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機構法人持股比率與併購方股票報酬之關係

Institutional Ownership and Acquirer Returns on M&A Announcement

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Abstract

This paper examines the role that different institutional investors play in corporate M&A activities. Findings show that institutional investors are heterogeneous monitoring agents. Hedge fund holdings are found to be significantly related to improved acquirer returns on M&A announcement. On the contrary, high pension fund ownership leads to decreased returns and value destroying acquisitions. Stronger relation between institutional investors and acquirer returns are found in subsample of acquirers with high level of institutional ownership.

Keywords: Institutional Ownership, Mergers and Acquisition (M&A), Market Reaction.

摘要

本研究主要是在探討不同的機構投資人如何影響公司的併購。本研究的結果顯示不同的機構投資人在監督不同的併購時會有異質性的影響。當避險基金持有越多公司的股票時，對於併購公司的股票報酬有正向的影響。相反地，當退休基金持有越多投資公司的股票會負向的影響併購公司的股票報酬。此外，本研究亦篩選出擁有較高股權的機構投資人當作子樣本，藉此增加模型的穩健性。而本研究發現，在子樣本中機構投資人與併購公司股票報酬率的關係更加強烈。

關鍵字: 機構投資人、併購、市場反應股票報酬。

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1. Introduction

Institutional owners have been gradually becoming large and very important owners of corporate equity. Together with the rise of holdings in possession of institutional investors rose their power to influence range of corporate decisions and, in turn, firm value. Nevertheless, the role institutional investors play in corporate governance remains relatively under-studied. This paper investigates the institutional monitoring reflected in firm M&A activity.

Institutional investors not only examine new information about firms with the aim of trading on it (investment monitoring), but also examine firm policies and even influence them to improve firm performance (agency monitoring). Those agency monitoring activities include better investment (Smith, 1996), more aligned compensation (Almazan, Hartzell and Starks, 2005) or greater performance sensitive CEO turnover (Parrino, Sias and Starks, 2003) among others. However, preceding studies provide mixed results on the relationship between level of institutional ownership and firm performance. In studies by Shleifer and Vishny (1986), Del Guercio and Hawkins (1999), Gompers and Metrick (2001), Yuan, Xiao, and Zou (2008), and Chung, Fung, and Hung (2012), a positive relationship between institutional ownership and firm performance was found. Nevertheless, research by Karpoff, Malatesta, and Walkling (1996), Gillan and Starks (2000), Davis and Kim (2007) showed that this relationship is not significant. Fung and Tsai (2012) suggested that such inconclusive evidence might be a result of failure to account for the specificity for corporate decisions, the heterogeneity of institutional investors, and the effect of other corporate governance mechanisms.

Consequently, Fung and Tsai (2012) showed that interaction between institutional ownership and capital expenditure has a significant and positive association with future firm performance. Additionally, research by Fung and Tsai (2012) provide evidence that independent and informed investors (such as investment advisors) are better monitors and their ownership is linked to better firm performance through capital expenditure decision, while no such relationship is found for short-term and less independent, grey investors (such as hedge funds and banks and insurance companies).

This paper investigates the following two interrelated questions. First, can institutional investors lead to higher stockholder returns through firm Merger and Acquisition activities? Institutional investors can influence a wide range of corporate activities to increase firm performance, including R&D investment (Bushee, 1998), M&A decisions (Gaspar, Massa and Matos (2005) and Chen, Harford and Li (2007) investigate M&A in relation to institutional investors investment horizon) and capital expenditure (Fung and Tsai, 2012). This study focuses on corporate M&A activities, as those are among the biggest and most visible forms of corporate investment. Moreover, acquisitions decisions have strong potential for intensifying conflict between managers and shareholders. Institutional investors may play important role in firm acquiring decisions. Second, does the presence of different types of institutional investors have diverse influence on post M&A announcement market returns? This paper follows the Fung and Tsai (2012) approach in examining institutional investors (investment advisors, hedge funds, pension funds and bank and insurance companies) as heterogeneous economic agents in influencing corporate investment decisions. Initial market returns on

M&A announcement are used as a measure of a firms' ability to create shareholders' value, as it enables control for possible noise in case of long-term performance measurement.

The subsequent parts of the paper are organized as follows. Part 2 presents literature review and forms hypothesis. Part 3 describes data and methodology. Part 4 discusses research findings and part 5 concludes the research.

2. Literature review and hypothesis

2.1. Institutional Ownership and Acquirer Returns

Existing literature by Shleifer and Vishny (1986), Kahn and Winton (1998), and Maug (1998) suggests that institutional investors might choose between performing active role of monitoring and influencing management or gathering information and trading on it. Consequently, research papers delivered inconclusive results regarding advantages of institutional ownership for a firm. Many researchers, including Brickley, Lease and Smith (1998), Agrawal and Mandelker (1990), Bushee (1998), Hartzell and Starks (2003), Almazan, Hartzell and Starks (2005) and Borokhovich, Brunarski, Harman, and Parrino (2006), have shown that, under some circumstances, institutional investors would influence antitakeover amendments, R&D investment, and CEO compensation. On the other hand, papers by Karpoff et al. (1996), Gillan and Starks (2000), Davis and Kim (2007) conclude that there is no significant relationship between institutional investors and firm performance. Moreover, Parrino, Sias and Starks (2003) have shown that in case of dissatisfaction with firm's management, some institutional investors choose to sell their holdings instead of executing their position to influence firm management.

