DOES OWNERSHIP STRUCTURE MATTER?

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INTRODUCTION

When investors are uncertain about the quality of a firm's future cash flows for lack of price-sensitive information, they discount the value of the firm. Firms have incentives to signal for firm quality. Various empirical studies on the US markets cite the common use of rights and bonus issues by firms to signal for quality, and much empirical evidence is consistent with this hypothesis. This study examines the significance of the information asymmetry problem between management and investor-shareholders of companies that are listed on the Stock Exchange of Singapore (SES) as implied by the announcement effects of rights and bonus issues. We find weak supporting evidence for the signalling effects of rights and bonus announcements on the SES. Our preliminary findings suggest that any information asymmetry problem that persists between management and investor-shareholders on the SES is only weakly significant. This is interesting because it raises the question of whether there are other more effective signals that could have helped resolve the information asymmetry problem on the SES.

To follow up on this question, this study attempts to analyse the ownership structures of listed companies on the SES. We explore if there is any persistent trend in ownership structures on the SES and discuss how these trends could affect firm values.

OWNERSHIP STRUCTURE AND FIRM VALUE

Does ownership structure affect firm value? Jensen (1989) and Huddart (1993) argue that diffusely held firms are worth less than those with concentrated share ownership. The benefits of diversification based on diffuse share ownership trade off against the losses in firm value arising from agency costs due to inadequate monitoring. They suggest that there is a unique optimal ownership structure. One consequence of inadequate monitoring is information asymmetry between management and investor-shareholders.

Specifically, Jensen and Meckling (1976) postulate that managerial ownership constrains managerial

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behaviour to maximise firm value by forcing managers to bear the ex-post wealth consequences of their decisions that tend to parallel the consequences for outsider-investors. Firms with higher managerial ownership therefore tend to carry lower agency costs, lower information asymmetry and offer higher firm values than otherwise. In contrast, no individual investor finds it worthwhile to monitor managerial behaviour in a diffusely held corporation, and so manager-owners shirk. Firms with lower managerial ownership therefore tend to offer higher agency costs, higher information asymmetry and lower firm values.

The larger the information asymmetry between management and investor-shareholders, the greater would be the informational value of a rights or bonus issue announcement. In fact, Leland and Pyle (1977) suggest that managerial ownership may signal for information that may be conveyed through a rights or bonus issue.

This study tests the implication of the information effect hypothesis that rights and bonus issues are valid signals for firm value that reduce information asymmetry between management and investor-shareholders. Specifically, this information effect hypothesis predicts that firms with higher (lower) managerial ownership will offer smaller (larger) abnormal returns on announcement of rights and bonus issues.

In this study we specifically analyse management's motivations for the announcement of rights and bonus issues on the SES as the announcement effects. Following Fama, Fisher, Jensen and Roll (1969), any abnormal returns that are observed around the announcement of rights and bonus issues and stock splits tend to be associated with information concerning anticipated cash flows of the firms, rather than changes in capitalisation.

Managers have incentives to own shares in their corporations because of the rights they confer over residual cash flows and/or voting rights. Specifically, Alchian and Demsetz (1972) and Jensen and Meckling (1976) and Jensen (1989) discuss the incentives of managerial ownership. Alchian and Demsetz (1972) argue that manager-owners will want to hold votes to preempt a replacement by outsider-investors. On the other hand, managerial ownership carries costs to the extent that it reduces the degree to which incumbent managers are disciplined by competition from other management groups. Family owned enterprises, for example, would resist professional management because perquisites are often offered to family members and relatives not necessarily on the basis of merit.

However, once the firm grows and accesses the capital markets for its capital needs, there is often a listing requirement for professional management. Managerial ownership tends to fall with firm size while agency costs increase correspondingly.

Agency costs may become significant when there are incentives for professional managers to act in ways that do not maximise shareholders' wealth and firm value. While entrepreneurs and professional managers may know the quality of their projects, investors cannot distinguish good quality firms from poor quality firms. Akerlof (1970) points out that in the presence of information asymmetry, investors discount all firms for average quality and market values reflect average firm quality. Nonetheless, Leland and Pyle (1977) point out that the entrepreneur's willingness to invest in his own project can serve as a signal of project quality. Specifically, firm value increases with the level of managerial ownership.

