MANAGEMENT OWNERSHIP AND STOCK PRICE INFORMATIVENESS IN INDONESIA STOCK MARKET

Indra Ambarita

Cynthia Utama

Graduate School of Management, Faculty of Economics and Business, University of Indonesia, Depok, Indonesia

ig.ambarita@gmail.com

Abstract

This paper investigates the impact of management ownership i.e. director's and commissioner's shares, on the amount of firm-specific information incorporated into stock prices, as measured by stock price synchronicity of Indonesian-listed firms over the 2013-2015 period. Studies have shown that at least there are two effects of management ownership in prices i.e. convergence-of-interests effect and entrenchment effect. Also, previous research shows that stock price efficiency depends on the cost of acquiring private information. We hypothesize that these characteristics will manifest itself primarily in the firm-specific component of returns. Our empirical test finds that director's and commissioner's ownership in a company nonlinearly increase the probability of capitalization of firm's specific information to stock prices. Thereby, making firm's stock prices less synchronous to the market and the industry movements. Overall, our findings support the contention that ownership structure plays a significant role in shaping the firm's information environment.

Keywords: *management ownership, stock price synchronicity, Indonesia*

JEL Classification: G14

INTRODUCTION

Efficient market hypothesis indirectly states that information is the key to the dynamic of stock prices which in turn will determine stocks' return. Roll (1988) finds that a large proportion of stock return variation is not explained by changes in market wide variables or by publication of value-related public information. Further, he says that it is an indication of

the amount and rate of private information capitalization into stock prices via informed trading. This study attracts a growing body of finance literature that provides consistent evidence with information-based interpretation of stock price synchronicity or firm-specific return variation. For example, Morck, Yeung, and Yu (2000) examine worldwide synchronicity at the country level, and find that stock price movements are more synchronous in emerging markets with greater barriers to informed trading than in developed markets with lesser barrier. They argue that high synchronicity, commonly in emerging markets, is led by poor investor protection which discourages informed trading. Another follow up study, Jin and Myers (2006) show that synchronicity decreases with a country's accounting transparency. Latest studies by Fernandes and Ferreira (2008, 2009), Kim and Shi (2009), He et al. (2013), Hasan et al. (2014), and Lin et al. (2015) also argue synchronicity to be higher in emerging markets than in developed markets.

The purpose of this study is to investigate the effect of corporate governance mechanism to synchronous movement of stock prices in the equity market of Indonesia. Corporate governance has been a hot topic since the financial crisis that delivered shock to the global economy (OECD, 2015). Earlier in Indonesia, weak corporate governance is seen as the main cause of economic crisis in 1998 (OECD, 2012). Corporate governance is aimed at enforcing rights and obligations of all stakeholders as proclaimed in the basic principles of corporate governance i.e. fairness, transparency, accountability, and responsibility. Hence, the discussion about the influence of corporate governance in the capital market is very attractive to be explored.

This study is motivated by Ashbaugh et al. (2004) and Setyaningrum (2005) who investigated the effect of corporate governance, via multiple proxies, to corporate bond rating. Different with those studies, this study examines the influence of corporate governance to incorporation of company specific information into stock prices which is proxied by the stock price synchronicity. Moreover, this study use management ownership as the proxy of corporate governance as the interest variable as studies have not yet covered the topic.

Researches about stock price synchronicity already cover multiple factor for example study to examine the association between stock price synchronicity and efficient capital

allocation (Pindyck and Rotemberg, 1993; Wurgler, 2000), analyst activity (Piotroski and Roulstone, 2004; Chen and Hameed, 2006), earnings informativeness (Durnev et al, 2003), corporate transparency (Jin and Myers, 2006), voluntary disclosure (Haggard et al., 2008), earnings management (Hutton et al., 2009), audit quality (Gul et al., 2010), adoption of IFRS (Kim and Shi, 2012), and ownership structure (Boubaker et al., 2014).