This paper focuses on the relation between institutional ownership and firm merger and acquisition activity. M&A activities are among the biggest and most visible forms of corporate investment. According to theoretical work by Jensen and Meckling (1976), these investments intensify the inherent conflict of interest between shareholders and managers of firm. Consequently, multiple sources of research have focused on M&A activities and have documented that not always managers make acquiring decisions that maximize shareholder value, but instead lead to private benefits (e.g. Morck, Shleifer and Vishny, 1990, Lang, Stulz and Walkling, 1991, and Andrade, Mitchell and Stafford, 2001). Therefore, institutional investors may have increased incentive in monitoring corporate M&A activities in comparison to other operating and financial activities of a firm. Institutional investors can influence management and prevent managers from implementing value-destroying acquisitions. As a result, the following hypothesis is formed.

Hypothesis 1:

The level of total institutional ownership is significantly related to acquirer abnormal returns on M&A announcement.

2.2. Different Types of Institutional Investors

According to Sherman, Beldona, and Joshi (1998), much attention has been given to the growing activism of institutional investors in corporate governance, yet previous research has been unable to establish a consistent relationship between institutional investors and firm behavior, which might be the result of assuming homogeneity of institutional investors. Yet different institutional investors might possess diverse

objectives and behaviors and thus play different roles in providing monitoring and governance activities. More recent papers investigating institutional ownership in relation to firm merger activity take into account heterogeneity of institutional investors. However they provide diverse results as well. Gaspar, Massa, and Matos (2005) analyzed institutional shareholder in respect to their investment horizon and conclude that investors with high-turnover portfolios exert little influence on managers with regard to acquisition decision. On the other hand, Qiu (2004) suggest that firms with presence of public pension fund owners engage in less M&A activities, but disagrees with Gaspar et al. whether turnover portfolios have any effect, thus concluding differently on merger performance. Almazan, Hartzell, and Starks (2005) and Chen, Harford, and Li (2007) findings suggest that independent investment advisors have advantages in monitoring firms' management. Cornett, Marcus, Saunders, and Tehranian (2007) provides results suggesting that institutional investors with potential business relations with the firms in which they invest in are less likely to act as monitors of the firm. Consequently, Fung and Tsai (2012) document that four different categories of institutional investors - investment advisors, hedge funds, pension funds, and bank and insurance companies - are heterogeneous monitors. Subsequently, the following hypothesis is proposed.

Hypothesis 2:

Among different types of institutional investors, informed and independent investors should be better monitors of firm M&A activity, thus leading to higher abnormal market returns.

3. Data sample and methodology

3.1. Sample

This research uses samples of all merger and acquisition announcements provided by Securities Data Corporation's (SDC) U.S. Mergers and Acquisitions database between April 1, 1997 and December 31, 2012, excluding financial and financial utility firms and firms that are not traded on NYSE, AMEX and NASDAQ (38083 announcements). Thomson Reuters' Global Equity Ownership Datafeed is used to obtain data on institutional ownership. This data is available from the first quarter of 1997, which limits period of analyzed mergers to those after April 1, 1997. Data on stock pricing is acquired from the University of Chicago's Center for Research in Security Prices (CRSP) Daily Stock Price database. Financial data of Acquirers is attained from Compustat.

Further following restrictions are applied on the sample:

1. Firm's total assets are not less than $1 million.
2. The acquisition is eventually completed.
3. The value of a deal is at least 1% of the acquirer's market value measured 4 weeks prior to announcement.
4. At least 50% of target's equity was sought in a deal as disclosed in SDC database.
5. Acquirer is U.S. firm.

There are 2215 cases for non-missing data on key variables (with the exception of consideration used for which there are 536 cases with unknown consideration offered,

thus missing data). All variables are winsorized at 1st and 99th percentile to reduce influence of outliers.

Table I presents sample distribution by announcement year, with summary statistics of acquirer market value of equity, as measured four weeks before announcement day, deal value, and relative deal value, as well as consideration used (with dummy variable equal to zero for all cash offerings and equal to one when other method of payment was offered). There is a visible trend of more acquisitions being paid with cash only in recent years, with 27% of deals having all cash consideration in 1997 against 74% in 2012. Mean acquirer market value varied during the sample period, however there was increase in acquirer market value median. Mean relative deal size didn't change noticeably.