The *information effect hypothesis* argues that rights and bonus issues are used by managers of undervalued firms as signals to reduce the information asymmetry between themselves and the outsider-investors. Amihud and Mendelson (1987) and Brennan and Copeland (1988) highlight that transaction costs are increased through a stock split, and for that matter a bonus issue. Branch (1985) shows that brokerage commissions are higher for low-priced stocks. Moreover, Benston and Hagerman (1974) and Branch (1985) point out that the bid-asked spread when expressed as a percentage of the stock price is an inverse function of stock prices. Brennan and Copeland (1988) therefore conclude that the announcement of a stock split (or a rights or bonus issue) is a costly signal that is used by management to communicate private information about firm value to investors.

The lower (higher) the managerial ownership, the larger (smaller) would be the information asymmetry between management and investor-shareholders and the greater (smaller) the informational value of a rights and bonus issue announcement. The *information effect hypothesis* therefore predicts an *inverse* relationship between managerial ownership and the magnitude of abnormal returns on announcement of rights and bonus issues.

Demsetz and Lehn (1985) study the relationship between managerial ownership and company size. They find an inverse relationship since large companies exhibit a distinct separation between ownership and control. The large market capitalisation of such companies and the wide dispersion of share holdings mean that managers tend not to hold a sizeable percentage of shares. On the other hand,

the high concentration of share holdings in small companies may give rise to substantial managerial ownership.

Szewczyk and Tsetsekos (1993) test the information effect hypothesis on US firms. After controlling for industry and firm size, they find that firms with high (low) managerial ownership offer low (high) abnormal returns on announcement of stock splits. Their findings support the information effect hypothesis.

The *outside ownership base hypothesis* argues that managers use bonus issues to bring share price down to a trading range that is more affordable to investors. With a lower share price, investors are able to trade in more "economical" lots and encourage wider share ownership. Various studies (like Szewczyk and Tsetsekos [1993]) found that the number of shareholders in a company tends to increase following bonus issues. Logically, the wider distribution of shares resulting from a bonus or rights issue would improve the liquidity of the company's share. Liquidity may be a consideration in closely held firms where the concentration of share ownership among insiders could limit the breadth of the market supporting the company's share. Therefore, managers of closely held companies may be motivated to broaden the company's ownership base of outside shareholders with bonus or rights issues. Closely held companies are more likely to be supported only by a thin market. These should experience a greater improvement of liquidity in contrast to widely held companies. If so, larger abnormal returns should be observed for bonus or rights announcements made by closely held companies, compared to those made by widely held companies.

Another perspective to this hypothesis is that widening the distribution of outside ownership through bonus or rights issues may reduce a company's vulnerability to unfriendly takeovers. Thus, bonus or rights issues may be used to protect managers from the market for corporate control especially for companies with low managerial ownership which are more vulnerable to takeover attempts. The positive effects of bonus or rights announcements indicate that the potential for management entrenchment from the split is not a concern of the market. As managers of companies with low managerial ownership have greater motivation to initiate stock splits, the market may show more concern about this entrenchment potential of splits made by these companies. Thus, the bonus or rights issue announcement abnormal returns for companies with low managerial ownership would be smaller than those made by companies with high managerial ownership. Due to these two explanations, the *outside ownership base hypothesis* predicts a direct relationship between managerial

ownership and the magnitude of bonus or rights issue induced abnormal returns.

OWNERSHIP STRUCTURE OF COMPANIES LISTED ON THE STOCK EXCHANGE OF SINGAPORE

Table 1 tabulates the comparative ownership structures of companies listed on the SES in 1975 and 1995. The ownership pattern is further analysed by sectors: industrial/commercial, finance, hotel and property. While individuals constitute the largest group of shareholders (in numbers), corporations consistently from the largest ownership group (in dollars) in 1995. We observe that this characteristic of the ownership structure is only a recent phenomenon. In particular, the typical ownership structure was very different in 1975.

