

***CORPORATE GOVERNANCE, VALUATION
AND OWNERSHIP IN CHINA:
AN EMPIRICAL STUDY OF LISTED FIRMS***

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ABSTRACT

The Chinese economy has undergone substantial and fundamental transformation as reforms are effected and the state monopoly is exchanged for more market oriented ownership structures. This research paper contributes to the ongoing body of work relating to corporate governance in China. The study investigates whether ownership changes, concentration or structure have significant influence on the performance of listed firms in China. The findings suggest that the market considers changes in ownership favourably, especially if the changes reduce state holdings. The market views the subsequent reduction in the influence of the state on enterprises in China positively. This then implies that legal person, tradable A or foreign holdings are considered superior to state ownership. It follows then that the structure of shareholdings is of importance and empirical evidence supports the notion. It is apparent that the function of legal persons is more highly regarded in the process of corporate governance in the market in China, as legal person blockholdings are found to be positively correlated with firm performance. Nevertheless, the study finds that ownership concentration per se, does not have explanatory power in relation to firm performance. Size is also found to be negatively correlated with performance, suggesting that the market identifies the unwieldy size of many of the large listed SOEs to be a hindrance to performance.

1. INTRODUCTION

An ever-increasing role is being played by corporations as their role and function in society expands as we enter the twenty-first century. Nevertheless, the science of firm growth, development and stability is evolving. Globally, radical change has occurred in the corporate world. Privatisation is occurring at an increasing rate in the developed world, and in emerging and transitional economies alike. Given the recent corporate upheavals such as WorldCom, Enron, HIH and OneTel and the financial crises Mexico, Russia and Asia of the 1990s, the question as to which model will provide the most sound corporate structure for the enterprises being privatised in transitional economies is unanswered. A review of all available evidence draws the conclusion that findings in the literature thus far do not provide the answer as to which corporate governance system may be generally superior (Shleifer & Vishny, 1997). This is energizing the ongoing debate as to the model of corporate governance that might be the most suitable in China's the quest for free markets. Given the variety of corporate governance models and the need for reform in the enterprises of China, the study aims at further advancing the discussion around the research problem posed by the question: what is an appropriate model of corporate governance for China in this transitional stage of its economic development?

China is as a particular case in point and is essentially in a state of metamorphose, simultaneously growing, developing and being transformed from a command system to a market economy. A significant driving factor of this transformation is the accession of China to the World Trade Organization (WTO). Conceivably, an extensive tide of hitherto protected industries will be opened to international competition for the first time. This will no doubt give added impetus to China's pursuit of economic reform that began in 1978.

Presently corporate governance composition and structure is at the centre of enterprise reforms. Currently they are essentially fashioned on a stylised form of the external market-

based Anglo-U.S. model and the German/Japanese model. These models have received the principal mandate by the Chinese government and support for them has been written into corporate law. Nevertheless, in many SOEs, particularly in large industries, the fundamental patterns, and organisational structure or culture, essentially have not altered, or has been at best superficial (Tam, 1999). The fundamental but questionable definition of corporate governance is to ensure that an adequate return is gained by financiers on the investment. The well-documented agency problem points to the opportunities that abound for managers to self-serve and expropriate investors. Thus, an essential element of corporate governance is the protection of investor interests.

Many SOEs in China are losing money and continue to be a significant burden on the economy as a whole (AWSJ, 4 May 2000, Qi, Wu, & Zhang, 2000). The huge problems they must contend with in order to become effective free market corporations revolve around loss-making, poor productivity, and spiralling debt. Problems faced by SOEs often stem from their history as “pure” state enterprises within a centrally planned economy, heightened by their slowness in adapting the new corporatisation regime. The lack of hard budget constraints, overstaffing, the inflexible wage and employment situation, social benefits, the use of dated technology, the lack of quality controls, and their production focus, all contribute. The social obligations to their workers and families remains a heavy burden for many enterprises, although the new state pension plan should considerably alleviate this if effectively implemented. The limited commercial value or marketability of SOE output raises a liquidity problem as most large SOEs are engaged in either heavy, light or military-related industries (Cheung, 1996). This also leads to the output of SOEs being production driven rather than market focused, and often lacking acceptable product quality. Despite these problems, the strategic importance of the SOE sector to the Chinese economy cannot be underestimated. Many of the core industries of the economy, such as power, steel, machinery and chemicals, are dominated by large SOEs. If Chinese enterprises are to be competitive within a

deregulating economy post-WTO membership, issues such as corporate governance should be addressed urgently.

A commitment was made in 1997 to an immense privatisation program of the estimated 308,000 SOEs (Morrison, 1999) under the slogan “protect the large, release the small” (*zhuada fangxiao*) (*Hong Kong Economic Journal*, September 19 1997). This policy is directed at both concentrating reform energy on 1,000 or so of the largest enterprises, many of which are “pillar industries,” and toward escalating the de facto privatisation of numerous small and certain medium state-owned enterprises (SOEs). Through this scheme, vast numbers of small and medium sized SOEs are being merged, joint ventured or sold. Presuming the proposed plan is even partially implemented, it will result in a privatisation program of unparalleled proportions. However, the extent of reforms varies considerably. Some SOEs have been fully or partly privatized. Others remain firmly within the control of the state. The bulk of China’s SOEs are now structured as corporations and more than 1,000 enterprises have raised additional capital by issuing new shares to outside shareholders. The objective of such action is to introduce elements of corporate governance that facilitate improvements in firm performance.

2. THEORETICAL MOTIVATION

Considerable study in market economies has been conducted on the affect of ownership distribution and corporate governance and the relationship between managerial ownership and firm performance. Hence, interconnected perspectives such as the relationships between corporate governance, ownership and firm performance substantially drive the theoretical motivation for this study.

In China, managerial contracts are a common form of monitoring management. The literature on the theory of incomplete contracting emphasises that contracts alone are incapable of resolving enterprise managerial agency problems (Grossman & Hart, 1986). Thus, as all possible contingencies cannot possibly be addressed in contracts, therefore residual control

rights must be allocated by management, owners and financiers. Theories of corporate structure and ownership address the allocation of these residual control rights. Overall, the complex web of ownership relations allows managers, majority shareholders and other insiders to be in an advantageous position, which enables them to embark on opportunistic behaviour at the expense of other stakeholders, and in particular shareholders.