3.2. Model

This paper measure institutional ownership relationship with acquirer returns by constructing following model:

$$CAR = \alpha + \beta\, IO + \gamma\, FS + \delta\, TQ + \rho\, Lev + \theta\, FCF + \sigma\, Cons + \mu\, RDS + \pi\, Year + \varepsilon$$

In the model, cumulative abnormal returns (CAR) are used as a measure of M&A market reaction. The independent variables are: IO – institutional ownership, FS – firm size, TQ – Tobin's Q, Lev – financial leverage, FCF – free cash flows, Cons – consideration, RDS – relative deal size, and Year – dummy variable for a year of announcement.

This paper uses two approaches to the model. First, in the baseline, institutional ownership variable is equal to the level of ownership the institutional investor holds in the company. In the second approach, the institutional ownership variable is replaced by indicator of high institutional ownership, due to possible nonlinearity of the ownership

and acquirer returns relationship.

The following section describes in detail each of the variables.

3.3. Variable Construction

Acquirer Return

Market adjusted stock returns around M&A announcement day are used to measure how institutional ownership is associated with firm decision-making and thus able to create higher shareholder value. In the market-model adjusted return the expected return is computed based on a single factor market model. The parameters of the market model, i.e. [alpha] and [beta], are estimated using Ordinary Least Square (OLS) regression over the estimation period. This method allows controlling the relation between stock returns and market returns; it takes into account variation of risk associated with different stocks. The market-model-adjusted return is commonly found as an expected return in previous event studies (Bonnier and Bruner, 1989; Lummer and McConnell, 1989; Schipper and Thompson, 1983; Homan, 2006; Small et al., 2007).

Following prior studies such as Brown and Warner (1985), Jeng, Metrick, and Zeckhauser (2003) and Moeller, Schlingemann, and Stulz (2004), this paper uses CRSP value-weighted return as a proxy for the market return and estimate alpha and beta for each firm over a period of 200 days preceding announcement, from 210^{th} to 11^{th} day prior announcement. Cumulative Abnormal Returns (CAR) is measured over period of 5 trading days surrounding the announcement, from 2 trading days preceding announcement to 2 trading days after announcement, with event day 0 being announcement day. If the announcement day falls on a non-trading day (such as a

weekend, or when stock is withhold from trading due to announcement), then CAR is computed for a total of 4 trading days, 2 trading days before announcement and first 2 trading days the stock has been traded after the announcement.

The average 5-day CAR for whole sample is equal to 1.159% and the mean is significantly different from 0 at the 1% level. For transactions where all cash consideration was offered average CAR is equal to 1.446%, significantly different from 0 at the 1% level. For transactions where stock or combination of stock and other type of payment was offered average CAR is equal to 0.717%, significantly different from zero at the 10% level[1]. Mean CARs for all cash and stock or partial stock payment are significantly different from each other at the 1% level. Those results are consistent with previous studies of Moeller, Schlingemann, and Stulz (2004), Masulis, Wang, and Xie (2007), and Chen, Harford, and Li (2007).

Institutional Ownership

To investigate the influence of institutional ownership presence on M&A announcement returns, this paper uses aggregated total institutional ownership, measured as number of a firm's stocks in possession of all types of institutional investors in relation to all shares outstanding at the end of the quarter directly preceding acquisition announcement[2]. Nonetheless, this paper expects that the relationship between institutional ownership and acquirer returns is not linear. Therefore, in the

[1] In case of acquisitions financed entirely by stock (287 cases) mean CAR equals to -1.226%, significantly different from all cash acquisition mean CAR at the 1% level.

[2] In data set provided by Thomson Reuters' SDC Ownership Datafeed, some cases show number of shares held by institutional investors that outnumbers shares outstanding. This is due to the fact that the latest number of shares outstanding is not available, therefore the number from last reported period is shown instead. All those cases where the issue persists were excluded from the sample.

second approach, the institutional ownership variable is replaced with high institutional ownership indicator. Two models are built, one in which high institutional ownership indicator equals to one when level of ownership is higher than median of the whole sample, and second in which the indicator equals to one when level of ownership is greater than 80^{th} percentile of the whole sample.

In regard to different types of institutional investors that are examined to test Hypothesis 2, aggregated institutional ownership for each of the type (as provided by Thomson Reuters' Global Equity Ownership Datafeed) is used. Chen, Harford, and Li (2007) and Ferreira and Matos (2008) classify institutions according to the potential for business ties to a corporation as independent and versus grey institutions. It should be noted however, that, as Ferreira and Matos (2008) warn, relying on institutional categories to classify institutions on their activism is not perfect. This is due to the facts that (1) investor is assigned to an institutional category in which it holds the largest part of its assets under management, yet it may manage several investment vehicles simultaneously – such as bank trusts and mutual funds; (2) there are differences across different countries with respect to the definition of institutional categories; (3) and there are different degrees of potential business ties among institutional investors such as bank trusts and mutual funds. Therefore, this paper draws upon Fung and Tsai (2012) methodology, which examines four different categories of institutional investors, separated by level of independence. Those categories are as follows:

a) *Investment advisors*, (together with mutual funds) which are thought to be better equipped, more active and more independent thus better suited to

perform effective management monitoring than other institutional investors (Brickley, Lease, and Smith (1988), Almazan, Hartzell, and Starks (2005) and Chen, Harford, and Li, (2007)).