Table 1

A Comparison of Ownership Structures of Companies Listed on the Stock Exchange of Singapore, 1995 and 1975

Category	Industrial/Commercial				Finance				Hotel				Property			
Year	1995		1975		1995		1975		1995		1975		1995		1975	
Number of companies	137		49		26		7		17		12		17		7	
Actual number of shareholders	616,940		65,042		91,352		17,832		29,681		11,537		64,435		21,944	
Number of shares (million)	35,077		1,158		4,376		270		1,826		266		4,396		250	
Three largest griups of shareholders	Ind	99%	Ind	92%	Ind	95%	Ind	92%	Ind	95%	Ind	93%	Ind	95%	Ind	95%
	Corp	1%	Corp	4%	Corp	5%	Corp	4%	Corp	5%	Corp	3%	Corp	5%	Corp	2%
	Nom	NA	Nom	4%	Nom	-	Nom	2%	Nom	-	Nom	3%	Nom	-	Nom	2%
Three largest ownership groups	Corp	75%	Corp	41%	Corp	66%	Ind	37%	Corp	74%	Nom	39%	Corp	80%	Nom	39%
	Ind	19%	Ind	29%	Ind	25%	Corp	34%	Ind	21%	Corp	34%	Ind	17%	Ind	34%
	Nom	5%	Nom	20%	Nom	9%	Instit	15%	Nom	5%	Ind	20%	Nom	3%	Corp	21%
Average share holding size of major ownership groups ('000 shares)	Ind	11	Ind	6	Ind	12	Ind	6	Ind	14	Ind	5	Ind	12	Ind	4
	Corp	3093	Corp	246	Corp	665	Corp	435	Corp	907	Corp	996	Corp	1202	Corp	252

* Source : The Editor, *The Stock Exchange of Singapore Journal,* 23(11), 1995, p.19.
Key: Corp = Corporation; Ind = Individual; Nom = Nominees

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[1] *It is noted that for 1995, the number of groupings are reduced as several sub-classifications have been merged. For example, financial institutions and investment companies are now grouped under the category "corporations". In the context of our study, therefore, the 1995 statistics for corporation ownership (in contrast with corporate ownership) must be interpreted to include a part of managerial ownership through investment holding companies.*

Back in 1975, the three largest ownership groups, i.e., individual, corporation and nominees, are quite balanced in ownership dollars. For example, the property sector had the following ownership structure in 1975: nominees (39%), individual (34%) and corporation (21%). The sector that had corporation as the largest ownership group in 1975 was the industral/commercial sector: corporation (41%), individual (29%) and nominees (20%). Over the 20-year period, there has been a trend towards larger corporate ownership.[1] For example, while corporations used to own 41% of the share holdings of companies in the industrial and commercial section of the SES in 1975, they now own 75% of the shares. This trend towards the dominance of corporate ownership is seen consistently in all the other sectors of the SES: finance, hotel and property sectors. Today, corporation ownership is at least 66% of a typical company that is listed on the SES. Individual ownership is the highest for the banking sector at no more than 25%. This is because the banking sector on the SES is dominated by family-pioneered local banks. Even then, individual ownership in Singapore banks had dropped from 37% in 1975 to no more than 25% in 1995. In our interpretation, this phenomenon could have reduced the significance of the information asymmetry problem faced by minority shareholders on the SES.

The dominance of corporate ownership nowadays is also reflected in the relative share holding size of the major share holding groups. For example, the average share holding sizes in the industrial/ commercial sector in 1995 were: individual (11,000 shares) versus corporation (3,093,000 shares). In contrast, the average share holding sizes in the same sector in 1975 were: individual (5,600 shares) versus corporation (246,000 shares).

Even though many of the Singapore listed companies are home-grown industries, most have grown out of the control of the entrepreneur-promoter towards professional management. Perhaps the only significant exception to this trend is the case of the local banks which remain very much under the management of the family members of the entrepreneur-promoter. Even so, the control that is represented by the family holdings has tended to be diluted over time as corporations increase their interests in the family business over time.

