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Agency Conflicts, Expropriation and Firm Value: Evidence from Securities-Market Regulation in China

Berkman Henk and Cole Rebel and Lawrence Fu

University of Auckland, DePaul University, BMO

15 March 2005

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Henk Berkman
Department of Commerce
Massey University Albany
Auckland, New Zealand
Office: 649-414-0800 ext.87181
FAX: 649-414-0800
Email: h.berkman@massey.ac.nz

Rebel A. Cole
Department of Finance
DePaul University
1 East Jackson Blvd.
Chicago, IL 60604
Office: 312-362-6887
FAX: 888-425-4687
Email: rcole@depaul.edu

Jiang Fu
Department of Accounting and Finance
The University of Auckland, Auckland, New Zealand
Office: 649-373-7599
FAX: 649-373-7406
Email: lawrence.fu@auckland.ac.nz

This Draft: March 1, 2005

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Abstract:

In this study, we examine the wealth effects of regulatory changes intended to improve corporate governance by protecting minority shareholders from expropriation by controlling shareholders. Using data from publicly traded Chinese firms, we find that these new regulations significantly increased firm value, and that firms with weak governance disproportionately benefited relative to firms with strong governance. Our evidence provides new support for the theory of La Porta *et al*. (2002) that better investor protection results in higher firm valuations. It also is supportive of the theory of Glaeser, Johnson and Shleifer (2001) that securities-market regulation can create substantial value for minority shareholders in a country with weak judicial enforcement. Finally, it is consistent with Black and Kraakman (1996), who argue that, in rule-based civil-law countries, regulation in the form of simple "bright-line rules" is more effective than in the form of "broad standards."

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1. Introduction

Recent studies of corporate ownership around the world have found that, outside of the U.S. and Japan, diffuse ownership is relatively uncommon and most corporations are controlled by large block holders.[1] Consequently, the primary concern of corporate governance has broadened from mitigating the agency conflicts between firm managers and diffuse shareholders (Berle and Means (1932); Jensen and Meckling (1976)) to protecting minority shareholders from expropriation by a controlling block holder and her management team (Shleifer and Vishny (1997)).[2]

In discussing needed governance reforms, La Porta *et* al. (2000) suggest that countries change the "rules and enforcement mechanisms" for protecting investors "towards some successful standard," a process they refer to as "legal convergence." [3] La Porta *et al*. (2002) support this guidance by demonstrating that firms in countries with better investor protection are more valuable than firms in countries with poorer investor protection.

The opposing view, largely based on the work of Coase (1960), maintains that legal rules and regulations are not only costly but are largely irrelevant because private parties can devise contracts that achieve the same results or because government and/or private institutions adapt to protect investors (see, e.g.,

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[1] La Porta *et al*. (1998) examine ownership of the ten largest firms in 49 countries; La Porta, Lopez-de-Silanes and Shleifer (1999) examine ownership of the twenty largest firms in 27 wealthy countries; Claessens, Djankov and Lang (2002) examine ownership of firms in nine East Asian countries; and Faccio and Lang (2002) examine ownership of corporations in thirteen Western European countries.

[2] Johnson *et al*. (2000) refer to such expropriation as *tunneling*, which they define as "the transfer of resources out of a company to its controlling shareholder (who is typically also a top manager)." They discuss various forms of tunneling, as well as circumstances under which it is legal in some civil-law countries. A number of recent studies, including Bertrand, Mehta and Mullainathan (2002), Bae, Kang and Kim (2002) and Joh (2003) analyze how tunneling affects firm value. Denis and McConnell (2003) provide a recent survey of the literature on international corporate governance.

[3] See La Porta *et al*. (2000), p.20. Also, see Coffee (1999) and Gilson (2000) for a discussion of the distinction between formal (what La Porta *et al*. refer to as legal) and functional convergence.

Easterbrook and Fishel (1991)). Note that both views emphasize the importance of effective enforcement, to ensure laws and regulations to protect outside investors from expropriation and contracts between outside investors and controlling shareholders can not be broken without recourse.

In this study, we examine several examples of "legal convergence" in China, analyzing how firm values responded to the government's introduction of four distinct regulations aimed at reducing expropriation from minority shareholders. The four regulations we examine substantially increased the voting rights of minority shareholders at a firm's Annual Shareholders' Meeting, prohibited the issuance of loan guarantees by a firm to its controlling shareholder, improved the transparency and regulation of asset transfers to related parties and required all listed companies to include independent directors on their Boards of Directors.[4] Our analysis demonstrates that introduction of the new regulations designed to better protect minority investors significantly increased shareholder wealth, disproportionately benefiting shareholders of firms with weak governance relative to shareholders of firms with strong governance.

