | -0.0918*** |
| | (0.0087) | (0.0232) | (0.0125) | (0.0230) | (0.0152) | (0.0243) |
| SIZE | 0.0079*** | 0.0367*** | 0.0072*** | 0.0075** | 0.0067*** | 0.0004 |
| | (0.0009) | (0.0025) | (0.0015) | (0.0030) | (0.0021) | (0.0033) |
| LEV | 0.0218*** | -0.1254*** | -0.0161* | -0.0565*** | -0.0294*** | -0.0432** |
| | (0.0081) | (0.0216) | (0.0096) | (0.0167) | (0.0108) | (0.0173) |
| DIV | 0.0497 | 0.1955* | 0.0621* | 0.0343 | 0.0696* | 0.0122 |
| | (0.0384) | (0.1025) | (0.0351) | (0.0580) | (0.0367) | (0.0588) |
| BR | -0.0286 | -1.163*** | -0.1380* | -0.2666** | -0.1845** | -0.1628 |
| | (0.0602) | (0.1605) | (0.0768) | (0.1356) | (0.0879) | (0.1406) |
| Observation | 2370 | 2370 | 2370 | 2370 | 2370 | 2370 |
| F value | 11.72*** | 56.64*** | 3.57*** | 8.910*** | 11.65*** | 57.08*** |
| Adj R-squared | 0.0255 | 0.1813 | 0.0096 | 0.0291 | 0.5241 | 0.8529 |
| Breusch and | 2856.03 | 3656.23 | | | | |
| Pagan LM test | 0.0000 | 0.0000 | | | | |
| Hausman test | | | | | 15.1741 | 42.0089 |
| | | | | | 0.0000 | 0.0000 |

***Notes:*** ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

Although different types of institutional investors tend to be attracted to the same firm's characteristics, there is substantial heterogeneity in their preferences (i.e., magnitudes differ). The results of Table 4 in fixed effects model show that pressure-sensitive institutions consider profitability (ROA), size of firm, leverage, dividends and business risk when they want to invest in a firm. On the other hand, tangibility, stock price volatility, managerial ownership and leverage are important for pressure-insensitive investors. It implies that pressure-sensitive institutional investors are more conservative than pressure-insensitive institutions. It is consistent with Bennett, Sias, and Starks (2003); Binay (2001); Utete (2008). On the other hand, pressure-insensitive investors are more sensitive about corporate governance (managerial ownership). This result is in line with Binay (2001), who states that the legal structure of an institutional investor has a significant effect on the type of stocks that institution holds in its portfolio.

Table 5 presents the results of the preferences of aggregate institutional investors during different periods. Again, the Breusch and Pagan LM test and Hausman test indicate that

**Table 5:** The preferences of IIS during different periods

| Independent variables | Dependent variable: IIS | | |
|---|---|---|---|
| | 2002-2006 | 2007-2008 | 2009-2011 |
| TANG | -0.0367 | 0.0268 | -0.0127 |
| | (0.0231) | (0.0381) | (0.0303) |
| ROA | 0.0798 | 0.0308 | 0.6736** |
| | (0.2027) | (0.2558) | (0.3175) |
| GO | 0.0024* | -0.0095** | -0.0120* |
| | (0.0014) | (0.0045) | (0.0069) |
| PSV | 0.0021 | -0.0034 | -0.0003 |
| | (0.0038) | (0.0037) | (0.0033) |
| MO | 0.0181 | -0.0294 | -0.0137 |
| | (0.0385) | (0.0803) | (0.0697) |
| SIZE | 0.0055 | 0.0330*** | -0.0133 |
| | (0.0070) | (0.0133) | (0.0141) |
| LEV | -0.0442 | -0.0444 | -0.0131 |
| | (0.0290) | (0.0466) | (0.0419) |
| DIV | 0.0030 | 0.0428 | 0.2280** |
| | (0.0674) | (0.1243) | (0.0997) |
| BR | -0.1113 | -0.0232 | -0.6311** |
| | (0.2014) | (0.2517) | (0.3194) |
| Observation | 1185 | 474 | 711 |
| F value | 47.65*** | 58.77*** | 45.09*** |
| Adj R-squared | 0.9064 | 0.9677 | 0.9385 |

***Notes:*** ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

the fixed effects model is the best estimator, so, the results of fixed effects model are only presented.