SAMPLE AND METHODOLOGY

The initial sample consists of 161 rights and bonus issues announcements on the SES between July 1987 and December 1993. These data are compiled from the SES Journals and SES Fact Books. We define managerial ownership to be the proportion of the company's issued shares that are owned by the company's executive directors and managers. The constraint of (non-available) data reduces

the sample to 80 companies.

The sample was ranked by the percentage of managerial ownership in the sample of companies making announcements of rights and bonus issues. The ranked database is then divided into two groups of 40 companies each containing the companies whose managerial ownership percentages fall in the top and bottom halves of the sample. Preliminary analysis is then carried out using these two ranked portfolios. We compare the average abnormal returns (around the announcement date of the rights and bonus issues) on the high managerial ownership portfolio and low managerial ownership portfolio and analyse the difference in average abnormal returns on these two portfolios.

A security's abnormal return is defined as the deviation of its return from its mean return that is estimated over a 15-day estimation period commencing 30 trading days prior to the announcement date, day 0. This mean-adjusted abnormal return measure adjusts for the risk of the security, as opposed to the use of market-adjusted abnormal return that assumes a beta of one for every security. Day 0 is defined in event time as the date reported in the SES Journal and the daily SES Financial News round-up.

The announcement period is defined for t= -1 to t=1. The cumulative abnormal return, CAR_{i3}, for company i is measured over the 3-day announcement period. To test the prediction of the information effect hypothesis, we apply regression analysis on the announcement period cumulative abnormal returns on the 80 companies.

EMPIRICAL RESULTS AND ANALYSES

Our analysis shows that the sample of 80 companies has an average managerial ownership of 29%. Table 2 analyses the sample in terms of the high managerial ownership and low managerial ownership portfolios each comprising 40 companies. The high managerial ownership portfolio has an average managerial ownership of 52% as compared with the average of 6% for the low managerial ownership portfolio.

Casual inspection suggests an inverse relationship between market capitalisation and managerial ownership.[2] The average market capitalisation is $514 million for the whole sample and $319 million and $721 million respectively for the high and low managerial ownership portfolios. Companies in

[2] *This casual observation is borne out by diagnostic statistics of the variables. Table 4 gives the Spearman's rank coefficients, while Table 5 reports the Pearson's correlation coefficients of the variables.*

Table 2

Descriptive Statistics for the Total Sample as well as the Sub-Samples of High and Low Managerial Ownership Portfolios

	Total Sample		High Managerial Ownership[1]		Low Managerial Ownership[1]	
Descriptive Measures	Mean	Median	Mean	Median	Mean	Median
Managerial ownership (%)[2]	28.99	27.16	51.67	50.80	6.36	0.71
Pre-announcement price (S$)[3]	2.90	2.35	2.29	2.23	3.55	2.58
Target price (S$)[4]	2.48	2.04	1.95	1.93	3.04	2.22
Market capitalisation (S$ million)[5]	513.95	199.04	319.01	153.64	720.69	337.26

Notes:

1 *The high and low managerial ownership portfolios are constructed from the top and bottom halves of the total sample respectively when the constituent firms are ranked in descending order of managerial ownership percentage.*

2 *Managerial ownership is defined as the percentage of equity that is held by directors and managers involved in operations. Ownership data are collected from the respective companies' annual reports.*

3. *This is the closing price of the company's ordinary shares on the day prior to the announcement.*

4. *This is the pre-announcement price that is adjusted for the rights or bonus issue.*

5. *This is obtained by multiplying the closing price of the company's ordinary shares on the announcement day by the total number of outstanding shares.*

the low managerial ownership portfolio have a higher pre-announcement share price than companies in the high managerial ownership portfolio. This finding is similar to that observed by Szewczyk and Tsetsekos (1993).

The target price is the theoretical adjusted share price of the company making the rights or bonus announcement. It is the company's share price on the day prior to the announcement day that is adjusted by the rights or bonus split factor. The average target price is $2.48 as compared to the average pre-announcement price of $2.90 for the sample of 80 companies. This represents an average theoretical reduction in share price of 14% after the announcement. Both the high and low managerial ownership sub-samples exhibit the same theoretical reduction in share price.