Jensen and Meckling (1976) argue that management ownership has the propensity to curb private perquisite consumption. There is evidence that a non-linear relation between firm value and insider ownership may exist in that the relationship between ownership by management and a firm's performance is an inverse U-shaped (Mørck, Shleifer, & Vishny, 1988; Wruck, 1989). Mørck *et. al.* (1988) find that Tobin's Q increases with board ownership. When directors own between 0 percent and 5 percent, decreases when boards own between 5 percent and 25 percent, and increases when boards own more than 25 percent. The basis of the argument rests on large shareholders' ability to monitor the firm and its management, and to be able to make the necessary changes whenever performance is unsatisfactory. As managerial ownership is very small in China (Gul & Zhao, 2000), this study concentrates on changes in corporate governance, and ownership structures and their influence on firm performance.

The affect of ownership distribution, firm performance and valuation has been the focus of extensive analysis in market economies. For instance, concentrated institutional ownership of firms has been connected with superior performance and higher firm value (Shleifer & Vishny, 1986b, 1997). Studies in market economies provide evidence that suggests that improving performance and creating value can be achieved by paying greater attention to ownership structure and concentration. The potential of organisational structure to improve efficiency by subduing opportunistic behaviour is identified in the literature (Williamson, 1985). Furthermore, the notion conveyed by the numerous corporate governance models is that companies that are otherwise identical, but have ownership structures that are more concentrated, enjoy higher profitability and valuation. This is particularly applicable to

transitional economies where significant differences, such as state versus private sector, may persist.

An important aspect identified in the literature is the protection provided by law against controlling shareholders' and managerial expropriation (La Porta, López de Silanes, Shleifer, & Vishny, 2000). However, in the case of unstable legal environments such as in transition economies, blockholders may also be an important means of monitoring management and improving performance (Demsetz & Lehn, 1985; Shleifer & Vishny, 1986a; Agrawal & Mandelker, 1990; Zeckhauser & Pound, 1990). Studies in various countries provide evidence that large shareholders play an active role in corporate governance (see for example Edwards & Fischer, 1994; Denis & Serrano, 1996; Yafeh & Yosha, 1996; Goergen, 1998; Kang & Shivdasani, 1999; Solomon & Solomon, 1999). As active shareholders, blockholders are able to prevail over information asymmetry, and monitor management more effectively and thus protect the interests' shareholders.

To summate then, if contractual arrangements singly are inadequate, the solution for unravelling the difficulties confronting SOEs may lie in aspects to do with incentives that moderate self-serving and private perquisite consumption such as large shareholders. Blockholders may be a focal means of monitoring management and improving performance in China. A means of testing this proposition is to investigate changes in ownership, ownership concentration and ownership structures and their influence on firm performance.

3. DATA SELECTION

The study is based on a dataset of 369 publicly listed firms from both Shanghai and Shenzhen stock exchanges for which data is available for the years 1997 to 1999. One of the problems faced in the study of enterprises of China is that the publicly available data is

restricted to the relatively few listed firms. Given that there are an estimated 308,000 SOEs in China (Morrison, 1999), these represent only a small subset of perhaps the better performing enterprises. This limitation leads to an unavoidable sample selection bias. Listed firms in China are generally considered to have superior performance, however, this is taken into consideration in the conclusions drawn from the study.

The market prices for A-shares, accounting and ownership data used in this research was obtained from the Taiwan Economic Journal Great China Database (TEJ) Great China Database and was used in the valuation of all shares consistent with prior studies. The data set obtained from TEJ initially included all firms listed on the Shanghai and Shenzhen exchanges. There were 382 in December 1997 on the Shanghai Stock Exchange, which rose to 483 in 1999. On the Shenzhen Stock Exchange there were 357 in 1997 and 461 in 1999. Thus in 1999 there was a total of 944 firms listed on both exchanges. However, the sample does not include financial institutions and firms that did not meet all the data requirements were removed, leaving a total of 369. Perhaps better-managed firms comply with disclosure requirements and submit timely reports and thus their data is available in the database. Therefore, our sample may not be a true representative sample and it is acknowledged that the study suffers from a data selection bias.

4. RESEARCH DESIGN

This paper follows the tradition of empirical work in corporate governance by conducting an analyse the changes in ownership on the value of the firm using “event study” methodology and examining ownership and the performance of the firm by way of regression analysis.

An “event study” is conducted in the initial analysis to investigate the wealth effects of changes in ownership of publicly listed firms in China. The market model approach is used to measure reactions of the market to changes in corporate governance.

In exploring ownership concentration and structure and the performance of the firm a regression analysis is used. Performance is the dependent variable (in this case various specifications of Tobin’s Q), corporate governance measures are specified as independent variables, together with other control variables that have theoretical validity. The paper therefore takes a market perspective whereby the market values of sample firms is a fundamental component of the measure of performance. This perspective therefore rests on the assumption that the market is capable of discerning between firms with different ownership characteristics.

Change in Corporate Governance and the Value of the Firm

The initial analysis is conducted to analyse the affect of changes in corporate governance on the value of the firm. An “event study” is conducted using the market model approach to measure reactions of the market to changes in corporate governance. Using the TEJ data, corporate governance changes are identified and the window around those changes analysed to identify abnormal returns. Evidence of abnormal returns, that is, returns in excess of those expected by the market model, can be assumed *ceteris paribus* to be associated with the event and corporate governance change.

Previous studies in China demonstrate that ownership structure does influence the performance and value of Chinese firms (Xu & Wang, 1997; Chen & Gong, 1999; 1999; Gul & Zhao, 2000; Li, Hovey, & Naughton, 2000; Sun, Tong, & Tong, 2000). Given this, it is hypothesised that any significant change in ownership structure will be reflected in the corporate governance of the firm being likely to have some impact, either positive or negative, on the value of a firm. This will be dependent on the market perception of those changes.