Our findings provide new evidence on three important issues raised in the "law and finance" literature. First, we offer new support for the model of La Porta *et al*. (2002, p.1168), which predicts that "poor shareholder protection is penalized with lower valuations." Second, the positive and significant share-price reactions to announcements of the new regulations demonstrate that investors perceived the Chinese regulator to be an effective enforcer of rules for protecting minority shareholders. This finding provides empirical support, albeit from one market, for the

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[4] The regulatory changes were partly motivated by China's successful attempt to gain entrance into the World Trade Organization, and reflect the commitment of the Chinese government to improve corporate governance. In a recent report, the World Bank (2002, p. 102) concludes that "corporate governance has moved to the center stage of enterprise reform in China," and (p. 1) that many of the

theoretical model of Glaeser, Johnson and Shleifer (2001), which predicts that, in emerging markets with relatively weak legal systems, regulators can provide an effective, and more efficient, substitute for judicial enforcement. Third, our results are consistent with Black and Kraakman (1996), who emphasize the advantages of simple "bright-line rules" over "broad standards" in transitional economies with civil-law judiciaries.[5] Our results show significant share price reactions around the introduction of three bright-line rules (our first three regulations), but no share-price reaction to a new regulation in the broad-standards category (the independent director requirement).

In the remainder of the article, we proceed as follows. Section 2 describes some of the salient institutional details of the Chinese share markets, while Section 3 describes each of the four regulatory changes designed to improve the protection of minority shareholders. In Section 4, we describe our data and methodology and develop our hypotheses. In Section 5, we present our results, which are followed by a summary and conclusions in Section 6.

2. Institutional Details of the Chinese Share Markets

During the 1990s, the Chinese government privatized more than a thousand State-owned enterprises (SOEs) through share-issuance privatizations on the two primary Chinese stock exchanges--the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE). The corporatization and share-issuance

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recent requirements for listed companies are "even stricter than in Hong Kong and other developed markets…and show the authorities' determination to protect minority shareholders."
[5] Hay, Shleifer and Vishny (1996) make essentially the same argument about the preference, in countries with "imperfect courts," for bright-line rules over what they call "vague rules." They point out, however, that bright-line rules tend to be "incomplete," in that they do not spell out every action that should be prohibited.

privatization of large SOEs are central elements of the Chinese strategy towards creation of a "modern-enterprise system." [6]

In China, there are two types of controlling block holders. First, reflective of the Chinese "socialist market economy," the State maintains ultimate control over the majority of the nation's listed firms. The State typically holds its controlling share in the form of *State* shares. The other dominant type of block holder is the holder of *Legal-Person* ("LP") shares, which are owned by domestic corporations and other non-individual legal persons. LPs include listed companies, non-bank financial institutions, and State-controlled enterprises that have at least one non-State owner. State and LP shares are not publicly traded and cannot be transferred to foreign investors, but can be transferred to domestic corporations with the approval by the China Securities Regulatory Commission (CSRC).

Individuals and domestic corporations are allowed to hold *Tradable-A* shares. Tradable-A shares are the only type of equity that can be publicly traded among domestic investors. In this paper, the market price of a listed company refers to the price of Tradable-A shares, and we use the prices of such shares to measure the valuation effects of the regulations aimed at improving the protection of minority shareholders.[7]

Regulators typically require that Tradable-A shares account for more than 25% of total outstanding shares when a company goes public. Until July 1999, individuals were prohibited to hold more than 0.5% of total shares outstanding for any listed company; subsequently, the legal maximum for individual shareholders was

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[6] Jones *et al*. (1999) coin the term "share-issuance privatizations." Sun and Tong (2003) evaluate the changes in financial performance of Chinese firms following their share-issuance privatizations.

[7] In addition to domestic shares, some firms have issued *foreign shares* (B, H and N shares). B-shares are available to foreign investors and are traded on the two domestic exchanges, whereas H and N shares have an overseas listing. The governance structure for firms with an overseas listing is more restrictive, and we exclude firms with H- or N-shares from our later tests (see Xu and Wang, 1999).

increased to 5.0%. The legal maximum for individual shareholdings and the absence of cumulative voting procedures significantly enhance the control rights of a firm's largest shareholder. The World Bank (2002, p. xiii), concludes that, in China, ". . . large shareholders often overstep the bounds of shareholder meetings and boards of directors and exercise direct effective control."

3. Regulations to Improve Minority Shareholder Protection

Minority-shareholder rights are poorly protected in China. Based on the index of investor protection developed by La Porta *et al*. (1999), MacNeil (2002) calculates an index score of two for China as compared with a world average of three, suggesting that China falls into the investor-unfriendly category of countries. MacNeil also states that, in drafting the Company and Securities Law in China, lawmakers were primarily concerned with protecting State control over listed firms. Furthermore, courts in China have a long tradition of protecting State interests and have very little experience with private plaintiff-driven litigation. Clarke (2003, p. 504) writes "if corporate governance reform is understood to mean inserting appropriate private rights of action into the Company Law, it is unlikely to lead anywhere very soon."

The CSRC is designated as the regulator for securities activities. The CSRC has wide-ranging powers in respect of authorization, rule-making, investigation and enforcement of all aspects of the securities markets (see Zhu (2000)). The regulatory changes that we study were the first substantial improvements in minority-shareholder protection implemented by the CSRC, and reflect an increased willingness by the Chinese leadership to subordinate State interests to the interests of other shareholders (MacNeil (2002) and World Bank (2002)). Consistent with the argument in Glaeser, Shleifer and Johnson (2001), we expect the regulation and enforcement by a

specialized and relatively efficient regulator is an effective substitute for judicial enforcement.