Table 3 reports the cumulative abnormal returns (CARs) on the two portfolios around the announcement date, from day -1 to day 1, as well as their difference. Both portfolios offer CARs that are positive

for the announcement period, although they are not statistically significant at the 10% significance level. The low managerial ownership portfolio offers a higher CAR, and the difference in CARs is also not significant at the 10% significance level.

Table 3

Cumulative Abnormal Return (CAR) on the High and Low Managerial Ownership Portfolios Around the Announcement Day

Each of these portfolios comprises 4 listed companies on the Stock Exchange of Singapore that have made announcements of rights and bonus issues during the period July 1987 through December 1993. The high and low managerial ownership portfolios are constructed from the top and bottom halves of the total sample respectively when the constituent firms are ranked in descending order of managerial ownership percentage.

Observation window around announcement day	High Managerial Ownership		Low Managerial Ownership		Difference	
	CAR	Z-stat.	CAR	Z-stat.	CAR	Z-stat.
-1 to 1	0.0021	0.9317	0.0094	1.0548	-0.0072	0.8275

In summary, we do not observe a significant signalling effect upon announcements of rights and bonus issues on the SES. In fact, we can argue that managerial ownership may just proxy for firm size, which may be another variable to measure information asymmetry. This finding is consistent with the reasoning that large companies are more likely to be followed by financial analysts and the press, and therefore the information asymmetry between management and investor-shareholders would be smaller for large companies. Therefore since managerial ownership is also negatively correlated with firm size, we may expect a positive relationship between announcement period cumulative abnormal returns and managerial ownership.

Tables 4 and 5 report the diagnostic statistics of the variables, CAR, MGT, SIZE and PRE, in the form of Spearman rank correlation coefficients and Pearson correlation coefficients respectively. CAR is the announcement period cumulative abnormal return. MGT is the percentage of managerial ownership of company. SIZE is the market capitalization of the company at announcement. PRE is the preannouncement abnormal return on the company. The two tables indicate similar relationships among the variables except for that between CAR and PRE. There is a significantly inverse relationship

between CAR and SIZE, and MGT and SIZE respectively. Yet CAR and MGT is positively though not significantly correlated. The relationship between CAR and PRE is inconclusive. CAR and PRE are significantly and negatively correlated in Table 4, but are significantly and positively correlated in Table 5.

Table 4

Spearman's Rank Correlation Coefficients of Announcement Period Cumulative Abnormal Return, CAR, with explanatory variables, MGT, SIZE and PRE

CAR is the anouncement period cumulative abnormal return on company for t=-1 to t=1
MGT is the percentage of managerial ownership for company
SIZE is the natural log of the market capitalisation of company on announcement day
PRE is the pre-announcement cumulative abnormal return on company i for t=-10 to t=-2
(p-values of the t-statistics are stated in parentheses)

Variable	CAR	MGT	SIZE	PRE
CAR	1.0000			
	(0.000)			
MGT	-0.1655	1.0000		
	(0.710)	(0.000)		
SIZE	-0.1925*	-0.2702**	1.0000	
	(0.044)	(0.008)	(0.000)	
PRE	-0.2719**	0.0715	-0.4430**	1.0000
	(0.007)	(0.264)	(0.000)	(0.000)

* statistically significant at the 0.05 level
** statistically significant at the 0.01 level

Table 5

Pearson Correlation Coefficients of Announcement Period Cumulative Abnormal Return, CAR, with explanatory variables, MGT, SIZE and PRE

CAR is the announcement period cumulative abnormal return on company for t=-1 to t=1
MGT is the percentage of managerial ownership for company
SIZE is the natural log of the market capitalisation of company on announcement day
PRE is the pre-announcement cumulative abnormal return on company i for t=-10 to t=-2
(p-values of the t-statistics are stated in parentheses)

Variable	CAR	MGT	SIZE	PRE
CAR	1.0000			
	(0.000)			
MGT	-0.1131	1.0000		
	(0.159)	(0.000)		
SIZE	-0.2688**	-0.2962**	1.0000	
	(0.008)	(0.004)	(0.000)	
PRE	0.3402**	0.1014	-0.3741**	1.0000
	(0.001)	(0.185)	(0.000)	(0.000)