In testing for the impact of ownership changes, the study will identify significant adjustments to ownership concentration and structure. Initially two changes are explored for the sample period 1997-99: firms that have issued shares to foreign investors for the first time are identified; and firms that have had a significant change in equity ownership held by the State, legal persons, A and B shares (EOST, EOLP and EOAS respectively) of greater than 10%. In both cases market model estimation and testing for cumulative abnormal returns are conducted.

Event study methodology is widely used in empirical studies to capture the wealth effects of significant economic events. Event studies generally expect that a rational market will respond immediately to a significant event and this is reflected in stock prices. Accordingly, the effect of the event can be gauged by measuring security price movements surrounding it (Ball & Brown, 1968; Fama, Fisher, Jensen, & Roll, 1969; Maynes, 1992; MacKinlay, 1997). In the corporate governance literature, event studies have been used to determine whether abnormal returns are associated with changes in various aspects that influence corporate governance (see for example Rosenstein & Wyatt, 1990; Healy, 1992; Brickley, Coles, & Terry, 1994; Rosenstein & Wyatt, 1994; Park & Rozeff, 1996; Rosenstein & Wyatt, 1997; Lee, Rosenstein, & Wyatt, 1999).

Hypothesis 1: Changes in Ownership and the Value of the Firm

An event study is used to analyse the wealth effects of change in ownership and thus the value of the firm. The method followed is the Market Model (also termed the single index model). It is a one factor statistical model that relates the return of a security to the return of the market in which the linear specification follows from the assumed joint normality of asset returns. In this study the market model specified as (Fama *et al.*, 1969):

$$R_{jt} = \alpha_j + \beta_j R_{mt} + u_{jt} \quad (1)$$

Where R_{jt} are the returns on stock j for time t and is partitioned into a systematic component $\beta_j R_{mt}$ which is lineally related to the return on the market index and a mean zero disturbance term u_{jt} . The later represents the abnormal returns and is captured cumulatively around the announcement of the event.

Various specifications of the model exist in the event studies literature. A typical and simplified approach is to assume an intercept of zero and a slope of one for all stock in the sample.¹ In which case it is possible to determine a nul hypothesis as follows:

Hypothesis 1: (The Irrelevance of Corporate Governance Change) *Ceteris paribus*, the cumulative returns on stocks experiencing ownership change are entirely explained by movements in the market.

Hypothesis 1 is tested by estimating the following equation,

$$\sum \varepsilon_{jt} = 0$$

Where $\sum \varepsilon_{jt}$ is the empirically determined sum of the residuals for stocks experiencing significant corporate governance changes for the period surrounding the change. It is proposed to capture potential abnormal returns for a period 5 days prior to and 5 days after the announcement.

It is posited that if the market responds positively to any change in ownership structure, the market does consider changes in ownership structure to improve the performance of the firm. If changes in ownership structure of listed firms in China is found to be by way of decreased state ownership, and that the market responds positively to these changes, it is put forward that the market considers any change that reduces the influence of the state on enterprises to be positive and to enhance the firm's value.

¹ The zero-one market model is presented here only for the purpose of developing a nul hypothesis. In the empirical study it is proposed to estimate the parameter of the model for each stock.

Ownership Concentration and Structure and the Performance of a Firm

The literature documents a linear relationship between ownership concentration and ex-post firm performance measures (Demsetz & Lehn, 1985). Many of the studies conducted in China also document a linear relationship between ownership concentration and firm performance (see for example Xu & Wang, 1999; Chen & Gong, 2000; Gul & Zhao, 2000). Claessens *et. al.* (1997) finds a similar linear relationship in their study of reforms in the Czech Republic. This is particularly applicable to transitional economies where significant differences, such as state versus private sector, may persist. Usually bureaucrats do not pay a great deal of attention to firm performance as various other agendas and allegiances are in play. The result often leads to inefficiencies in state firms (Shapiro & Willig, 1990; Shleifer & Vishny, 1994). More efficient ownership structures usually improve the performance of privatized firms significantly (Megginson, Nash, & van Randenborgh, 1994). Nevertheless, privatization without the introduction of large investors can increase agency costs, even if the costs of political control decrease (Wolfram, 1998).

Ownership classification is determined by the proportion of ownership held by the state, legal entities, A and B shares, and employee shares respectively. The level of concentration of all firms will then be determined by classifying them based on the top five shareholders and the Herfindahl Index (HI) measure of ownership concentration. Secondly, employing the data for the listed companies from the opening of each stock exchange, a series of linear regressions will then be run on valuation variables. In the regressions, the valuation instrument that is applied is Tobin's Q , which is the dependent variable.

Independent variables are incorporated as identified from the corporate governance literature. For example, certain ownership structures or concentrations may have specific

benefits. Furthermore, the study will seek to capture the spurious impacts of explanatory variables identified in corporate ownership relationships by McConnell and Servaes (1990). The study will conduct simple regressions, one year at a time separately.

The simple model outlined above indicates the need to identify observable variables that relate to ownership concentration, structure and performance. Thus, the following variables have been chosen.

The measure of firm performance and value creation that this paper focuses on is Tobin's Q . Typically, in finance and accounting literature average Q is taken as a proxy for marginal Q as it is shown by Hayashi (1982) to be a sound substitute. In theory, the Q ratio identifies the juxtaposition of the marginal efficiency of capital and the financial cost of capital (Tobin, 1969, 1978). The approach captures whether the value of a firm as an operational business is greater than the cost of the assets required to generate its cash flow, at that point in time. It is measured as a ratio of the market value of a company's debt and equity to the current replacement cost of its assets. Thus, Tobin's Q is positively related to investors' perceptions of managerial quality. A Q -ratio greater than one suggests that the firm is creating value greater than the cost of the assets called on to produce its cash flow and therefore investors are willing to pay a premium over the value of the firm's assets in anticipation of good future prospects for the firm under the present management. Conversely, a Q below one implies that investors are discounting the value of the firm's assets (Lang, Stulz, & Walkling, 1991; Lang & Stulz, 1994). Hence, Tobin's Q has been widely embraced as a measure of firm performance in finance and accounting literature (see for example Holderness & Sheehan, 1988; Mørck *et al.*, 1988; Wruck, 1989; Hermalin & Weisbach, 1991; McConnell & Servaes, 1995; Claessens *et al.*, 1997; Claessens, Djankov, Fan, & Lang, 2000). For example, Claessens *et al.* (1997) find improvements in performance of privatized Czech firms and attribute this to concentrated ownership structures that result from privatisation.