As it is seen in the Table 5, tangibility has a negative coefficient in the period 2002-2006, a positive coefficient in the period 2007-2008 again a negative coefficient in the period 2009-2011. The coefficient of ROA from an insignificant in the period 2002-2008 becomes significant in the period 2009-2011. In addition, growth has a positive coefficient in period 2002-2011 while its coefficient is negative in period 2009-2011. The coefficient of Managerial ownership changes from a positive direction in the period 2002-2006 to a negative direction in the period 2009-2011. There is a very significant and positive relationship between institutional ownership and size of firm in the period of Global Financial Crisis. This indicates that in a risky period they prefer large firms which have low risk. Institutional investors may have decreased their preference for large stocks for several reasons. First, Gompers and Metrick (2001) argue that the disappearance of the small firm impact in recent years results from demand shares associated with the strong growth in institutional ownership and the historical preference of institutional investors for large capitalization securities. Thus, institutional investors may have become more willing to hold smaller-capitalization securities because their own demand shares have driven large capitalization securities' valuations too high. Alternatively, they state that institutional investors may have shifted toward small stocks because such stocks provide the greatest opportunities for these investors to exploit their informational advantages, as increased institutionalization probably resulted in increased competition among institutional investors in the market for liquid, conservative, large capitalization securities. Dividend and business risk also have a significant relationship in the period 2009-2011 while they have insignificant coefficient in the periods 2002-2006 and 2007-2008. Generally, the results of Table 5 show that institutional investors change their preferences during time and they almost become less conservative and this is inline with Bennett et al. (2003). Perhaps, changes in aggregate institutional preferences are because of a decrease in the relative impact of less conservative investors and a corresponding increase in the role of less conservative investors. In other words, shifts in aggregate preferences may be due to shifts in preferences of the different types of institutional investors, independent of any changes in their relative importance. Therefore, in the Table 6, we examine heterogeneity in preferences across different types of institutional investors.

The results of Table 6 show that pressure-sensitive institutional investors change their preferences during time and they almost become more risk-aversion. Especially, they tend to avoid stocks with high firm-specific risk and also low dividend payment. In contrast, we find that pressure-insensitive institutions become more risk-taker during time, although they also are risk-avoider in the Global Financial Crisis period and there is a significant positive relationship for firm's size. The results clearly support the hypothesis that shifts in aggregate preferences are at least partially due to shifts in the preferences of each investor class. In the more recent period, all institutional investors exhibit stronger preferences for return standard deviation, and all investors other than pressure-insensitive investment advisors significantly increased their preferences for firm-specific risk.

**Table 6:** The preferences of PSIIS and PIIIS during different periods

| Independent variables | PSIIS | | | PIIIS | | |
|---|---|---|---|---|---|---|
| | 2002-2006 | 2007-2008 | 2009-2011 | 2002-2006 | 2007-2008 | 2009-2011 |
| TANG | -0.0069 | 0.0254 | -0.0227 | -0.0298 | 0.0013 | 0.0100 |
| | (0.0144) | (0.0265) | (0.0194) | (0.0192) | (0.0313) | (0.0251) |
| ROA | 0.0449 | 0.0128 | 0.5582*** | 0.0348 | 0.0180 | 0.1153 |
| | (0.1270) | (0.1785) | (0.2031) | (0.1690) | (0.2107) | (0.2624) |
| GO | 0.0010 | -0.0024 | -0.0092** | 0.0014 | -0.0071* | -0.0027 |
| | (0.0008) | (0.0031) | (0.0044) | (0.0011) | (0.0037) | (0.0057) |
| PSV | 0.0012 | 0.0022 | 0.0002 | 0.0008 | -0.0056* | -0.0006 |
| | (0.0024) | (0.0026) | (0.0021) | (0.0032) | (0.0030) | (0.0027) |
| MO | 0.0102 | 0.0448 | 0.0226 | 0.0078 | -0.0743 | -0.0363 |
| | (0.0241) | (0.0560) | (0.0446) | (0.0321) | (0.0661) | (0.0576) |
| SIZE | 0.0035 | 0.0097 | -0.0070 | 0.0020 | 0.0232** | -0.0063 |
| | (0.0044) | (0.0092) | (0.0090) | (0.0058) | (0.0109) | (0.0117) |
| LEV | 0.0176 | -0.0449 | 0.0207 | -0.0619** | 0.0005 | -0.0339 |
| | (0.0182) | (0.0325) | (0.0268) | (0.0242) | (0.0384) | (0.0346) |
| DIV | -0.0298 | -0.1010 | 0.1462** | 0.0328 | 0.1438 | 0.0818 |
| | (0.0422) | (0.0867) | (0.0638) | (0.0562) | (0.1024) | (0.0824) |
| BR | -0.0467 | -0.0097 | -0.5563*** | -0.0646 | -0.0134 | -0.0747 |
| | (0.1261) | (0.1757) | (0.2044) | (0.1680) | (0.2073) | (0.2640) |
| Observation | 1185 | 474 | 711 | 1185 | 474 | 711 |
| F value | 9.688*** | 10.86*** | 12.19*** | 62.42*** | 79.06*** | 56.99*** |
| Adjusted R-squared | 0.6435 | 0.8369 | 0.7950 | 0.9273 | 0.9759 | 0.9509 |

***Notes:*** ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

### *4.1. Further analyses*

For extending our results following Tong and Ning (2004) we test the determinants of the number of institutional investors to see whether the determinants of the percentage of institutional investors' ownership are different with the determinants of their number. In addition, following Wahab et al. (2007) to consider ownership concentration we repeat our analysis with top 5 institutional investors in each firm in each year. Table 7, using fixed effects model, presents the factors which determine the number of institutional investors and also top 5 institutional investors.