* statistically significant at the 0.05 level
** statistically significant at the 0.01 level

The results of the multiple regression analysis of the announcement period CAR of the sample of 80 listed companies on the SES reported in Table 6. The regression results are inconsistent with this argument that managerial ownership proxies for firm size. The *information effects hypothesis* predicts a negative sign for the coefficient of the managerial ownership percentage, MGT, while the *outside ownership base hypothesis* predicts a positive sign. Here we find that the high managerial ownership portfolio actually offers an apparently smaller abnormal return than the low managerial ownership portfolio. The coefficient estimate for MGT is negative and is statistically significant at the 10% significance level. This is weakly consistent with the prediction of the *information effect hypothesis* that managerial ownership and rights and bonus issue induced abnormal returns are inversely related.

Our regression analysis controls for the size anomaly. A negative sign is predicted for the coefficient of SIZE, as preannouncement information asymmetry is inversely related to company size. As expected, the coefficient estimate for SIZE is negative and this is statistically significant at the 10% significance level. These findings are consistent with those in Hudson, Jahera and Lloyd (1992) and Szewczyk and Tsetsekos (1993) for the US markets. We note that Hudson, Jahera and Lloyd (1992) analyse the impact of managerial ownership on portfolio performance per se while controlling for the size anomaly. Their findings contradict the earlier evidence in Tsetsekos and DeFusco (1990) that managerial ownership does not have an effect on portfolio returns. Szewczyk and Tsetsekos (1993), on the other hand, specifically analyse the impact of managerial ownership on the price effects of announcements of stock splits while controlling for the size anomaly. These findings suggest that while there may be situations where managerial ownership *per se* may be an adequate signal for firm value, the announcement of rights and bonus issues (and stock splits) *together with* managerial ownership are perhaps perceived as stronger information revealing signals for firm value.

As split announcement generally follow a period of rising stock prices, PRE may measure the predictability of the forthcoming announcement. PRE may also capture the incorporation into share price of information leaking into the market that might otherwise have been conveyed by the announcements. A negative sign is predicted for the coefficient if the forthcoming announcements are predictable and the market is efficient and consistently over-react before the announcements. Ku Nor Izah (1990) finds that the KLSE is efficient and share price increases prior to announcement does not persist but decline instead. This implies that there tends to be an overreaction to rights announcements on the KLSE.

Table 6

Multiple Regression Analysis of the Announcement Period (day -1 through day 1) Cumulative Abnormal Return on a Sample of 80 Listed Companies on the Stock Exchange of Singapore that have made Announcements of Rights and Bonus Issues During the Period July 1987 through December 1993

$$CAR_i = \beta_0 + \beta_1 MGT_i + \beta_2 SIZE_i + \beta_3 PREi + \xi_1$$

where

CAR_i is the announcement period cumulative abnormal return on company i for t=-1 to t=1
MGT_i is the percentage of managerial ownership for company i
$SIZE_i$ is the natural log of the market capitalisation of company i on announcement day
PRE_i is the pre-announcement cumulative abnormal return on company i for t=-10 to t=-2 ξ_1 is the residual for company i

Specifically we test the null hypothesis:

$$\beta_1 = 0$$

On the other hand, the information effect hypothesis predicts $\beta_1 < 0$. This regression analysis controls for the size anomaly where β_2 is expected to be negative. As bonus issue announcements usually follow a period of rising share prices the preannouncement abnormal return, PRE, may capture the predictability of the announcement. PRE may also capture any leakage of information through insider trading that may offset somewhat the announcement effects. A positive sign is predicted for β_3 if the announcement were predictable or if there were information leakage.[3]

Variable	Coefficient Estimate	t-Statistic
Intercept	19.536	2.08**
MGT	-0.414	-1.92*
SIZE	-0.925	-1.95*
PRE	0.214	2.47**

* statistically significant at the 10% significance level
** statistically significant at the 5% significance level

Adjusted R-square = 0.15
F-statistic = 5.5106; significant F= 0.0018
Standard error = 4.77

[3] To check for consistency of findings in the regression analysis, we also apply the non-parametric Spearman's rank correlation test for the above variables.