Chung and Pruitt (1994) find that their approximation of Tobin's Q explained 96.6% of the variability in the widely used Lindenberg and Ross (1981) algorithm. The more rigorous algorithms proposed by both Lindenberg and Ross (1981) and Lewellen and Badrinath (1997), require many years of data in estimating replacement costs of assets. The simplified models used in this study are consistent with the modified version as used by Chung and Pruitt (1994) and avoids the problems of data availability faced when applying the more rigorous models.

Three measures of Tobin's Q are used. First, a simplified measure using the market equity-to-book equity ratio (Q_a) is calculated for each firm (1997–1999). The market value of equity is divided by the net tangible assets attributable to shareholders. The market value is the share price multiplied by the number of ordinary shares on issue at year-end. Secondly, Tobin's Q is estimated by determining the market value of the firm's equity plus total liabilities, over the total assets of the firm (Q_b), again annually for each firm. This measure is closer to Tobin's Q as it looks at the firm as a whole and not just the equity capital. Book values are used for debt and other liabilities in the absence of any secondary market for such claims in China. Book value of assets is also used rather than replacement cost. This is an expedient approach as any attempt to capture replacement costs opens up considerable measurement problems (Claessens *et al.*, 1997; Clarkson & Satterly, 1997). Thirdly, an average of Tobin's Q over three years is determined (Q_c) based on Q_b . Lang, Stulz, and Walkling (1989) propose that Tobin's Q averaged over several years may improve the estimate over a one-year estimate, which is potentially more noisy. Thus, a multi-year computation reduces estimation error. In the regressions, Q_a and Q_b are used as the dependent variable for each of the three years of the study, while Q_c is applied to 1999 data only.

In China a practical problem to be acknowledged in modelling Tobin's Q is the actual and potential varying values of the different classes of shares of listed firms. All classes of shares have essentially the same voting and residual rights. However, state and legal person shares are not normally traded and their value is difficult to ascertain other than to assume they

have the same valuation as publicly held traded shares. In addition, there are different actual values for shares traded in the “A”, and “B” share markets for the period of the study. The A-share market is restricted to domestic investors and is traded in local currency. B-shares are denominated in foreign currency and, for the period of the study, restricted to foreign investors. Typically, the thinly traded B-shares trade at values significantly below A-shares, when converted to local currency values. The market capitalisation of a listed firm is typically simply taken as the aggregate of the two differing values. This problem is exacerbated when a firm has issued shares outside of the domestic market. For example, “H” shares listed on the Hong Kong stock exchange.

Additionally the following variables are included by virtue of their potential to have explanatory power. Firstly, Herfindahl Index and Top Five is used. Studies in market economies provide evidence which suggests that improving performance and creating value can be achieved by paying greater attention to ownership structure and concentration. This is particularly applicable to transitional economies where significant differences, such as state verses private sector, may persist.

The approach used by Claessens *et. al.* (1997), Demsetz and Lehn (1985) and Cable (1985) is followed. The two measures for the degree of ownership concentration proposed are: the share of equity held by the five largest investors combined, and the Herfindahl Index (HI), which is the sum of squared ownership of the five largest investors. The top five shareholders was taken from the TEJ database without identifying ownership characteristics. The TEJ database lists the percentage ownership of the top shareholders. From this the percentage ownership the top five was taken. Other studies in China have used both the five and ten largest shareholders, however, as the market is highly concentrated it is deemed that the five largest is the most applicable. Thus Top Five is considered a reasonable measure for capturing any potential explanatory power in concentration.

The Herfindahl Index (HI) is also used to measure ownership concentration. Demsetz and Lehn (1985) and Cable (1985) used both the HI and the share of equity held by large investors combined when examining corporate governance. The HI is the sum of squared ownership shares, and is used to capture how the distribution of the stock held by investors, other than the dominant stockholder, affects profitability of the firm. Inasmuch as it is based on squared shares, the HI places a greater weight on stockholders with large holdings so that it takes more account of the size distribution problem (Santerre & Neun, 1993; Dickson, 1994). A similar approach will be followed in this study – the percentage of the firm's equity owned by the five largest shareholders and HI based on the same data. The proportion of shares held by the top five shareholders may not adequately reflect the disproportionate power held by these investors. It is envisaged that the use of HI in the analysis will capture this phenomenon.

In addition to concentration, the impact of ownership structure on performance will also be examined. This is ascertained by taking the percentage ownership of the state and legal persons and foreign ownership in each firm. Prior studies find that state and legal person shares have explanatory power (Xu & Wang, 1999; Chen & Gong, 2000) and both are used in the regressions, in addition to foreign ownership. Chhibber and Majumdar (1999) find that foreign ownership of 51 percent or higher have a positive influence on performance in India. Thus it is expected that state ownership will have a negative relationship with listed firm performance in China, and that both legal person and foreign ownership will have a positive relationship with performance.

As the percentage of shares held by employees, managers, directors and supervisory board members is relatively insignificant, it is considered that their overall influence is also quite limited, and hence is not considered. Support for this comes from Gul and Zhao (2000) who found that the percentage of shares held by directors and supervisory board members were not significant in regressions of firm performance in China.