b) *Hedge funds*, which also can be classified as independent investors. Brav, Jiang, Partnoy, and Thomas (2008) as well as Clifford (2008) have found that activist hedge funds are better informed and propose strategic, operational, and financial remedies to firms whose equity they own. Nevertheless, hedge funds enjoy less regulation and are more likely to be less effective monitors than independent advisors due to their active trading.

c) *Pension funds*, which are pursuing an active monitoring role. However their effectiveness and motivations are being questioned. For example, findings by Qiu (2004) suggest that public pension funds play important roles in corporate governance and are associated with a firm's lower M&A activity. Del Guercio and Hawkins (1999) showed heterogeneity across funds in activism objectives, tactics, and impact on target firms; while some funds act as independent investors, others can be classified as grey investors.

d) *Banks and insurance companies*, which are often considered as grey institutions; they are more "pressure-sensitive" or loyal to corporate management (Ferreira, Matos (2008)). For instance, Brickley, Lease, and Smith (1988) have found that banks and insurance companies tend to be more supportive for firm management than other types of institutional investors in antitakeover amendment proposals. Therefore, they are less likely to perform effective

monitoring and governance functions.

Other control variables

Similarly to Masulis, Wang, and Xie (2007), control for two types of factors that might have influence on an acquirer's return are used in the models. The first one, which is connected to an acquirer's characteristics, includes firm size, Tobin's Q, free cash flow and leverage; all of which are measured at the fiscal-year end preceding the acquisition announcement. The second one, related to deal characteristics, consist of relative deal size and consideration used.

Bidder characteristics

Firm Size. According to Moeller, Schlingemann, and Stulz's (2004) findings, acquirer's size is negatively correlated with its announcement period abnormal returns, with the announcement return for acquiring firm stock roughly two percentage points higher for small acquirers. This might be evidence in support of Roll's (1986) managerial hubris hypothesis, as it shows that, on average, larger acquirers pay higher premiums and are more likely to make acquisitions that generate economically significant negative synergies. A large size of a firm might also be an effective takeover defense, as more resources are needed to acquire such a company, hence providing managers with more freedom to indulge in shareholders-value-destroying activities, such as questionable acquisitions. In the model logarithm of an acquirer's total assets is used as firm size variable.

Tobin's Q. Existing literature shows diverse results regarding bidder's Tobin's Q influence on its CAR around acquisition announcement. On one hand, Lang, Stulz, and

Walking (1991) showed a positive impact of Tobin's Q on tender offers acquisitions' CAR, and Servaes (1991) documented such a positive relationship in the case of public firm acquisitions. On the other hand, using a comprehensive sample of acquisitions, Moeller, Schlingemann, and Stulz (2004) found a negative relation between acquirer's Tobin's Q and CAR. Tobin's Q is computed by dividing the acquirer's market value of assets by its book value of assets; market value of assets is computed as the book value of assets minus the book value of common equity plus the market value of common equity (total shares outstanding are multiplied by its price).

Free Cash Flows and *Financial Leverage.* In his theoretical paper, Jensen (1986) explains the role that debt plays in motivating organizational efficiency. In firms with large free cash flows, which mean more cash than profitable investment opportunities, conflict between managers and shareholders might become even more severe. Payout to shareholder's means less resources under management control thus reduced managerial power. Managers of firms with large free cash flows have incentive to grow firms beyond their optimal size, which includes questionable acquisition activities. On other hand, higher leverage is incentive for managers to be more cautious not to make the company fall into financial distress, as that might also mean them losing their jobs (Gilson (1989 and 1990)). Therefore, financial leverage plays an important governance role and motivates firm management to improve firm performance. This suggests that higher financial leverage will be positively correlated to an acquirer's CAR. However, free cash flows might also be a sign of better performing managers, which would imply that they can also make better acquisition decisions. Therefore the free cash flows

correlation with an acquirer's CAR remains unclear and might be either negative or positive. Leverage is computed by dividing the sum of a firm's market value of assets and short-term debt by market value of its total assets. Free cash flows are computed as operating income before taxes minus interest expense, income taxes, and capital expenditures, divided by the book value of total assets.

Deal characteristics

Relative Size. Asquith, Bruner, and Mullins (1983) documented that an acquirer's returns are significantly related to the relative size of the target firm. Moeller, Schlingemann, and Stulz (2004) found the same relation, however for their subsample of large acquirer's an opposite relation was found, too. Relative size is computed as a ratio of deal value to acquirer's market value four weeks prior to announcement.