We study the link between synchronicity and corporate governance characteristics in Indonesia that are deemed to influence the flow of firm-specific information to equity market. This linkage emerges through the effects of corporate governance on management or managerial constraints and incentives, which are likely to influence the information environment and stock prices. Based on study by Ashbaugh et al. (2004) and Setyaningrum (2005), ownership in Indonesia scope at least still has some area underexplored in relation to stock price synchronicity. Both studies pin points that management ownership i.e. holding in by commissioners or directors in the company, has channel to influence company management incentives or managerial constraints as proxied against company bond rating. This study aims to close the gap by exploring relevancy to the topic of stock prices movement.

Previous researches document that ownership structure affects the informational environment of a firm and its decision making. For instance, Ball et al. (2003) argue that, beyond accounting standards, the distribution of cash flow and voting rights shape the outcome of financial reporting procedures. Other studies also show that ownership structure turns out to explain earnings management (Warfield et al., 1995), earnings informativeness (Fan and Wong, 2002), analyst following (Lang et al., 2004; Boubaker and Labégorre, 2008), accounting conservatism (Lafond and Roychowdhury, 2008), and the cost of corporate borrowing (Boubakri and Ghouma, 2010; Lin et al., 2011), among others. This paper brings together strands of literature by addressing the important but hitherto underexplored question of whether ownership structure matters in explaining the synchronicity of stock price movements. The linkage is based on the classical idea that ownership structure affects managerial incentives and therefore exacerbates or mitigates agency problems between shareholders and professional managers (Jensen and Meckling, 1976).

Morck and Vishny (1987) infer that there are two hypotheses when managers hold equity in the firm and shareholder are too dispersed to enforce value maximization. First, entrenchment hypothesis that is corporate assets may be deployed to benefit management rather than shareholders. Such managerial benefits can include shirking and perquisite-taking, but also encompass pursuit of such non-value-maximizing objectives as sales growth, empire building, and employee welfare. Second, convergence-of-interest hypotheses that is market value of company increases with management ownership. Further, as managements holding increases, managements pay a larger share of cost from value-maximization deviation and are less likely to squander corporate wealth. In relation to voluntary disclosure of company information to public, the entrenchment hypotheses have negative impact while convergence-of-interest have the opposite. Disclosure have very important role in dynamics of stock return (Haggard et al., 2008). Hence, management ownership cannot be just ignored in the discussion of stock price synchronicity. Theoretical arguments alone cannot unambiguously predict the relationship between management ownership and incorporation of information disclosed by company to stock price. This study determines to provide empirical hypotheses testing.

This study contributes to the extant literature in several ways. First, we provide a unique focus on firm-level governance characteristics in a fast growing and arguably one of the biggest emerging market—Indonesia. Our results help us better understand the effects of firm-level investor protection mechanism on firm-specific information capitalization in an environment where overall country-level investor protection is relatively poor. Second, our study is one of the few, if not the first, to examine, in an emerging market, the informational effect of disaggregated of top level management ownership structure i.e. directors' stake and commissioners' stake. Finally, our study extends the underexplored connections between ownership structure 'management ownership', as one of proxies of corporate governance as argued by Asbaugh-Skaife et al. (2006) and Setyaningrum (2005), who investigate the effect of corporate governance to company's bond rating.

The remainder of the paper is structured as follows. Section 2 develops our research hypotheses. Section 3 explains how we measure stock price synchronicity in the context of the Indonesian market, and specifies our empirical models used for hypothesis testing.

Section 4 describes our sample and data sources, and presents descriptive statistics. Section 5 reports results of our main regressions, while the final section concludes the paper.

HYPOTHESIS DEVELOPMENT

One of key determinants of corporate governance is ownership structure (Shleifer and Vishny, 1997; La Porta, Lopez-de-Silanes, and Shleifer, 1998, 2000). Various prior studies were applied around the world testing the influence of board of director structure, and composition, management ownership, and capital structure on the financial performance of the corporations. In principle, the studies have two opposing views regarding management ownership in a company.

First, incentive alignment as the proponent view. Initial study of Jensen and Meckling, (1976) showed that management's equity ownership helps to resolve the agency problems and improve the corporation's performance. Jensen (1986; 1993) and Fama and Jensen (1985) add that contract of management should include the compensation which are material such as stock options, performance shares, and bonuses. Granting stock of company aims the manager to feel like the owner of the company so as to encourage management to consider its whole policy based on systematic risk and provides the best performance to maximize shareholder's wealth.