The literature generally recognizes three independent variables that have explanatory power when examining firm performance and corporate governance. (Additional variables such as industrial sector have been used in other studies, but with little if any significance (Gul and Zhao, 2000), thus they are not used in this study.) The first is firm size. While there are many ways of measuring size, the conventional approach in studies of corporate governance is to utilize the firm's sales. The literature incorporates size as a proxy for numerous factors (Ball & Foster, 1982; Bujaki & Richardson, 1997). In this study however, size will control for the size effect and is taken as the natural logarithm of annual operating sales in billion Renminbi (RMB). Operating sales are taken as a proxy for size in this study and are transformed into natural logs to account for the distribution. The value of total assets or the replacement cost of assets is used in the literature to control for the size effect, (see Mørck *et al.*, 1988; McConnell & Servaes, 1990). However, for technical reasons it is not acceptable to regress Q and a size variable based on asset valuations. In effect, the regression is regressing variations of the same thing, because the dependent variable Q already incorporates market and asset values. Xu and Wang (1999) find that the value of total assets has a lower explanatory power than operating sales. In a recent study in the U.S. market, Himmelberg *et al.* (1999), has used sales as a proxy for size, and also incorporates size as a proxy for the scope for managerial discretion. They also find that ownership stakes decrease as the firm's size increases. Given the level of state ownership in China, this is not likely to be so there. By and large, bigger SOEs have more government control and evoke greater bureaucracy and agency problems, and increased redundancy. It is used as a proxy to explain bureaucratic inefficiencies brought about due to firm size, as in Sun *et al.* (2000) and Xu and Wang (1999). It is thus expected that the variable SIZE is negatively correlated to firm performance (Xu & Wang, 1999; Sun *et al.*, 2000).

The second independent variable is financial leverage (LEV), the debt/asset ratio of each firm as measured by the book value of debt divided by the book value of assets. Mørck *et al.* (1988) hold that this variable could capture the value of corporate tax shields which could

cause higher values of Tobin's Q , or other performance indicators. Furthermore, consistent with pecking order theory, debt is negatively correlated to the profitability of the firm (Brealey, Myers, Partington, & Robinson, 2000). However, the "policy lending" regime in China requires that the situation is interpreted quite different. In China, a higher D/E ratio may imply the availability of state funding for corporate operations (Chow & Fung, 1998). It is possible therefore, that the higher the proportion of debt in a firm in China, the higher its market value (Chen & Gong, 1999). Therefore, in this case, the variable is used to capture the possibility of state capital assistance via "policy lending," which is an indicator of state benevolence and support.

The third independent variable is the current growth rate (GRTH). In this study, growth of net income will proxy for the growth of the firm. In an efficient market, firms with high-income growth are generally valued higher by the market (Brealey & Myers, 1999) and consequently have a higher Q . Thus, it is expected that the growth variable (GRTH) will be positively correlated to firm performance.

Hypothesis 2: Ownership Concentration and Firms' Performance

The effect of ownership concentration on the performance of Chinese enterprises is studied to ascertain if the financial performance, productivity and valuation of firms are significantly explained by ownership concentration.

Thus, the null hypothesis is stated as

Hypothesis 2: (The irrelevance of ownership concentration) *Ceteris paribus*, in any regression of Q , the coefficient of OCR is insignificant.

Thus, the null hypothesis is stated as

$$Q_i = \alpha + \beta_1 \text{SIZE} + \beta_2 \text{LEV} + \beta_3 \text{GRTH} + \beta_4 \text{OCR} + \varepsilon \quad (2)$$

Where Q is the performance variable, and the variables are represented by SIZE being the log of operating sales as a proxy for the size effect of firms; LEV the debt-equity ratio; GRTH the growth of net income; and OCR represents ownership concentration ratios A5 and HI. These alternative measures are to be used in separate regressions.

If ownership structure does not matter, no correlation between Q and OCR would be found.

Hypothesis 3: Ownership Structure and Firms' Performance

It is argued by some economists that well-functioning markets – specifically the product market, the managerial labour market, and the takeover market – are of crucial importance in establishing corporate governance structures. Furthermore, it is also argued that ownership is of lesser importance at best, if not immaterial. If ownership structure were an irrelevant concept, ownership fractions would be expected to be insignificant in regressions of performance. Thus, the null hypothesis is stated as

Hypothesis 3: (The Irrelevance of Ownership Structure) *Ceteris paribus*, in any regressions of Q, EO is insignificant.

Hypothesis 3 is tested by estimating the following equation,

$$Q_i = \alpha + \beta_1 \text{SIZE} + \beta_2 \text{LEV} + \beta_3 \text{GRTH} + \beta_4 \text{EO} + \varepsilon \quad (3)$$

Where α represents the intercept, β the regression coefficients; ε is an error term; Q is the performance variable, and the variables are represented by SIZE being the operating sales of firms that measures the size effect of firms; LEV the debt-equity ratio; GRTH the growth of net income, and EO the equity ownership fraction. (EO = EOST, EOLP, and EOF being the proportion of equity ownership held by the State, legal persons, foreign ownership respectively). The variables SIZE, LEV and GRTH are the same as in hypothesis one.

There would be no correlation between Q and EO if ownership structure is not of consequence.

5. FINDINGS

Changes in Ownership and the Value of the Firm

Significant movements in ownership concentration and structure of greater than 10% were identified and tested as outlined above. Almost all of the changes represented a decrease in state ownership and a corresponding increase in the ownership of either legal person, tradable A or foreign ownership. Abnormal and cumulative abnormal returns were estimated over 5 days either side of the announcement date. The results show that on the announcement date (Day 0) the market response is significant and positive (see Table 2 and Figure 1). It is therefore not possible to reject Hypothesis 1 – the irrelevance of corporate governance change. However, though the market response is positive on Day 0, levels off to some extent is not significant on subsequent days. Thus, it appears to be a somewhat temporary overheating on the announcement date in line with the overreaction hypothesis (De-Bondt & Thaler, 1987; Ratner & Leal, 1999).

Insert Table 2 here

It is found that changes in ownership structure of listed firms in China are primarily by way of decreased state ownership. The study finds that market does respond positively to these changes, thus it is posited that the market considers any change that reduces the influence of the state on enterprises to be positive and to enhance the firm's performance. The results suggest that as the market responds positively to changes in ownership structure then the

market deems ownership change favourably and that changes in ownership structure are expected to improve a firm's performance. As changes in ownership structure is found to be achieved on the whole by way of decreased state ownership of listed firms in China, thus it is proposed that the market regards any ownership change that reduces state influence on Chinese enterprises to be positive. This then implies that the market considers legal person, tradable A or foreign ownership superior to state ownership. The following findings provide evidence as to which of these may afford superior firm performance.