Consideration. Existing literature extensively documents method of payment influence on stock market's reaction to acquisition announcement. Myers and Majluf (1984) developed "information content hypothesis" which predicts that stock-financed acquisitions are signaling to investors that firm stock is overvalued. According to Jensen's (1986) "free cash flows" hypothesis, acquisitions paid by cash reduce the agency costs of free cash flows. A recent paper by Fung, Jo, and Tsai (2009) has found that value-destroying acquisitions are more likely to be financed with stock and during periods of high stock market valuation. Consequently, stock financed acquisitions can be expected to be associated with lower abnormal returns, while cash financed transactions can be related to higher abnormal returns. In the model, indicator variable for *all-cash-financed* acquisitions and *stock-financed* acquisitions is used and it equals to

zero when transaction is financed with cash only and equals to one if transaction is wholly or partially financed with stock.

All of the M&As used in the models are eventually completed ones. Asquith, Bruner, and Mullins (1983) have found that deals that are completed are associated with higher returns.

Table II presents summary statistics for each of the above variables. The average total institutional ownership of the sample is 47%, compared to 48% in Ferreira and Matos (2008) and 43% in Fung and Tsai (2012). Averages and medians for equity held by investment advisors are equal to 20% and 17% respectively, and are lower than those in Fung and Tsai's (2012) sample – 30% and 34% respectively. This difference might be due to the lower investment advisor ownership level in companies that are pursuing M&A activities. For other investor categories, average levels of ownership resemble those of Fung and Tsai (2012).

Year dummies. Jarrell and Bradley (1980) and Schipper and Thompson (1981) suggested necessity of partition of merger analysis by time periods. This is due to the fact that there might be change in legal restrictions as well as general level of merger activity through time that might have influence on bidder's returns.

4. Results

4.1. Baseline regression

Results of the regressions are reported in Table III. Five models are run separately for total institutional ownership and each of the four identified investor types. Similarly to previous research, no significant relationship between total institutional ownership and

announcement period returns was revealed. The coefficient estimate for institutional ownership is 0.08, which is economically and statistically insignificant. Therefore no proof in support of Hypothesis 1 was found.

The coefficient estimate for investment advisor ownership is -1.63 and it's statistically insignificant. Results are also insignificant in the regression estimating bank and insurance company influence on the M&A announcement period CAR, with coefficient equal to -10.12. On the other hand, coefficient estimates are significant for both hedge fund and pension fund ownerships; the coefficients equal to 6.53 for hedge funds and -23.48 for pension funds. This is a very remarkable difference economically, suggesting that hedge funds are better monitors in preventing managers from making bad acquiring decisions. The results for bank and insurance company, pension fund and hedge fund ownerships are very similar to those presented by Fung and Tsai (2012). However, in case of investment advisors no consistent and significant relationship was found.

Extant literature (Wahal 1996; Karpoff, Malatesta and Walking 1996; Nesbitt 1994; Smith 1996) shows mixed results regarding pension funds effectiveness as monitors. Murphy and Van Nuys (1994) and Romano (1994) discuss that pension funds are not effective monitors because of the agency problems within funds themselves. However, there is little explanation of possible negative relationship between pension fund ownership and company performance. This paper suggests that pension funds, by investing in companies and resigning from monitoring them, strengthen company managers' position. Presence of big investors who do not investigate into company

decisions might be an empowering factor, causing managers to be more likely to proceed with acquisitions that are destroying shareholding value. As prior research by Woidtke (2002) and Del Guercio and Hawkins (1999) has shown, pension funds are heterogeneous monitor agents, too. The negative effect might also be associated with activist public pension funds, which are thought to be motivated more by political or social influences than by firm performance (Woidtke, 2002).

The positive influence of hedge funds and negative influence of pension funds on CAR are consistent with previous papers by Chen, Harford, and Li (2007) and Ferreira and Matos (2008) who suggest that more independent investors can be associated with higher shareholder value. Thus, the results support Hypothesis 2; institutional investors are heterogeneous in influencing companies' performance as measured through market reaction on M&A announcement.

As for control variables used, coefficients and significance do not vary notably between the five models. Results show no significant influence of Tobin's Q on acquirer returns. There is a negative coefficient for indicator of stocks financed in other ways than cash only, however it's not significant. Firm size is significantly and negatively correlated with acquirer returns, which might be a sign of managerial hubris. The coefficient for leverage is significant and positive, which means that higher debt levels are indeed positive incentive for managers to make better decisions. Coefficient for free cash flows is also significantly positive, which is opposite to what Jensen's (1988) free cash hypothesis suggests. Additionally, acquirer returns are significantly influenced by the size of the transaction normalized by acquirer market value.

Results presented in this paper are consistent with those presented by Moeller, Schlingemann, and Stulz (2004) and Masulis, Wang, and Xie (2007), with the exception of leverage and free cash flows, which were previously reported insignificant. Results hold and remain analogous when year dummies are added to the models.