Three of the four regulatory changes we study, were announced within a two-month period during early 2000, and the fourth was announced in June 2001. We briefly review each regulation in this section and refer the reader to Appendix I for a more detailed description of each.

The first event is the introduction of a regulation that substantially increased the voting rights of minority shareholders at shareholder meetings. Among other things, this new regulation: empowered small shareholders to propose motions at a firm's shareholders Annual Meeting; prohibited shareholders involved in associated trading from voting at the Annual Meeting on the associated trading; required that candidates for directors be voted on individually rather than as a group; and granted new legal standing in Chinese courts to shareholders disputing procedures used or resolutions passed at a firm's Annual Meeting.

The second and third events that we study reduced the ability of controlling shareholders to expropriate minority shareholders in more direct manners. The second regulation prohibited a listed firm from issuing a loan guarantee to its controlling shareholder or related party. The third regulation greatly increased the disclosure requirements surrounding asset transfers to related parties, resulting in more transparency.

The fourth new regulation required each listed firm to include independent directors on its Boards of Directors and to provide these directors with the resources needed to carry out their duties. The regulation also requires independent directors to play an active role in oversight of the firm, but does not spell out how they are to accomplish this oversight or how their efforts are to be assessed.

The following sections examine the effects of the introduction of the four new regulations on the value of tradable-A shares in the Chinese share markets.

4. Methodology and Data

We use standard event-study methodology to analyse the link between investor protection and firm value. Our event study enables us to largely avoid the potential endogeneity problems inherent in the use of cross-sectional regressions that relate investor protection to firm value.[8] In our study, the direction of causality between shareholder protection and firm value is unambiguous: value changes, if any, are the result of the market's assessment that corporate governance has been improved, reducing expected future expropriation of minority shareholders. Another advantage of the event study is that it analyzes the change in value for the same sample of firms before and after the changes in the regulatory environment. As a result, we do not need to control for firm heterogeneity. A disadvantage of our approach is that market participants might anticipate the regulatory changes, in which case our results provide only a partial estimate of the value changes resulting from improving corporate governance.

4.1. Market-Wide Cumulative Abnormal Returns

To test the overall market impact of the regulations, we form an equally weighted portfolio of all 850 sample firms (see below) and analyze the cumulative abnormal returns around each of the four events. Our event windows are taken from one day before the CSRC release of the new regulation until one day after the

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[8] For example, firms with high growth potential might improve their corporate governance to obtain external financing. Because these firms typically have high levels of Tobin's Q, a cross-sectional regression might erroneously suggest that better corporate governance results in greater firm value. Similar problems exist with respect to other measures, such as size and intangible assets (e.g.,

regulation was first published in the newspaper (Appendix I lists the exact dates for each event). We choose this definition of the event period, which results in relatively long event windows, based on our observation that share prices react around both the initial CSRC release day and the subsequent newspaper announcement. We conjecture that the prolonged reaction is the result of the initial release to a limited number of market participants including the securities regulatory offices, the stock exchanges, and the listed companies. The restricted release makes it likely that many, if not most, minority shareholders receive the information only after publication in the newspapers.

We estimate two models to test the market-wide price reaction to the regulatory changes. First, we estimate the cumulative mean-adjusted returns around each event using the following model:

$$Market\ Return_t\ =\ \beta_0\ +\ \Sigma\,\beta_J\ Event\ J\ +\ \varepsilon_t,\ \ J\ =\ 1\ to\ 4 \tag{1}$$

where:

Market Return $_t$ is the return for day t on the equally weighted market portfolio of firms only listed on the Chinese stock exchanges;

β_0 is the mean portfolio return during the sample period;

Event J, J = 1 to 4, are dummy variables that equal $1 / n_J$ for the dates within the event window of length n_J days for the Jth regulation, and 0 otherwise, where $n_1 = 11$, $n_2 = 10$, $n_3 = 23$, and $n_4 = 6$;[9]

β_J, J = 1 to 4, are the estimated cumulative mean-adjusted returns during each event window J;

Himmelberg *et al*. 1999), as well as variables measured at the country level (e.g., Klapper and Love 2003).

[9] We define the dummy variable as equal to 1/n, where n is the length of the event window, so that the coefficient on our dummy variable measures the cumulative adjusted return over the entire event

ε_t is an i.i.d. random-error term for day t.

Second, as a robustness check intended to control for market-wide price movements unrelated to the regulations, we estimate a model that includes the contemporaneous return on an equally weighted portfolio of 24 firms from China that are listed on the Hong Kong Stock Exchange (HK Return $_t$). These firms have their headquarters and business activities in mainland China, but their shares are only listed on the Hong Kong Stock Exchange. We expect that the new regulations are of little importance to these firms, as Chinese companies with an overseas listing are subject to additional provisions in their articles of association that already substantially limited the power of their controlling shareholders.[10] The empirical model is:

$$Market\ Return_t = \beta_0 + \Sigma \beta_J\ Event\ J + \beta_5\ HK\ Return_t + \varepsilon_t \qquad (2)$$

where:

> $HK\ Return_t$ is the return for day t on the equally weighted portfolio of 24 firms from China that are listed on the Hong Kong Stock Exchange; and
>
> $Market\ Return_t$, β_0, $Event\ J$, β_J and ε_t are defined as above.