Under the incentive alignment perspective, management ownership can facilitate the alignment of interest between shareholder and management. The implication, then, is that concentrated ownership may encourage the management to voluntarily disclose more and better firm-specific information for the benefit of shareholders. This improved cost-benefit tradeoff facilitates more informed trading, which, in turn, leads to more information being impounded into stock prices (Grossman and Stiglitz, 1980). One can thus expect that under the alignment perspective, synchronicity is inversely related to management ownership, ceteris paribus.

Second, entrenchment incentive as the opposing view. Some studies support the view that management's equity ownership does not always have a positive effect on corporate performance (Morck, Shleifer, and Vishny 1988). Also, Fama and Jensen (1983), and Holderness (2003) demonstrate that managers who own enough stock to dominate the board

of directors could expropriate corporate wealth. Entrenched management have an incentive to cover up their self-serving, or to limit related information leakage, by withholding unfavorable information or selectively disclosing such information that helps them camouflage their self-serving behaviors, and/or opportunistically timing the release of value-relevant, private information to the market. Thus, this condition deters the flow of firm-specific information to the market, contributing to more opaque information environment. In the other hand, other investor without adequate protection may have to bear the relatively higher cost of acquiring and processing private information to overcome the information opacity, and to avoid the risk of being exploited by the management who own shares in the company. The high cost associated with private information search, however, discourages informed trading, and thus, impedes the incorporation of firm-specific information into share prices (Roll, 1988; Morck et al., 2000; Fernandes and Ferreira, 2009; Gul et al. 2010).

Gul et al. (2010) find that there is a nonlinear function of ownership concentration and synchronicity. They predict at some level of ownership, entrenchment could dominate alignment effect. This means the entrenchment effect can be mitigated, however, when ownership extends beyond a certain level and the firm assumes the characteristics of a 'private' company owned by the dominant shareholders. When the controlling owner obtains effective control of firm, any increase in voting rights does not further entrench the controlling owner, but his/her cash-flow rights in the firm mean that it will cost more to divert the firm's cash flows for private gain (Fan and Wong, 2002). Based on previous arguments, we thus test the following hypothesis and in alternative form:

H1. Stock price synchronicity initially decreases at a decreasing rate as the percentage of shares held by the management increases, but it begins to increase as the percentage continues to increase beyond a certain level, ceteris paribus.

MEASUREMENT OF VARIABLES AND MODEL SPECIFICATION

Measurement of Stock Price Synchronicity

To measure our dependent variable, stock price synchronicity, we need to estimate the market model, which allows us to decompose total return variations into two components:

those tied to common (market wide and/or sector/industry wide) factors and those tied to firm-specific factors. The institutional features of Indonesian markets lead us to posit one unanimous specifications of the market model from which we derive measure of synchronicity. For all share-issuing firms in our sample, we estimate the following market model for each fiscal year:

$$RET_{it} = \pi_0 + \pi_1 MKTRET_t + \pi_2 MKTRET_{t-1} + \pi_3 SECRET_{xt} + \pi_4 SECRET_{xt-1} + \varepsilon_{it} \quad (1)$$

$$RET_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \quad\quad\quad (2)$$

$$MKTRET_t = \frac{P_{mt} - P_{mt-1}}{P_{mt-1}} \quad\quad\quad (3)$$

Where, for firm i and day t, RET denotes the daily return on company shares traded on Indonesia Stock Exchange, shown in Eq. (2); and MKTRET and SECRET denote the value-weighted market return and industry return, respectively, shown in Eq. (3); and ε represents unspecified random factors. The market return is based on the composite (value weighted) IHSG index which reflects all stock price movements in Indonesia Exchange. The sector return (SECRET) is based on disaggregated composite published by Indonesia Stock Exchange that comprises eight index. In Eq. (1), we include lagged industry and market returns to alleviate concerns over potential non-synchronous trading biases that may arise from the use of daily returns for estimating the market model (Scholes and Williams, 1997; French, Schwert, and Stambaugh, 1987). Estimation of Eq. (1) allows us to effectively isolate total return variations tied to (domestic) market wide and industry wide factors from those tied to firm-specific factors.