Ownership Concentration and the Performance of a Firm

In all, 29 regressions have been run thus far based on various specifications of Tobin's Q as the dependent variable. The independent variables included are A5, HI, State Shares, Legal Person, Foreign Ownership, Growth Rate, Size, and LEV. A bivariate correlation analysis of the dependent and independent variables has been conducted for 15 of the 29 regressions. The results indicate no serious problems of correlation between variables (available separately).

Tables 3, 4, and 5 show the results the regression analyses in which the variable coefficients, adjusted R^2 and the F statistic for each regression are reported. Further regression diagnostics, again not reported here, reveal no serious concerns with the models used. The adjusted R^2 s for the 29 regressions range from 0.129 to 0.384 (Qa in 1999, not reported in tables), which is in line with results reported in previous studies in China. It should be noted that consistently higher adjusted R^2 s are reported for regressions that examine ownership structure (State and Legal persons shares) rather than concentration (A5 and HI). Take note also that explanatory power is greatest in 1998 and that the weakest adjusted R^2 s are in for 1997 and 1999.

Insert Table 3 here

The most extensive set of regressions are presented for the most recent data. Table 3 provides the results of all three measures of Q as applied in the regressions using 1999 data on ownership and other independent variables. Q_a and Q_b can be regarded as alternative specifications of Tobin's Q for 1999, although Q_b is closest to the theoretical foundations of the model. Q_c (the average of Q_b 1997 to 1999) is examined using 1999 data only as it cannot be applied retrospectively. Tables 4 and 5 present the results of the regressions for 1998 and 1997 respectively showing only Q_b results. Presenting the results for Q_a for these years would have added little value. As shown in Table 3, the alternative specifications of Q have no additional explanatory power.

The most striking findings in all three tables is that ownership concentration has limited or no explanatory power. While the coefficients for $A5$ or HI are positive on the whole, most are not significant even at the ten-percent level. In 1998 we see that $A5$ is showing significance, however HI is not significant whilst in 1999 the signs are negative but not significant. It is therefore not possible to reject Hypothesis 2 – the irrelevance of ownership concentration. A possible explanation for this is that the typical listed firm in China is highly concentrated. The market therefore does not discern between firms based on concentration, as the expectation is that the top five shareholders will control the vast majority of firms. This finding is contrary to that of Xu and Wang (1999) who used data from 1995 samples, their findings suggested a positive relationship between ownership and performance. Whilst they acknowledged that their conclusions were premature, they also proposed that the findings challenged the popular notion that the free market, Anglo-U.S. style of corporate governance was the most efficient. Xu and Wang (1999) suggested that it demonstrated that the German-Japanese model might be better suited to the reform of a socialist economy. However, in

contrast to Xu and Wang (1999), the findings of this paper suggest that concentrated ownership per se does not have explanatory power for firm performance

Insert Tables 4 and 5 here

Ownership Structure and the Performance of a Firm

The impact of ownership structure is examined in the regressions using State Shares and Legal Persons shares. The coefficients for State Shares for all specifications of Q in 1999 and for Q_b in 1997 are not significant. The 1998 coefficient is however significant at the 1% level. The lack of significance in 1999 and 1997 supports the results of Gul and Zhao (2000) that also found state ownership lacked explanatory power. High levels of state ownership might be thought of as impinging upon the efficient operation of a firm, and hence lead to poor performance as measured by Q . State ownership on the other hand could also be regarded as a form of potential support for the firm in adverse situations, implying greater protection of shareholder value.

Ownership Structure and the Performance of a Firm

Legal person's shareholdings on the other hand are positive and significant in every regression. All regressions show the Legal Persons coefficient significant at the 1% level. The level of ownership of shares by legal persons has a positive relationship with performance as measured by Q . This is an interesting finding, as previous studies have tended to be inconclusive on a year-by-year basis or with different specifications of performance. It is also of interest since many of the largest legal person holdings are by institutions which are ultimately controlled by the state. It appears that the market has greater regard for legal person institutional ownership, rather than direct state control. Possibly because legal person shareholders are less politically oriented and have a different agenda and motivation. The

evidence therefore does not support Hypothesis 3. The structure of share ownership, in particular legal person holdings, does have explanatory power.

Foreign Ownership and the Performance of a Firm

As seen in the tables, the results are significant in every regression however the findings thus far are surprising as foreign ownership has negative slopes in all regressions. On the other hand legal persons holdings are once again shown to have a positive and significant effect. The difficulty in running regressions on this data set is that in the case of some firms, state, legal persons and tradable A-shares total 100%, but for other firms foreign ownership is included. So for the present only foreign and legal persons have been included.

The findings are a little difficult to interpret, as conventional theory would hold that foreign ownership would tend to monitor firms they invest in more closely and thus performance should improve. Furthermore, Chow and Fung (1998) found a lending bias in firms in the manufacturing sector of Shanghai and that this impacted on investment. They found that firms that were international joint ventures have the least liquidity-constraints in terms of replacement capital. However, the findings presented here do not support the notion that this leads to superior performance of publicly listed firms.

Table 6: Ownership Structure 1997 - 1999

% of ownership by:	State	Legal Person	Foreign	Tradeable A Shares
Maximum	88.6	91.9	64.5	82.0
Average	33.7	26.1	5.5	34.8
Median	36.0	19.5	-	35.2

Other Variables

In previous studies, researchers have consistently identified growth in income as having explanatory power in the regressions (see for example Gul & Zhao, 2000). However, the findings presented here fail to identify any significance in the coefficients of GRTH. This variable has not been removed from the regressions because of the strong prior theory that supports its inclusion. A possible explanation may lie in the observation that the other studies of corporate governance in China, quoted in this paper, typically utilize data from the early to mid-1990s. Even the most recent study Gul and Zhao examines Chinese data up to 1997, while this study uses 1997 through 1999 data. Net income growth over the three years in this study has averaged a modest 1.76%, the median being .13%. The findings suggest that investors in the late 1990s have not considered growth in reported income in the valuation of listed Chinese firms.