We estimate each model over a period of 500 trading days that ends June 5, 2001— one day after the newspaper release of the independent director regulation (event 4).[11]

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window. Were we to define the dummy variable as equal to 1, then the coefficient would instead measure the average daily adjusted return over the event window.

[10] MacNeill (2002, p. 51) argues that the amendments in the articles of overseas listed firms "should be viewed as a considerable enhancement of the governance structure by comparison with domestic-only listed Chinese companies." There are 24 firms from China that are only listed on the Hong Kong Stock Exchange, and 19 Chinese firms that are listed in Hong Kong and also on one of the two Chinese stock exchanges. Inclusion of these 19 firms in HK Return$_t$ does not change any of our results.

[11] For the first three events, we use the dates of the release and publication of the actual regulation to define the event period. For the independent-director regulation, we use the dates of a speech by the CSRC Chairman outlining the new regulation and the public release of the draft regulation to define the event period, as all material information was revealed during this period. We also examine the date of the actual release of the independent director regulation (August 31, 2001), but this alternative event window does not change any of our conclusions.

4.2. Cross-Sectional Differences in Cumulative Abnormal Returns

In addition to testing market-wide changes in value attributable to improved shareholder protection, we also test whether the new regulations have a differential impact on firms with strong and weak corporate governance. We hypothesize that shareholders of firms with weak governance are more reliant upon legal and regulatory protection from expropriation by controlling block holders than are shareholders of firms with strong governance. Therefore, shareholders of firms with weak corporate governance should benefit disproportionately from the new regulations.

We use two different approaches to test the hypothesis that improved shareholder protection disproportionately benefits firms with weak governance (high levels of expropriation). Our first approach is based on the idea that firms with a high level of expropriation by the controlling shareholders are less valuable to minority shareholders, resulting in a lower Tobin's Q. We calculate a firm-specific measure of corporate governance, defined as the difference between a firm's actual and predicted Qs, where the predicted value is based on a set of variables commonly used to explain Q—firm size, leverage, industrial classification and growth opportunities.[12] We refer to this measure as Corporate Governance-Q, or CG-Q. We hypothesize that, during the event windows, firms with poorer governance (proxied by low CG-Qs) outperform firms with better governance (proxied by high CG-Qs).[13]

While our first approach is based upon the market's assessment of potential expropriation as proxied by CG-Q, our second approach directly estimates the association between event-related abnormal returns and several ownership variables that proxy for the extent of expropriation of firm assets by the controlling shareholder.

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[12] See, for example, Gompers, Ishii and Metrick (2003).

The ownership variables we use are the cash flow rights of the controlling

shareholder, the dominance of the controlling shareholder, the presence of foreign

shareholders and whether the State is the controlling shareholder.

4.2.1 Corporate Governance-Q and Differences in Cumulative Abnormal Returns

We follow Gompers, Ishii and Metrick (2003) in modelling a firm's Tobin's Q

as a function of X_i, a vector of corporate governance variables, and W_i, a vector of

firm characteristics:[14]

$$Q_i = a + b\, X_i + c\, W_i + e_i \tag{3}$$

We define Q_i as the sum of the market value of equity and the book value of debt

divided by the book value of total assets.[15] Our vector W_i includes firm size as

measured by the log of total assets (*Size $_i$*), firm leverage as measured by the ratio of

total debt to total assets (*Leverage $_i$*), growth opportunities as proxied by the actual

growth in total assets from 1999 to 2002 (*Growth Opportunities $_i$*)and a set of 25

industrial-classification dummy variables (*Industry Dummies*). Total assets and total

debt are measured by their year-end 1999 book values.

Our estimate of the corporate governance component of Q_i (*b X_i* in eq. (3)

above) is the residual from the following regression:

$$Q_i = b_0 + b_1\, Size_i + b_2\, Leverage_i + b_3\, Growth\ Opportunities_i$$
$$+ b_K\, Industry\ Dummies + e_i, \quad \text{where K = 4 to 28} \tag{4}$$

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[13] Other studies that use Tobin's Q to measure the discount in value resulting from agency problems are Morck, Shleifer and Vishny (1988); Barclay and Holderness (1989); and Servaes (1991).
[14] See equation (2), p. 126 and the associated discussion in Gompers, Ishii and Metrick (2003).
[15] Perfect and Wiles (1994) show that this measure is highly correlated with other definitions of Tobin's Q.

The residual e_i from eq. (4), which we refer to as CG-Q_i, provides a firm-specific summary measure of corporate governance that is based on concurrent market prices.