In estimating Eq. 1, we follow Gul et al. (2010) that requires daily return data be available for at least 200 trading days in each fiscal year. As in other studies, stock price synchronicity is defined as the ratio of common return variation to total return variation, which is equivalent to R2 of market model used. Synchronicity is often measured by the regression's R-squared value of individual stock returns on market and industry indexes. The larger R-squared an individual firm has, the more its stock prices are synchronous with market and/or industry returns. Growing number of empirical evidence supports the informational interpretation of this proxy (Boubaker et al., 2014). To circumvent the bounded nature of R^2 within [0,1], we use a logistic transformation of R_i^2:

$$SYNCH_{iT} = \log\left(\frac{R_i^2}{1-R_i^2}\right) \qquad\qquad (4)$$

where $SYNCH_{iT}$ is our empirical measure of annual synchronicity for firm i which then serves as the dependent variable.

Empirical Models for Hypothesis Testing

To test for the effects on synchronicity of management ownership in a company, the procedures is to estimate the following regression:

$$SYNCH_{iT} = a_0 + a_1 MGTSTOCK_{iT} + \sum_k a_k\, CONTROL_{iT}^k + YRDUMMY + STRDUMMY + \varepsilon_{iT} \qquad (5)$$

$$SYNCH_{iT} = b_0 + b_1 COMSTOCK_{iT} + \sum_k b_k\, CONTROL_{iT}^k + YRDUMMY + STRDUMMY + \alpha_{iT} \qquad (6)$$

$$SYNCH_{iT} = c_0 + c_1 DIRSTOCK_{iT} + \sum_k c_k\, CONTROL_{iT}^k + YRDUMMY + STRDUMMY + \mu_{iT} \qquad (7)$$

where, for firm i and year T, $MGTSTOCK_{iT}$ represents the percentages of shares held by the largest shareholder at the beginning of the fiscal year;

Following previous related researchs (Piotroski and Roulstone, 2004; Chan and Hameed, 2006; Ferreira and Laux, 2007; Gul et al., 2010), we include a total of seven control variables that are known to influence synchronicity, that is: annual trading volume turnover, trading volume computed as the total number of shares traded in a year, divided by the total number of shares outstanding at the end of the fiscal year (VOL). Firm size is computed as the log of total assets at the end of the fiscal year (SIZE). Leverage is computed as total liabilities divided by total assets (LEV). Volatility of a firm's earnings stream measured by the standard deviation of a firm's return on assets (ROA)s over the preceding five-quarter period, including the current quarter (STDROA). Market-to-book ratio is computed as the total market value of equity, divided by the total net assets at the end of the fiscal year (M/B). The number of firms in the industry to which a firm belongs is accounted with natural log of the number of firms in the industry to which a firm belongs (INDNUM). Industry size is measured as the log of year-end total assets of all sample firms in the industry to which a firm belongs (INDSIZE). Year and industry dummies are included to control for potential year and industry fixed effects. At first, we run regression of Eq. (5), (6), (7) and modify them by adding quadratic variable to test non-linearity. The resulting equations are as follows:

$$SYNCH_{iT} = d_0 + d_1 MGTSTOCK_{iT} + d_2 MGTSTOCK_{iT}^2 + \sum_k d_k CONTROL_{iT}^k +$$
$$YRDUMMY + STRDUMMY + x_{iT} \tag{8}$$

$$SYNCH_{iT} =$$
$$e_0 + e_1 COMSTOCK_{iT} + e_2 COMSTOCK_{iT}^2 + \sum_k e_k CONTROL_{iT}^k + YRDUMMY +$$
$$STRDUMMY + y_{iT} \tag{9}$$

$$SYNCH_{iT} = f_0 + f_1 DIRSTOCK_{iT} + f_2 DIRSTOCK_{iT}^2 + \sum_k f_k CONTROL_{iT}^k + YRDUMMY +$$
$$STRDUMMY + z_{iT} \tag{10}$$

All of the equations are meant to test consistency between linearity and nonlinearity of price synchronicity and management ownership.