4.2. High Institutional Ownership Indicator

Additionally, to measure the impact the high level of institutional ownership has on acquirer returns, an indicator of high level institutional ownership is used. First, the high level institutional ownership indicator is created that equals 1 when institutional ownership of a given company is greater than median institutional ownership in the sample, and equals 0 otherwise. Regression includes the same independent variables as in baseline regression, including year dummies. Results, as presented in Table IV, differ from the baseline regression. Results for hedge funds and pension fund ownership became insignificant; coefficient remains negative for pension funds, and became negative for hedge funds. Notably, results for banks and insurance companies' ownership became significant at the 10% level, with the negative coefficient of -0.83. A possible explanation for inconsistent results for hedge fund and pension fund ownership might be that the median, as a point of division of the sample into high and low ownership indicator, does not divide the sample into two groups, one in which institutional owners posses big enough holdings to be in position to effectively influence firm's management, and one with holdings that are not big enough. Indeed, the sample distribution is positively skewed[3]. Thus high level institutional ownership indicator might

[3] Skewness equals to .113 for total ownership, .505 for investment advisors, 2.305 for hedge funds, 1.569

include companies with relatively low institutional ownership levels if assigned by the median. Therefore in the second approach high level institutional ownership indicator equals to 1 when institutional ownership of a given company is greater than the 80th percentile of institutional ownership in the sample. In this approach, the coefficient for total institutional ownership becomes noticeably higher than in previous regressions, however still remains insignificant. Results also remain insignificant for investment advisors ownership. Results become significant at 5% level for both hedge fund and pension fund ownership, with coefficients equal to 1.20 and -1.15 respectively. The magnitude of coefficient for banks and insurance companies' ownership becomes slightly lower and insignificant. Those results are consistent with baseline regression and support hypothesis 2. This outcome also suggests that the relationship between institutional ownership and acquirer returns become more significant in the subsample of acquirers with higher level of institutional holdings. The results of high institutional ownership indicator approach are consistent with the first model and with previous study by Fung and Tsai (2012).

4.3. Subsample

Consequently with outcomes from the previous models, regressions for subsamples, which consist of acquirers which institutional ownership was higher than median institutional ownership for the whole sample, are run. Each of the subsamples consists of 1107 M&A announcements. Results are presented in Table V. Most remarkably, a coefficient of -5.2 becomes significant for investment advisors ownership. It is consistent

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for pension funds, and 3.705 banks and insurance companies.

with hypothesis 2, further documenting heterogeneity of institutional investors. However negative coefficient is contrary to the expected results. It is also contrary to Fung and Tsai's (2012) results which documented a positive relation between investment advisors ownership and firm performance through capital expenditures. The magnitude of coefficient and significance increases for hedge fund and pension fund ownership. Coefficient remains insignificant for total institutional ownership and for banks and insurance companies.

In the subsample regressions, many control variables become insignificant, including firm size and leverage in all models, as well as free cash flows for total, hedge fund and pension fund ownership, and relative deal size for pension fund ownership. Moreover consideration offered becomes significant for hedge funds and banks and insurance companies.

In general, results of the models support hypothesis 2, showing that institutional investors are diverse monitoring agents. Results indicate that hedge funds are positively associated with higher acquirer returns. Meanwhile investment advisor, pension fund and bank and insurance company ownership has a negative relationship with acquirer returns. No proof in support of Hypothesis 1 was found, thus there is no relation between total institutional ownership and acquirer returns exposed.

The results of the subsample regression are consistent with Fung and Tsai (2012) with the exception of category of investment advisors that showed opposite relationship than documented previously.

5. Conclusion

Results presented in this paper show that there is no clear link between total institutional ownership and acquirer returns on M&A announcement. Yet, there is a clear relationship between different types of institutional investors and acquirer returns. This proves that institutional owners are heterogeneous agents in monitoring firm's acquiring decisions. Hedge funds are better monitors in preventing a firm's management from making value-decreasing acquisitions. On the other hand, results suggest that pension fund ownership might lead to lower stock returns on M&A announcement.

Findings in this paper add to the understanding of the role institutional investors play in aligning corporate decisions, particularly acquisition activities. Conclusions are in line with extant literature, including Moeller, Schlingemann, and Stulz (2004), Masulis, Wang, and Xie (2007), Chen, Harford, and Li (2007), and Fung and Tsai (2012).

This research does not include control variables for internal corporate governance provisions. Further research of corporate governance in relation to institutional ownership will be important to better understanding of institutional investors' roles in influencing firm performance and shareholder value.

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Table I Sample Distribution by Announcement Year

The sample consist of 2215 completed mergers and acquisitions of U.S. acquirers between second quarter of 1997 and end of 2012 for non-missing values on key variables (with exception of consideration, where in 536 cases consideration offered is unknown). CAR is the acquirer's 5-day, announcement centered cumulative abnormal return in percentage points. All variables are winsorized at 1st and 99th percentile.