To test our hypothesis that firms with weak corporate governance outperform firms with good corporate governance around the four regulatory events, we estimate a cross-sectional model with the cumulative abnormal return of firm i as dependent variable and CG-Q_i as independent variable. To estimate the cumulative abnormal return for each event for each firm, we estimate the market model over a 500 day period, where as before we include dummy variables for the 4 periods:

$$Return_{i,t} = \beta_0 + \Sigma \beta_{J,i,} \ Event \ J + \beta_{5,i} \ Market \ Return_t + \varepsilon_{i,t} \qquad (5)$$

where:

$Return_{i,t}$ is the return for stock i on day t,

$\beta_{J,i}$, J = 1 to 4, is the estimated cumulative abnormal return (CAR) of stock i during event window J;

$\varepsilon_{i,t}$ is an i.i.d. random-error term for stock i on day t; and

$Market \ Return_t$ and $Event \ J$ are defined as above.

To control for heteroscedasticity, we follow Naranjo *et al*. (2000) and use weighted-least-squares regression to explain the abnormal returns, where the standard deviations of the prediction errors derived from the market model are used as weights. For each of the four events J, the cross-sectional model is as follows:

$$\beta_{J,i} = \gamma_0 + \gamma_1 \ CG\text{-}Q_i + \varepsilon_i \qquad (6)$$

According to our hypothesis, we expect γ_1 to be negative; an inverse relationship between firm governance CG-Q_i and the firm's cumulative abnormal returns $\beta_{J,i}$.

In addition to the cross-sectional regression, we use a portfolio time-series regression to test the relation between abnormal returns and the quality of corporate governance. The portfolio time-series regression is designed to deal with econometric problems that arise when there is cross-correlation in the firm return processes from which the CARs are estimated. Cross-correlation is likely because, for each event, the event date and event windows are identical across sample firms. The portfolio time-series regression provides unbiased estimates of the coefficients along with standard errors that fully account for cross-sectional heteroscedasticity and cross-security dependence (see Sefcik and Thompson (1986)).[16]

We implement the portfolio time-series approach by forming a portfolio that is long in high *CG-Q* firms and short in low *CG-Q* firms. We define low *CG-Q* firms as those in the lowest *CG-Q* quintile and high *CG-Q* firms as those in the highest *CG-Q* quintile. As robustness tests, we also show results for portfolios based upon the lower third (half) and upper third (half) of the *CG-Q* distribution. We hypothesize that the regulatory changes are more beneficial for firms with weak corporate governance (low *CG-Q*s) than for firms with strong corporate governance (high *CG-Q*s). In other words, we expect our portfolio to have negative abnormal returns during the event periods. To control for market risk, we include the return on an equally weighted portfolio of firms listed on the Chinese stock exchanges:

$$R(CG\text{-}QHigh_t) - R(CG\text{-}QLow_t) = \beta_0 + \Sigma \beta_J \ Event \ J + \beta_5 \ Market \ Return_t + \varepsilon_t \qquad (7)$$

where:

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[16] The problems of heteroscedasticity and cross-sectional dependence can, in principle, also be addressed in a generalized-least-squares (GLS) regression. Several studies, however, show that GLS tests are highly sensitive to errors in specifying the abnormal return model. (See, for example, Chandra and Balachandran 1990.) Grammatikos and Saunders (1990) apply the Sefcik and Thompson methodology to study the effect of bank loan-loss reserve announcements on bank stock returns. Forbes (2002) uses the Sefcik and Thompson methodology to study the international transmission of financial crises at the firm level.

R(CG-QHigh$_t$) is the return for day *t* on an equally weighted portfolio of the

highest quintile (third or half) firms based upon CG-Q;

R(CG-QLow$_t$) is the return for day *t* on an equally weighted portfolio of the

lowest quintile (third or half) firms based upon CG-Q;

β_J, J = 1 to 4, give the estimated differences in the cumulative abnormal

returns (CARs) of the high-CG-Q and low-CG-Q portfolios during each event

window J; and

Market Return$_t$, *Event J* and ε_t are defined as above.

The model is estimated over a period of 500 trading days that ends one day after the

newspaper release of the draft of the independent director regulation.[17]

4.2.2 Ownership Structure and Differences in Cumulative Abnormal Returns

Following La Porta *et al* (2002), we assume that the ultimate owner of the

largest shareholder has effective control over a firm.[18] We consider three variables

that might mitigate the incentive of the controlling shareholder to expropriate

minority shareholders.

First, the incentive to expropriate outside investors is moderated by the cash-

flow ownership of the controlling shareholder (see La Porta *et al.* (2002) and

Claessens *et al.* (2002)). The greater are the cash flow rights of the largest

shareholder, the smaller is the difference in her cash-flow and control rights. Hence,

we expect the beneficial effect of the regulation for minority shareholders to decrease

with the cash-flow rights of the controlling shareholder. Our empirical model includes

the variable *Largest Cash-Flow Rights$_i$,* defined as the cash-flow rights of the ultimate

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[17] We obtain similar results if we use the portfolio of Hong-Kong listed Chinese firms (HKRet$_t$) as the market return.

[18] Note that the legal maximum for individual shareholdings in China and the absence of cumulative voting procedures reinforces the idea that the ultimate owner of the largest shareholder has effective control.

owner of the largest shareholder of firm i expressed as a percentage of all outstanding shares.