SAMPLE

Sample and Data Sources

Our sample period covers the three-year period, 2013-2015. We extract stock return, market data, and accounting data from the Datastream and from Indonesia Stock Exchange (IDX) annual fact book. Ownership-related data as to shares held by the management (pengurus perusahaan) and their identity (commissioner or director held) are manually collected, mainly from annual reports of individual companies, and in some cases supplemented from other data sources, including company web sites, the Indonesia Financial Service Authority (OJK) database. This study limits the samples to non-financial firms, since financial corporations are heavily regulated and governed by specific accounting standards, making their accounting numbers incomparable to those of other firms (Boubaker et al., 2014). Firms with insufficient ownership information or missing financial data for computing control variables were excluded from the sample. We allow firms to enter and exit the panel to limit the effect of survivorship bias. The final (unbalanced) samples comprise 739 firm-year observations.

Descriptive Statistics

Table 1 presents descriptive statistics. In the table below, R2 and SYNCH are R2 statistic and the synchronicity measures, respectively, computed from Eq. 1. The mean and

median R2 are 0.14003 and 0.05506, respectively. This means that on average 5% to 14% stock price movements of sample companies is explained by the market and the industry sectors' dynamics. These statistics are relatively incomparable to the reported mean R2 of 0.454 for China in the sample of Gul et al. (2010). The mean and median SYNCH are -2.65202 and -2.84278, respectively. The measure of SYNCH is computed using the same specification of the market model used in Gul et al. (2010), who report the mean and median of -0.232 and -0.151, respectively, which are higher than our corresponding measures. This suggests that compared with Chinese firms, stock prices of Indonesia-listed firms tend to co-move, to a lesser (greater) extent, with market wide and/or industry wide information (firm-specific information). Both R2 and SYNCH display considerable cross-sectional variations as reflected in the relatively high standard deviations and inter quantile ranges. For example, SYNCH is -4.06659 at the lower quartile, while it is -1.80695 at the upper quartile, with a standard deviation of 1.71764. Given that all firms in our sample come from a single country, this significantly high variation in synchronicity across firms suggests that the flow of firm-specific information to market varies widely across firms within the country. Table 1 also shows that, on average, the largest shareholder holds 4.02% of shares outstanding, and it reveals close to be block holder ownership structure in Indonesia.

Table 1. Descriptive Statistics

Variables	Mean	Std. Dev.	5th Pctl.	25th Pctl.	Median	75th Pctl.	95th Pctl.
R^2	0.14003	0.18278	0.00000	0.01313	0.05506	0.12986	0.52023
SYNCH	-2.65202	1.71764	-5.31999	-4.06659	-2.84278	-1.80695	0.11728
MGTSHARE	0.04018	0.12421	0.00000	0.00000	0.00013	0.00731	0.23208
COMSHARE	0.01764	0.07177	0.00000	0.00000	0.00000	0.00039	0.09142
DIRSHARE	0.02254	0.08586	0.00000	0.00000	0.00000	0.00060	0.11514
VOL	0.39019	0.67961	0.00050	0.02784	0.17133	0.42690	1.48672
SIZE	9.44833	0.67942	8.17889	8.86636	9.44871	9.83109	10.47257
LEV	0.51427	0.44427	0.10551	0.30553	0.49529	0.64165	0.88882
STDROA	2.81036	8.42142	0.31086	0.76948	1.44957	2.56518	7.83417
M/B	15.72495	213.85710	0.15000	0.69750	1.41000	2.83000	8.16750
INDNUM	2.66167	0.81613	1.09861	2.19722	2.70805	3.36730	3.82864
INDSIZE	10.90993	0.52781	9.70351	10.65353	10.98107	11.21753	11.48688

Table 2A and Table 2B present the matrix of Pearson pair wise correlations between major variables and significance level. Consistent with our expectations, SYNCH is negatively correlated with our interest variable, which is partly in line with the H1. From Table 2B, we can see MGTSHARE and DIRSHARE significantly correlated with negative impact to SYNCH. In order to get affirmative correlation, the analysis proceeds to multivariate regression.