Year	Frequency	Percent	Mean Acquirer Market Value ($ mil) (Median)	Mean Value of Transaction ($mil) (Median)	Mean Relative Deal Size (Median)	Consideration (0 – All cash, 1 otherwise)
1997[4]	159	7.2	415.91	52.67	0.21	0.73
			(154.73)	(15.95)	(0.10)	
1998	231	10.4	632.21	55.04	0.20	0.66
			(180.90)	(18.55)	(0.09)	
1999	188	8.5	1253.86	111.87	0.21	0.72
			(235.32)	(22.31)	(0.07)	
2000	176	7.9	1780.39	180.52	0.20	0.81
			(530.50)	(37.26)	(0.07)	
2001	123	5.6	1450.54	249.82	0.21	0.68
			(297.85)	(24.40)	(0.09)	
2002	110	5.0	810.55	76.79	0.22	0.51
			(226.67)	(22.88)	(0.11)	
2003	107	4.8	839.65	83.38	0.22	0.45
			(278.64)	(27.00)	(0.09)	
2004	148	6.7	1819.49	123.62	0.23	0.45
			(315.55)	(35.36)	(0.09)	
2005	147	6.6	2663.41	176.28	0.18	0.45
			(364.32)	(31.10)	(0.07)	
2006	141	6.4	1396.83	119.21	0.15	0.43
			(421.96)	(37.50)	(0.07)	
2007	141	6.4	1490.04	157.60	0.17	0.36
			(406.69)	(37.60)	(0.08)	
2008	96	4.3	1402.79	76.92	0.17	0.34
			(289.42)	(17.90)	(0.06)	
2009	88	4.0	1811.09	359.12	0.23	0.40
			(335.31)	(30.52)	(0.10)	
2010	105	4.7	1178.18	127.11	0.18	0.37
			(339.03)	(38.50)	(0.09)	
2011	128	5.8	2184.23	164.59	0.22	0.33
			(386.21)	(41.43)	(0.08)	
2012	127	5.7	1977.12	156.43	0.19	0.26
			(551.14)	(50.00)	(0.08)	
Total	2215	100.0	1415.33	134.76	0.20	0.52
			(312.39)	(28.00)	(0.08)	

[4] Mergers from only last 3 quarters of 1997 are included in the sample.

Table II Summary Statistics

The sample consist of 2215 completed mergers and acquisitions of U.S. acquirers between second quarter of 1997 and end of 2012 for non-missing values on key variables (with exception of consideration, where in 536 cases consideration offered is unknown). CAR is the acquirer's 5-day, announcement centered cumulative abnormal return in percentage points. All variables are winsorized at 1st and 99th percentile.

	Mean	Median	St Dev	Min	Q1	Q3	Max
Dependent variable: CAR							
CAR	1.16	0.68	10.20	-29.55	-4.19	6.31	33.80
Institutional Ownership							
Total	0.47	0.45	0.29	0.01	0.22	0.72	0.99
Investment advisors	0.20	0.17	0.15	0.00	0.06	0.32	0.56
Hedge funds	0.04	0.02	0.06	0.00	0.00	0.05	0.31
Pension funds	0.02	0.01	0.02	0.00	0.00	0.03	0.10
Bank and insurance	0.01	0.00	0.01	0.00	0.00	0.00	0.09
Acquirer characteristics							
Log(total assets)	2.31	2.28	0.61	0.98	1.90	2.69	3.95
Tobin's Q	2.85	1.94	2.86	0.64	1.36	3.07	20.19
Leverage	0.12	0.04	0.16	0.00	0.00	0.19	0.69
Free cash flows	-0.02	0.03	0.18	-0.91	-0.05	0.08	0.24
Deal characteristics							
Relative deal size	0.20	0.08	0.31	0.01	0.04	0.22	1.81
Consideration	0.52	1.00	0.50	0.00	0.00	1.00	1.00

Table III Baseline Regression Analysis of Acquirer Returns

The table presents influence of institutional ownerships on acquirer's announcement period market returns. The sample consist of 2215 completed mergers and acquisitions of U.S. acquirers between second quarter of 1997 and end of 2012 for non-missing values on key variables (with exception of consideration, where in 536 cases consideration offered is unknown). The dependent variable is the acquirer's 5-day, announcement centered cumulative abnormal return in percentage points. All variables are winsorized at 1st and 99th percentile. Results shown are unstandardized coefficients. Standard error is shown in parenthesis in the second row for each independent variable. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% respectively.