Second, we define a variable that measures the control rights of the largest shareholder relative to those of the second and third largest shareholders. *Largest Shareholder Dominance* is the natural log of the ratio of the shareholding of the largest shareholder to the sum of the shareholdings of the second and third largest shareholders.[19] Lins (2003) finds that large non-management block holders can act as a partial substitute for weak institutional governance mechanisms. We expect the ability of the largest shareholder to expropriate firm value decreases as the relative shareholdings of block holders with the ability and incentive to monitor the actions of the largest block holder increase (see, for example, Bennedsen and Wolfenzon (2000)). We hypothesize that the benefits of the new regulations to protect minority shareholders are smaller for firms where the shareholdings of the second and third largest shareholders are large relative to the shareholding of the largest shareholder.

Third, we include a dummy variable *B-Share* that is equal to one for firms that have A- and B-shares outstanding and equal to zero for all other firms. Some Chinese firms offer two classes of shares: Class-A shares, which can only be held by domestic investors, and Class-B shares, which can only be held by foreign investors.[20] Most Class-B shareholders are international financial institutions, whereas most Class-A shareholders are individual investors, with only limited ownership by domestic financial institutions (see Mei, Scheinkman and Xiaong (2004)). In addition to the difference in investor sophistication, firms with only Class-A shares use Chinese accounting rules (PRC GAAP) to prepare their financial statements, whereas firms

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[19] Ownership in China is highly concentrated. For our sample, the three largest shareholders hold, on average, about 56 percent of total shares. The average shareholdings of the largest, second largest and third largest shareholders are 45 percent, 8 percent and 3 percent, respectively.

[20] On February 19, 2001, the CSRC announced that Chinese citizens are allowed to hold and trade Class-B shares.

with Class-A and Class-B shares report their results based on both PRC GAAP and International Accounting Standards (IAS). In general, IAS are regarded as providing superior transparency as compared to PRC GAAP (World Bank (2002)). Given the differences in the level of sophistication of the shareholders and the level of transparency of the financial statements, we expect that controlling shareholders of firms with Class-B shares are less likely to expropriate minority shareholders.

Another distinguishing characteristic of the ownership structure of Chinese listed firms is the predominance of State ownership. We define *State is Largest Shareholder* as a dummy variable equal to one if a government agency or a State-owned enterprise is the largest shareholder and equal to zero otherwise. While the results in Xu and Wang (1999) suggest that the State is more likely to expropriate firm assets than private block holders, the theoretical model of Perotti (1995) suggests that the State signals to the market that it is not tunneling by remaining the largest shareholder after privatisation. Agency theory also suggests that private block holders are more likely to tunnel the firm, as private block holders actually receive cash flows from the firm, whereas cash flows of State shares accrue to the taxpayer rather than to the government bureaucrats who exercise the State's control rights. In addition, the extensive expropriation by private block holders after privatisation in Russia and the Czech Republic suggests that the State is less likely to expropriate firm assets than private block holders (see, e.g., Black *et al*. (2000) and Coffee (1999)). Hence, we expect returns around the regulatory changes to be lower for State-controlled firms.

To estimate the association between the cumulative abnormal returns and the ownership variables, we include firm size and leverage as controls. As before, we present cross-sectional regression results, and results based on the portfolio time-series regression methodology.

The cross-sectional WLS regression model uses the standard deviations of the prediction errors derived from the market model as weights. The dependent variable is $\beta_{J, i}$, the cumulative abnormal return of firm i during event window J estimated using eq. (5), and the independent variables are the ownership structure variables, with firm size and leverage as control variables:

$\beta_{J, i,} = \gamma_0 + \gamma_{J, 1}$ *Largest Cash Flow Rights$_i$*

$+ \gamma_{J, 2}$ *Largest Shareholder Dominance$_i$* $+ \gamma_{J, 3}$ *B-shares$_i$* $+ \gamma_{J, 4}$ *State is Largest$_i$*

$+ \gamma_{J, 5}$ *Firm Size$_i$* $+ \gamma_{J, 6}$ *Leverage$_i$* $+ \gamma_{J, K}$ *Industry Dummy variables* $+ \varepsilon_{J, i},$

where i = 1 to 850; J = 1 to 4; K = 7 to 31   (8)

The portfolio time-series regression involves three steps. First, we orthogonalize our six independent variables so that each is unrelated to the other independent variables and the industry dummies.[21] Second, for each of the six orthogonalized variables, we construct a portfolio that is short the lowest quintile (third) of that variable and long the highest quintile (third). Third, we regress the returns for each of the six portfolios on the market return and event dummy variables, using the following model:

$R(OV\text{-}High_t) - R(OV\text{-}Low_t) = \beta_0 + \Sigma\, \beta_J \; Event\, J + \beta_5 \; Market\, Return_t + \varepsilon_t$ (9)

where:

> *R(OV-High$_t$)* is the return for day *t* on an equally weighted portfolio of the highest quintile (third) firms based upon orthogonalized variable OV (largest cash shareholder flow rights, largest shareholder dominance, B-share, State, firm size or leverage);

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[21] Each of the six variables is replaced by the residual from a regression of that variable on an intercept, the other five independent variables and a set of industry dummies.