The coefficients for the independent variable SIZE, used as a measure of the size effect, are negative and significant at the 1% level for all regressions in all years. The results offer strong support that larger listed firms, typically large mature SOEs, are not well regarded in the market. The negative relationship between size and performance is understandable in the context of the Chinese economy and the lumbering nature of large SOEs. The consistent results are in contrast to the mixed results of earlier studies, suggesting that changes may have occurred in the market and that data that is more recent is a better reflection of current behaviour.

The results for LEV indicate statistical significance at the 1% level in every regression. In all years, the coefficients in each regression are negative and significant at the 1% level. Negative relationships are consistent with conventional theory, which supports the concern that investors have concerning high levels of debt. However, positive relationships between debt and firm value is supported in China on the grounds that the ability to acquire high levels of debt indicates official support for the firm and its inclusion in policy lending by state banks.

Despite this, contrary to the findings of Chen and Gong (Chen & Gong, 2000), the results suggest that concern does exist about the level of debt carried by listed firms. The higher the proportion of debt of a firm in China during this period, the lower is its market value.

While a number of clear results have been obtained from this study, it is also recognised that the selection bias may induce unclear guidance. Future research could endeavour to address this matter and could incorporate alternative specifications of performance, other variables with potential explanatory power, and tests for non-linear effects.

6. CONCLUSION

The economy in China has experienced considerable transformations as reforms take shape and the state monopoly is exchanged for more market oriented ownership structures. The study investigates whether ownership changes, and concentration or structure has a significant effect on corporate governance and ultimately of the performance of listed firms in China, incorporating recent data pertaining to Chinese listed firms. The findings suggest that the market considers changes in ownership favourably, especially in that the changes are found to reduce state holdings. This implies that the market views changes in ownership that brings about a reduction in the influence of the state on enterprises in China to be positive. This then signifies that the market considers legal person, tradable A or foreign ownership superior to state ownership. It follows then that the structure of shareholdings is of importance and this is found to be true in this study. The findings are that legal persons shareholdings are positively correlated with firm performance. This indicates that the function of legal persons is the most highly regarded in the process of corporate governance in the market in China.

However, findings regarding foreign ownership are that foreign holdings are negatively correlated with firm performance, indicating that the function of foreign ownership is not highly regarded by the market. Furthermore, the study finds that ownership concentration per se does not have explanatory power in relation to firm performance. Thus, the monitoring role

or other explanations that associate concentration and performance are not upheld in this case. Size and debt are also found to be negatively correlated with performance. This suggests that the market identifies higher levels of debt and the unwieldy size of many of the large listed SOEs to be a hindrance performance. Generally, it is shown that better explanatory power is provided with the more recent data used in this study, suggesting that the Chinese markets may be maturing. Thus prior studies that utilized data from earlier periods ought to be interpreted with some caution.

This study contributes to the ongoing body of work relating to corporate governance in China. It has used more recent data to consider issues relating to changes in ownership, ownership concentration and structure and found some clear results. However, it is acknowledged it suffers from a selection bias and that there may exist many other explanatory variables that have not been incorporated into the models used.

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Table 1: Variable descriptions

The dependent variable is as follows:	
Q:	Tobin's Q ratio: A simplified Q is the market value is divided by the net tangible assets. The market value, which is the share price multiplied by the number of ordinary shares on issue at the financial year end. Net tangible assets is defined as ordinary shareholder's equity less tangible assets as at financial year-end. It may also be defined as total assets, excluding intangible assets less total liabilities, minority interest and preference stock.

The independent variables are as follows:	
EO:	The fraction of equity owned by the shareholders. EOST equals the number of shares held by the state divided by the number of total outstanding shares. EOLP and EOF are calculated similarly for the fraction of equity owned by "legal person" shareholders, and foreign ownership, respectively.
OCR:	Ownership concentration ratio = A5 and HI.
A5:	A concentration ratio, percentage of shares controlled by the top 5 shareholders.
HI:	Herfindahl index of ownership concentration, the sum of squared percentage of shares controlled by each top 5 shareholder.
SIZE:	Measures the size effect of firms and is taken as the operating sales in billion Renminbi (RMB).
LEV:	The financial leverage is taken as the debt-equity ratio, which equals the book value of debt divided by the value of equity.
GRTH:	Growth of net income. Equity of companies with high growth should be priced higher in an efficient market.

Table 2: Cumulative Abnormal Returns

	CAR -5	CAR -4	CAR -3	CAR -2	CAR -1	CAR 0	CAR +1	CAR +2	CAR +3	CAR +4	CAR +5
Sample Size	210	210	211	211	211	211	211	211	211	211	209
Sample Mean	-0.00	0.00	-0.00	0.00	0.00	0.05	0.02	0.02	0.02	0.01	0.01
Sample Standard Deviation	0.03	0.04	0.05	0.06	0.07	0.31	0.34	0.33	0.34	0.34	0.34
Standard Error of the Mean	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02
Degrees of Freedom	209	209	210	210	210	210	210	210	210	210	208
t Test Statistic	-0.09	0.53	-0.03	0.11	0.94	2.48	0.83	0.81	0.65	0.58	0.52
Two -Tailed Test											
Lower Critical Value	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97	-1.97
Upper Critical Value	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97
p -Value	0.93	0.60	0.98	0.91	0.35	0.01	0.41	0.42	0.52	0.56	0.60