Institutional Ownership						
Total	0.083					
	(0.927)					
Investment Advisors		-1.630				-0.373
		(1.742)				(1.914)
Hedge Funds			6.532*			6.902*
			(3.732)			(4.142)
Pension Funds				-23.479*		-22.923*
				(12.607)		(13.808)
Banks and Insurance					-17.414	-10.281
Companies					(15.033)	(15.601)
Acquirer Characteristics						
Firm size	-1.073**	-0.885**	-1.076***	-0.729*	-0.973**	-0.760*
	(0.443)	(0.431)	(0.391)	(0.429)	(0.398)	(0.460)
Tobin's Q	-0.013	-0.012	-0.006	-0.020	-0.013	0.018
	(0.083)	(0.083)	(0.083)	(0.083)	(0.083)	(0.089)
Leverage	3.568**	3.153**	3.488**	2.887*	3.355**	2.737*
	(1.578)	(1.588)	(1.534)	(1.572)	(1.542)	(1.620)
Free Cash Flows	4.202***	4.494***	4.154***	4.360***	4.345***	4.862***
	(1.297)	(1.300)	(1.268)	(1.269)	(1.272)	(1.327)
Deal Characteristics						
Consideration	-0.730	-0.783	-0.675	-0.777	-0.734	-0.737
	(0.530)	(0.527)	(0.526)	(0.525)	(0.525)	(0.536)
Relative Deal Size	2.424***	2.376***	2.440***	2.406***	2.420***	2.416***
	(0.734)	(0.735)	(0.733)	(0.732)	(0.733)	(0.737)
(Constant)	3.195***	3.214***	2.931***	2.972***	3.162***	2.037*
	(1.023)	(1.022)	(1.033)	(1.029)	(1.022)	(1.188)
N	2215	2215	2215	2215	2215	2215
Adjusted R^2	0.013	0.017	0.015	0.015	0.014	0.016

Table IV High Institutional Ownership Indicator

This table presents results for influence of high institutional ownership indicator on acquirer returns. Two approaches for applying high institutional ownership indicator were applied. In the first one the indicator equals to 1 when institutional ownership of a given company is greater than median institutional ownership in the sample (shown in the first column). In the second one the indicator equals to 1 when institutional ownership of a given company is greater than 80th percentile of institutional ownership in the sample (shown in the second column). The dependent variable is the acquirer's 5-day, announcement centered cumulative abnormal return in percentage points. All control variables are identical with those in other tables but their coefficients and standard errors are not included in this table. All variables are winsorized at 1st and 99th percentile. Results shown are unstandardized coefficients. Standard error is shown in parenthesis in the second row for each independent variable. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% respectively.

	High Institutional Ownership Indicator	
	Greater than median	Top quintile
Total Institutional Ownership	0.004	0.520
	(0.510)	(0.617)
Investment Advisors	0.084	-0.109
	(0.494)	(0.593)
Hedge Funds	-0.025	1.198**
	(0.501)	(0.584)
Pension Funds	-0.482	-1.144*
	(0.518)	(0.594)
Banks and Insurance Companies	-0.833*	-0.588
	(0.488)	(0.568)

Table V Regression Analysis for High Institutional Ownership Subsample

This table presents influence of institutional ownerships on acquirer's announcement period market returns for five subsamples, each consisting of acquirers which institutional ownership was higher than median institutional ownership (1107 observations each). The original sample consist of 2215 completed mergers and acquisitions of U.S. acquirers between second quarter of 1997 and end of 2012 for non-missing values on key variables (with exception of consideration, where in 536 cases consideration offered is unknown). The dependent variable is the acquirer's 5-day, announcement centered cumulative abnormal return in percentage points. All variables are winsorized at 1st and 99th percentile. Results shown are unstandardized coefficients. Standard error is shown in parenthesis in the second row for each independent variable. All regressions include year dummy variables, for which coefficients are not included. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% respectively.

Institutional Ownership					
Total	0.550				
	(1.964)				
Investment Advisors		-5.204*			
		(3.026)			
Hedge Funds			9.358**		
			(4.640)		
Pension Funds				-34.513**	
				(16.012)	
Banks and Insurance Companies					-6.138
					(16.339)
Acquirer Characteristics					
Firm size	-0.583	-0.877	-0.573	-0.160	-0.759
	(0.589)	(0.580)	(0.572)	(0.584)	(0.592)
Tobin's Q	0.084	0.032	0.132	-0.072	0.133
	(0.132)	(0.136)	(0.125)	(0.156)	(0.133)
Leverage	2.557	2.771	3.035	2.046	2.707
	(2.134)	(2.333)	(2.058)	(2.339)	(2.451)
Free Cash Flows	1.842	6.131**	-0.061	2.777	5.486**
	(2.486)	(2.552)	(1.916)	(2.026)	(2.262)
Deal Characteristics					
Consideration	-0.745	-0.965	-1.180*	-0.976	-1.797**
	(0.663)	(0.691)	(0.684)	(0.676)	(0.718)
Relative deal size	2.577**	2.356*	2.454**	1.300	2.304**
	(1.121)	(1.214)	(1.021)	(1.112)	(1.133)
(Constant)	1.771	5.447***	1.267	2.757	1.940
	(2.003)	(2.018)	(1.779)	(1.822)	(1.727)
N	1107	1107	1107	1107	1107