R(OV-Low$_t$) is the return for day *t* on an equally weighted portfolio of the

lowest quintile (third) firms based upon orthogonalized variable OV (largest

shareholder cash flow rights, largest shareholder dominance, B-share, State,

firm size or leverage);

β $_J$, J = 1 to 4, give the estimated differences in the cumulative abnormal

returns (CARs) of the high-OV and low-OV portfolio during each event

window; and

Market Return$_t$, *Event J* and ε $_t$ are defined as above.

As before, the model is estimated over a period of 500 trading days that ends June 5,

2001.

4.3 Data

The data used in this study include information on accounting values, stock

prices and ownership structure. We obtain accounting data from the annual reports of

924 companies listed on the Chinese Stock Exchanges as of year-end 1999. We

obtained daily share-price information for each of our sample firms from Datastream.

We obtained data on ultimate ownership and control patterns in close cooperation

with Sinofin—one of the main providers of corporate financial information in China.

From our initial sample of 924 firms, we delete 19 firms that are cross-listed

on overseas exchanges (see footnote 8) and 25 firms for which we are unable to

calculate the cash-flow rights of the ultimate owner. Finally, we define 25 separate

industry sectors at the level of two-digit standard industrial classification, which we

obtained from the CSRC. To obtain reliable estimates of industry-adjusted Q for our

sample firms, we delete 30 firms from our sample where there are fewer than ten

firms in the industry. The three sets of deletions leave us with a final sample of 850 firms.

There are no dual-class shares in China so any difference between cash flow rights and control rights are due to pyramid structures and cross-holdings. To determine the ultimate owner of a listed company, we first identify the largest shareholder. We then find the largest shareholder of this largest shareholder, and so on, until we find the ultimate controller of the voting rights. In this process, we use the following rule: the ultimate controlling shareholder, A, has x percent control over listed firm XYZ if:

i) A directly holds x percent of the shares in XYZ;

ii) A is the largest shareholder in firm B, which holds x percent of the shares in XYZ; or

iii) A is the largest shareholder in firm C, which is the largest shareholder in firm B, which holds x percent of the shares in XYZ (or any sequence of firms leading to firm B).

If there are several chains of ownership between the controlling shareholder and the sample company, we add the other direct shareholdings to calculate the control rights of the ultimate owner.

We also determine the control rights of the second and third largest shareholders, after establishing that the ultimate owner of these shareholdings is different from the ultimate owner of the largest direct shareholding. In case of State-owned enterprises, the ultimate owner is either a bureau of State Asset Management, or a local government. In case of private firms the ultimate owner is a family or an individual. Appendix II gives a detailed example of the ownership structure of a State-owned Enterprise and a private firm.

The cash-flow rights of the ultimate owner of the largest shareholding are determined by multiplying the proportional ownership along the ownership chain. For example, if firm A (the ultimate owner) owns 50 percent of firm B, which in turn owns 40 percent of listed firm C, then the cash flow rights of A are 20%, and the control rights of A are 40 percent. If firm A also owns 20 percent of firm D, which in turn owns 10 percent of firm C, A has 22 percent of the cash flow rights and 50 percent of the control rights of C.

Data on ultimate ownership of listed firms was only recently made public, and the first year for which we have data is 2002. Because our first event occurred in May 2000, we include information from share-transfer agreements to trace back ownership changes between year-end 1999 and year-end 2002.[22] Based on data from annual reports, we also compare the composition of direct shareholdings in 2002 with the composition of direct shareholdings in 1999 to establish any changes between 1999 and 2002. Another problem is that, for some private firms, data in the chain of ownership is missing. In these cases, we assume 100 percent ownership (for example, if entity X controls firm B, which in turn owns 50% of listed firm C, and the exact ownership of X in B is unknown, then we assume X owns 100% of B).

5. Results

5.1 Descriptive Statistics

Table 1 presents descriptive statistics for our analysis variables both for the entire sample and for quintiles based upon industry-adjusted Tobin's Q (actual Q less the appropriate industry-median Q). By comparing values across quintiles, we can get an idea about the univariate relationships between Q and our analysis variables.

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[22] Share transfer agreements are officially approved transfers of blocks of shares that are not publicly traded.

Table 1 shows a positive association between Q and return on equity, evidence of superior financial performance by higher Q firms. There is a negative association between Q and leverage and between Q and firm size, evidence that higher Q firms are smaller and use less leverage. The percentage growth in total assets in the period 1999-2002 is positively related to industry-adjusted Q, supporting our use of ex-post growth in total assets as proxy for growth opportunities.

There is no evidence of a relation between Q and the cash-flow rights of the controlling shareholder. We do see, however, that the largest shareholder's dominance is lowest for the quintile with the highest Q. For this last group, the percentage of firms controlled by a government agency or a solely-state-owned enterprise is also lower.[23] Finally, we find that the proportion of firms with Class-B shares is relatively high for the low Q-firms.