Table 2A. Correlation Matrix

	R2	SYNCH	MGT_OWNSHP	COM_OWN	DIR_OWN	VOL	SIZE	LEV	STD_ROA	M_B	INDNUM	INDSIZE
R2	1.0000	0.8930	-0.0800	-0.0232	-0.0962	0.1944	0.5574	-0.0322	-0.0837	-0.0008	-0.0116	0.1895
SYNCH	0.8930	1.0000	-0.0632	-0.0311	-0.0653	0.2355	0.5624	-0.0556	-0.0806	0.0141	-0.0458	0.1743
MGT_OWNSHP	-0.0800	-0.0632	1.0000	0.7407	0.8274	-0.0570	-0.0967	-0.0352	0.0024	0.0181	-0.0675	-0.0485
COM_OWN	-0.0232	-0.0311	0.7407	1.0000	0.2357	-0.0448	-0.0416	-0.0299	0.0238	0.0513	0.0198	0.0358
DIR_OWN	-0.0962	-0.0653	0.8274	0.2357	1.0000	-0.0450	-0.1051	-0.0259	-0.0164	-0.0167	-0.1142	-0.1001
VOL	0.1944	0.2355	-0.0570	-0.0448	-0.0450	1.0000	0.0128	0.0154	-0.0477	-0.0007	-0.0115	0.0166
SIZE	0.5574	0.5624	-0.0967	-0.0416	-0.1051	0.0128	1.0000	-0.0215	-0.0852	-0.0805	-0.0147	0.3183
LEV	-0.0322	-0.0556	-0.0352	-0.0299	-0.0259	0.0154	-0.0215	1.0000	0.3475	-0.0776	0.0294	-0.0207
STD_ROA	-0.0837	-0.0806	0.0024	0.0238	-0.0164	-0.0477	-0.0852	0.3475	1.0000	-0.0148	0.0753	0.0393
M_B	-0.0008	0.0141	0.0181	0.0513	-0.0167	-0.0007	-0.0805	-0.0776	-0.0148	1.0000	-0.1217	-0.1199
INDNUM	-0.0116	-0.0458	-0.0675	0.0198	-0.1142	-0.0115	-0.0147	0.0294	0.0753	-0.1217	1.0000	0.7121
INDSIZE	0.1895	0.1743	-0.0485	0.0358	-0.1001	0.0166	0.3183	-0.0207	0.0393	-0.1199	0.7121	1.0000

Table 2B. Correlation Matrix

Correlation / Probability	R2	SYNCH	MGTSHARE	COMSHARE	DIRSHARE
R^2	1				

SYNCH	0.893005	1			
	0.0000	-----			
MGTSHARE	-0.07995	-0.063155	1		
	0.0298	0.0862	-----		
COMSHARE	0.023243	-0.031140	0.740737	1	
	0.5281	0.3980	0.0000	-----	
DIRSHARE	0.096229	-0.065303	0.827446	0.235677	1
	0.0089	0.0759	0.0000	0.0000	-----

RESULTS OF MULTIVARIATE REGRESSIONS

Table 3 below reports regression results for Eq. (5), (6), (7), respectively, but we leave the quadratic variable in order to only test linearity correlation. Reported t-values are not shown but rather we marked the coefficient with superscripts a, b, and c that denote the 1%, 5%, and 10% levels of significance, respectively. As seen in column H1a, the coefficient on MGTSHARE is insignificantly negative. This indicates that synchronicity decreases as management ownership increases. This is consistent with the hypotheses H1, however, the result cannot be generalized to the whole sample. We also tested separated ownership of the

management against synchronicity. The outputs are shown at Table 3, column H2b and H3c in which we can see the results consistently support the result of H1a. However, both results cannot be generalized to the whole sample.

Morck et al. (1988) finds that there is significant nonmonotonic relationship between management ownership and market valuation. Another study by Gul et al. (2010) found that there is a concave function between synchronicity and ownership. Since both studies have evidence about nonlinear relation between management ownership and price and/or synchronicity, we test our hypotheses, H1. Table 4 reports the regression result of Eq. (8), (9), (10). All of three interest variables consistently support the arguments of the nonlinier relationship. As the ownership of management rises the more synchronicity will be. Hence, management ownership can less benefit the stakeholder by less supporting the transmission of information to stock prices, for example management reduce voluntary disclosure which in turn increase synchronicity.