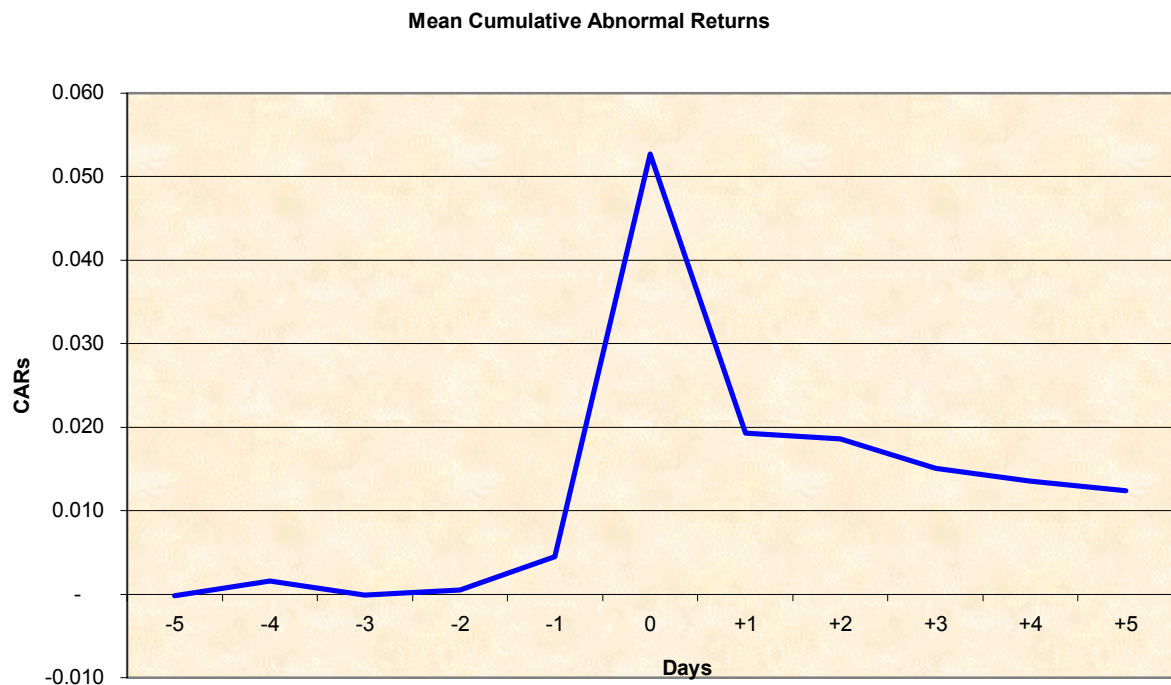
Figure 1

Table 3: Regression Results 1999

Dependent Variable	Intercept	A5	HI	State Shares	Legal Person	Foreign	Growth Rate	Size	LEV	Adj R ²	F
Qa	7.560 (0.000)*	-0.002 (0.544)					-0.009 (0.359)	-2.039 (0.000)	-0.318 (0.000)	0.201	24.186 (0.000)
Qa	7.508 (0.000)		-0.000 (0.386)				-0.009 (0.366)	-2.059 (0.000)	-0.317 (0.000)	0.202	24.308 (0.000)
Qa	5.795 (0.000)			0.010 (0.033)	0.019 (0.000)		-0.006 (0.536)	-2.086 (0.000)	-0.254 (0.000)	0.244	24.718 (0.000)
Qa	6.023 (0.000)				0.009 (0.000)	-0.019 (0.000)	-0.006 (0.521)	-1.979 (0.000)	-0.223 (0.000)	0.265	27.513 (0.000)
Qb	7.216 (0.000)	0.005 (0.197)					-0.008 (0.404)	-1.013 (0.000)	-0.324 (0.000)	0.142	15.011 (0.000)
Qb	7.403 (0.000)		-0.000 (0.689)				-0.009 (0.365)	-1.043 (0.000)	-0.313 (0.000)	0.129	14.572 (0.000)
Qb	5.795 (0.000)			0.010 (0.033)	0.019 (0.000)		-0.006 (0.536)	-1.086 (0.000)	-0.254 (0.000)	0.175	16.646 (0.000)
Qb	6.023 (0.000)				0.009 (0.000)	-0.019 (0.000)	-0.006 (0.521)	-0.979 (0.000)	-0.223 (0.000)	0.198	19.210 (0.000)
Qc	6.760 (0.000)	-0.000 (0.929)					-0.012 (0.137)	-1.467 (0.000)	-0.252 (0.000)	0.175	20.549 (0.000)
Qc	6.723 (0.000)		0.000 (0.837)				-0.012 (0.139)	-1.463 (0.000)	-0.252 (0.000)	0.175	20.560 (0.000)
Qc	5.334 (0.000)			0.008 (0.027)	0.017 (0.000)		-0.010 (0.224)	-1.510 (0.000)	-0.197 (0.000)	0.225	22.410 (0.000)
Qc	5.430 (0.000)				0.008 (0.000)	-0.021 (0.000)	-0.009 (0.218)	-1.386 (0.000)	-0.161 (0.000)	0.275	28.909 (0.000)
Qc	6.015 (0.000)			-0.005 (0.013)		-0.023 (0.000)	-0.010 (0.177)	-1.360 (0.000)	-0.177 (0.000)	0.260	26.812 (0.000)

* p values in parenthesis

N = 369

Table 4: Regression Results 1998

Dependent Variable	Intercept	A5	HI	State Shares	Legal Person	Foreign	Growth Rate	Size	LEV	Adj R ²
Qb	8.198 (0.000)*	0.008 (0.004)					0.005 (0.403)	- 2.064 (0.000)	- 0.395 (0.000)	0.260
Qb	8.439 (0.000)		0.000 (0.274)				0.005 (0.437)	- 2.120 (0.000)	- 0.382 (0.000)	0.245
Qb	6.885 (0.000)			0.014 (0.001)	0.020 (0.000)		0.002 (0.739)	- 2.214 (0.000)	- 0.327 (0.000)	0.293
Qb	7.102 (0.000)				0.007 (0.002)	- 0.018 (0.000)	0.004 (0.495)	- 2.113 (0.000)	- 0.279 (0.000)	0.306

* p values in parenthesis

N = 369

Table 5: Regression Results 1997

Dependent Variable	Intercept	A5	HI	State Shares	Legal Person		Growth Rate	Size	LEV	Adj R ²
Qb	7.403 (0.000)	0.006 (0.124)					- 0.006 (0.293)	- 2.741 (0.000)	- 0.285 (0.000)	0.194
Qb	7.604 (0.000)		0.000 (0.638)				- 0.005 (0.330)	- 2.733 (0.000)	- 0.278 (0.000)	0.189
Qb	6.011 (0.000)			0.015 (0.002)	0.021 (0.000)		- 0.005 (0.324)	- 2.908 (0.000)	- 0.226 (0.000)	0.231
Qb	5.726 (0.000)				0.007 (0.006)	- 0.024 (0.000)	- 0.002 (0.637)	- 2.855 (0.000)	- 0.128 (0.037)	0.259

* p values in parenthesis

N = 369