The results of Table 7 show that except firm size other determinants of institutional investors' number are almost as same as those of institutional ownership. Firm size has a significant relationship at 10% with the percentage of institutional ownership but there is not a significant

**Table 7:** Further analysis

| Independent variables | NIIS | NPSIIS | NPIIIS | Top5IIS |
|---|---|---|---|---|
| TANG | 1.988*** | 0.1450 | 1.843*** | 5.118*** |
| | (0.4939) | (0.3301) | (0.3419) | (1.759) |
| ROA | 18.31*** | 11.19*** | 7.118** | 10.86 |
| | (4.824) | (3.225) | (3.340) | (17.19) |
| GO | 0.2017*** | 0.1181*** | 0.0835** | 0.2619 |
| | (0.0485) | (0.0324) | (0.0336) | (0.1730) |
| PSV | -0.2350*** | -0.0459 | -0.1890*** | -1.105*** |
| | (0.0853) | (0.0570) | (0.0590) | (0.3039) |
| MO | -1.487* | 0.3602 | -1.847*** | -4.696 |
| | (0.8362) | (0.5590) | (0.5790) | (2.97) |
| SIZE | 0.1594 | 0.2721*** | -0.1126 | 0.6842* |
| | (0.1157) | (0.0773) | (0.0801) | (0.4123) |
| LEV | -1.341** | -0.7832** | -0.5583 | -8.066*** |
| | (0.5938) | (0.3969) | (0.4111) | (2.11) |
| DIV | -0.5864 | -0.5695 | -0.0169 | 11.71 |
| | (2.017) | (1.3487) | (1.397) | (7.189) |
| BR | -18.31*** | -11.21*** | -7.103** | -20.00 |
| | (4.826) | (3.226) | (3.341) | 17.19 |
| Observation | 2370 | 2370 | 2370 | 2370 |
| R-squared | 0.8105 | 0.6209 | 0.7968 | 0.8097 |
| Adjusted R-squared | 0.7887 | 0.5771 | 0.7734 | 0.7878 |

***Notes:*** ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively. NIIS is the number of institutional investors. NPSIIS is the number of pressure-sensitive institutional investors. NPIIIS is the number of pressure-insensitive institutions and Top 5IIS is the ownership of top 5 institutional investors.

association when we use the number of institutional investors as dependent variable. It is in contrast with Tong and Ning (2004) that find a positive and strong relationship. Generally, these findings indicate that the percentage of institutional investors' ownership and their number in a firm are determined by almost same characteristics. The results in the last column also show that top 5 institutional investors are less conservative investors in comparison with total institutional investors. ROA has a significant and positive relationship with total institutional ownership while top 5 institutions do not consider profitability when they want to invest. Growth opportunity also does not have significant association with top 5 institutions. In addition, top 5 institutions do not consider managerial ownership and business risk in their investment decisions.

## 5. CONCLUSION

After the Asia financial crisis, the Malaysian government restructured corporate governance system and in this new system has been considered a very important role for institutional investors. In this paper we examine the preferences of Malaysian institutional investors after the implementation of this new structure. The results of study show that aggregate institutional investors appear to have preferences for firms with large size, high tangibility, low stock price volatility, high profitability, low leverage, high growth, low managerial ownership and low business risk. In addition, we divide institutional investors into pressure-sensitive and pressure-insensitive institutions and test for their investment preferences separately. We find that pressure-sensitive institutions prefer firms with high profitability (ROA), large size, low leverage, high dividend and low business risk. On the other hand, firms with high tangibility, low stock price volatility, low managerial ownership and low leverage are important for pressure-insensitive investors. It shows that pressure-sensitive institutional investors are almost more conservative investors than pressure-insensitive institutions. In the next step, we check for changes in institutional investors' preferences during different periods. For doing this the whole period of study is divided into three sub-periods based on the Global Financial Crisis. The results show that aggregate institutional investors and also different types of them change their preferences during time. Our results reveal that institutional investors and especially pressure-insensitive institutions became less conservative during time and they accept more risk when they going to invest in a firm. This is consistent with Bennett et al. (2003)who state that institutional investors have become much willing to own riskier stock over the past decade. Generally, the results of this study show that the preferences of the Malaysian institutional investors are almost like those of in other countries.

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