Table 3. Regression results of the effect of management ownership on stock price synchronicity

Variable	H1a	H2b	H3c
MGTSHARE	-0.039634		
COMSHARE		-0.092138	
DIRSHARE			-0.024774
VOL	0.561201**a**	0.561133**a**	0.562503**a**
SIZE	1.38007**a**	1.380325**a**	1.377385**a**
LEV	-0.1324	-0.132611	-0.135469
STDROA	-0.001825	-0.001804	-0.001869
M/B	0.000439**c**	0.000441**c**	0.000438**c**
INDNUM	-0.123513	-0.123287	-0.120364
INDSIZE	0.167298	0.167635	0.166998
YR_DUMMY	0.170036	0.170088	0.173727
STR_DUMMY	0.000517	0.00047	0.000473
C	-17.49912**a**	-17.50504**a**	-17.47914**a**
R-squared	0.381353	0.381359	0.380452
Adjusted R-squared	0.372855	0.372861	0.371954

The dependent variable is SYNCH(1), and is estimated using Eq. (5), (6), (7). We do not present t-values for simplicity of the table. However, we use superscripts a, b, and c that denote the 1%, 5%, and 10% levels of significance, respectively.

Table 4. Regression Results of the Nonlinear Effect of Management Ownership on Stock Price Synchronicity

Variable	H1.1	H2.1	H3.1
MGTSHARE	-0.174967		
MGTSHARE^2	0.214706		
COMSHARE		-0.674816	
COMSHARE^2		1.124991	
DIRSHARE			-0.912988
DIRSHARE^2			1.591377
VOL	0.560908**a**	0.561297**a**	0.561414
SIZE	1.378849**a**	1.377835**a**	1.371248
LEV	-0.132862	-0.133548	-0.133674
STDROA	-0.001829	-0.001782	-0.00203
M/B	0.000441**c**	0.000449**c**	0.000439
INDNUM	-0.124185	-0.122554	-0.124613
INDSIZE	0.169642	0.167338	0.18668
YR_DUMMY	0.170248**a**	0.170612	0.175017
STR_DUMMY	0.000503	0.000569	0.000233
C	-17.50924**a**	-17.47788**a**	-17.61455
R-squared	0.381364	0.381465	0.380853
Adjusted R-squared	0.372003	0.372106	0.371498

The regressions also have coefficient of control variables. The VOL coefficients are significantly positive (p<0.00) across all columns. This suggests that active trading hinders

the incorporation of firm-specific information into stock prices. This result is inconsistent with US finding from the study of Piotroski and Roulstone (2004). The SIZE coefficients are significantly positive (p<0.00). This result indicates that stock prices of large Indonesian firms tend to mirror the market to a greater extent than do those of small firms: large firms constitute a major proportion of firms included in the market and industry indexes, and these firms are highly diversified, particularly in emerging markets such as Indonesia (Chan and Hameed, 2006). The M/B coefficients are significantly positive (p<0.00), which suggest that firms with high growth potential tend to have less firm-specific information incorporated into their stock prices. The remaining coefficient estimates are insignificant in all regression.

SUMMARY AND CONCLUDING REMARKS

We investigate whether and how stock price synchronicity is associated with firm-level corporate governance characteristic unique to Indonesia. The firm-level governance variable we examine is management's ownership of shares in the company they work. In addition, we also examine the disaggregated composition of the ownership i.e. directors' share ownership and commissioners' shares ownership. This study concludes two findings.

First, we find negative correlation between our variables of interest i.e. management's shares ownership, directors' shares ownership, and commissioners' shares ownership with stock price synchronicity. This result support the view that there are two theories explaining ownership of management affect the company information environment. Second, there is concave relation between synchronicity and management ownership: as percentage of ownership increases, synchronicity decreases at a decreasing rate up to its maximum threshold, after which it begins to decrease.

This study findings provides policy implications to stock market stakeholders in developing economies such as Indonesia. An important policy objective in emerging markets is the efficient allocation of scarce capital. This objective can be better achieved when stock prices closely track firm fundamentals by reflecting all variable, firm specific information in an accurate and timely manner. In order to achieve the informational and functional efficiency of capital markets, improving firm-level governance is as important as improving country-level governance. In particular, our results suggest that the capitalization of firm-

specific information into stock prices in emerging markets could be facilitated by giving some reward or demanding management to hold some shares of the company as proposed by the classical study of Jensen and Meckling (1976). Hence, flow of information can be best reflected in stock prices.

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