If there is no information leak and the market is efficient, there would be no significant relationship between PRE and CAR. Srinivasan and See (1986) find that the market's reaction to the information contained in the announcement is not fully reflected in share prices at the end of the estimation period and just before the announcement.

In this study, the coefficient estimate for PRE is positive and this is statistically significant at the 5% significance level. This result is consistent with the significantly positive Pearson correlation coefficient between PRE and CAR in Table 4 and 5. The finding implies that there is possible leakage of price sensitive information about firm value through insider trading or otherwise before the announcement of rights and bonus issues. However, there appears to be partial anticipation of the value of the price-sensitive information before announcement. Consistent with Malatesta and Thompson (1985), the information is fully disclosed and reflected in the stock price upon announcement of the rights and bonus issues. We note that in Szecwyk and Tsetsekos' (1993) study, the coefficient estimate for PRE is negative. However, this is found to be insignificant at the 10% significance level. Their regression analysis gives an adjusted R-square of 0.06. Our regression analysis has an adjusted R-square of 0.15.

We propose a possible explanation for the weak evidence in support of the information effect hypothesis on the SES. We interpret our findings in the light of the listing requirements on the SES as well as shifts in the ownership structures in Singapore companies in recent years. In fact, the listing guidelines on the SES refelcts the wisdom of resolving the information asymmetry problem between management and investors, and especially minority shareholders. While the listing guidelines for listing on the Main Board specify a minimum issue size of $4.0 million or 25% of the issued and paid-up capital, whichever is greater, there is no limit to the issue size as a percentage of the issued and paid-up capital. Listings on the SESDAQ, on the other hand, should offer at least 500,000 shares or 15% of the issued and paid-up capital. The initial public offer, however, is capped at 50% of the issued and paid-up capital of the company. Smaller companies that do not qualify for listing on the Main Board are more likely to be eligible for listing on the SESDAQ. In other words, the SES imposes a *minimum* managerial ownership of 50% for the smaller companies at the point of listing. Although there is no such minimum requirement for the bigger companies that qualify for Main Board listing, manager-owners of these companies could possibly improve firm value by signalling with high managerial ownership at issue.

While a high managerial ownership would tend to reduce information asymmetry between management and investors, we propose that a high corporate ownership serves as an adequate alternative solution to reducing information asymmetry in the marketplace. Corporate shareholders tend to be informed investors who would monitor firm value without having to be manager-owners. The effective use of proxies at annual general meetings provides the mechanism of checks and balances for such corporate shareholders. The increasing presence of corporate ownership on the SES would probably guard against excessive agency costs and reduce substantially any information asymmetry between management and investor-shareholders, and in particular, minority shareholders.

CONCLUSION

This study offers a preliminary analysis of the effect of differential managerial ownership on price effects of announcement of rights and bonus issues on the SES. While past evidence on the price effects of the announcement of rights and bonus issues in the US tend to support the information effect hypothesis, this study suggests that the announcement of rights and bonus issues on the SES could at best be a weak, although still credible, signal for firm value. Specifically, the results suggest that the information asymmetry problem between management and investors on the SES is only weakly significant.

This study suggests that there are three possible signals for firm quality: managerial ownership, rights and bonus issues, and corporate ownership. We propose that there is a dynamic continuum in the use of these mechanisms as effective signals. That is, every firm may choose to use one or a combination of the three signals at any one time. When a firm is small and is first listed, a valid signal would be high managerial ownership. As a firm expands and grows into a medium-size enterprise, the dominant use of rights and bonus issues may become a more effective signal. When the company becomes big enough to command a large following by stock analysts, or when the stock becomes a blue chip or an index stock, corporate ownership naturally becomes an effective signal for firm quality. The reclassification of investment company holdings as "corporation" ownership in the 1995 Share Ownership Survey on the SES is likely to aggregate the measure of managerial ownership with corporate ownership. Specifically, the apparently increasing dominance of such "corporation" ownership could have reduced the value of the use of rights and bonus issues as signals for firm quality on the SES. Perhaps what we are seeing is market's resolution of the information asymmetry problem between the management and investor-shareholders.

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