5.2 Market-Wide Impact of the Regulations

As detailed in section 5.1, we use standard event-study methodology to obtain mean-adjusted and market-adjusted abnormal returns around the announcements of each regulatory change. In Table 2, we present the results of this analysis. For each of the four events, column two presents cumulative mean-adjusted returns and column three presents cumulative market-adjusted returns, where we use a portfolio of Chinese firms that trade on the Hong -Kong Stock Exchange in an attempt to control for market-wide movements unrelated to the regulatory events.

In column two of Table 2, we see that the cumulative mean-adjusted return for the 11-day period around the announcement of the shareholder-meeting regulation is a positive 9.5 percent. This increase in the market's market value is significant at better

than the five- percent level (p-value = 0.01). Around the announcements of the ban of related guarantees, the restriction on asset transfers and the regulation on independent directors, the cumulative mean-adjusted returns are positive 0.8 percent, positive 3.2 percent and positive 2.6 percent, respectively, but none approach traditional levels of statistical significance. [24] We note that announcement of the shareholder-meeting regulation was the first in the series of new regulations and, as such, would be expected to have had the greatest element of "surprise."

In column three of Table 2, we see that the cumulative market-adjusted returns are very similar to the cumulative mean-adjusted returns shown in column two. Each of the four is positive and, in aggregate, they indicate that the four regulations led to an increase in market value of approximately 16 percent. As in column two, only the returns around the first event are statistically significant. However, market-wide reactions to the individual events may obscure important differences in the reactions of firms with differing governance characteristics. In the next section, we investigate whether there is evidence of cross-sectional differences in share price reaction.

5.3 Corporate Governance-Q and Cross-Sectional Differences in CARs

In Table 3, we present the results from estimating eq. (4). Consistent with earlier research (eg Lins 2003), we find that Tobin's Q has a significantly negative relationship with firm size and leverage, and a significantly positive relationship with our proxy for growth opportunities. We use the residuals from regression model (4), as our firm-specific measure of expropriation, $CG\text{-}Q_i$.

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[23] The dummy variable State equals one if the largest shareholder is a Government Agency of a solely-state owned enterprise. Our results do not change if State is redefined and also equals one if the largest shareholder is a state-controlled firm with private party participation.

[24] The use of a five-day event window (-2 through +2) around the release date and the date of the newspaper publication gives similar results for all our empirical tests.

In Panel A of Table 4, we report the results from estimating eq. (6), our cross-sectional weighted least squares model of CAR_i on $CG-Q_i$. For the announcements of the new shareholder-meeting rules, the ban of related guarantees, and the tighter rules on asset transfers, we see negative relationships between CG-Q and the cumulative abnormal return that are statistically significant at least at the ten-percent level. For the related guarantees and asset transfer events, results are significant at better than the one-percent level. Returns around the fourth event, announcement of the independent-director requirement, are very small in size and significance.

In Panel B of Table 4, we report the results from estimating eq. (7), our tests for difference in the CARs of the low- and high-CGQ groups for each of the four regulatory changes. As in Panel A, we see that each of the first three announcements are negative and significant at least at the ten-percent level, and that the related guarantees and asset transfer events are again significant at better than the one-percent level. Around the announcement of the new shareholder-meeting rules, the portfolio of firms in the highest-CGQ quintile underperformed the portfolio of firms in the lowest-CGQ firms by 2.4 percent. Around the announcement of the ban of related guarantees, this difference is 3.2 percent and, around the announcement of the tighter rules on asset transfers, the difference is 5.4 percent. Returns around announcement of the independent-director requirement are again very small in size and significance. As robustness tests, we repeat the analysis splitting the sample into three and two groups based upon CG-Q. The statistics in panel B of Table 4 demonstrate that the results are almost identical to those obtained based upon five groups.

To summarize the result in Table 4, it appears that the market found the first three regulations to be credible attempts at improving corporate governance of Chinese firms, but dismissed the regulation mandating independent directors. This finding is in contrast with Rosenstein and Wyatt (1990), who find that appointments

of outside directors at U.S. firms are associated with small, but positive and significant excess returns.   In addition, the results show large and significant differences in the reactions of low- and high-CGQ firms, even though, as shown in Table 2, the market-wide reaction was not significantly different from zero for the related-guarantee and asset-transfer events. Finally, it is instructive to note that returns around announcement of the regulation on asset transfers show the largest difference between the low- and high-CGQ portfolios. This finding is consistent with Johnson *et al*. (2000) and Bertrand *et al*. (2002), who show that non-arms length transactions among related firms are an important channel for "tunneling."

5.3.2 Ownership Structure and Cross-Sectional Differences in CARs

In the previous section, we demonstrated significant cross-sectional differences in the share price reactions of firms with good and poor governance, where we use CG-Q as our proxy for the quality of corporate governance. In this section, we provide additional evidence on cross-sectional differences in the share - price reactions of firms, using differences in the cash-flow rights of the largest shareholder, the dominance of the largest shareholder, the presence of B-shares and state ownership to proxy for the quality of corporate governance.[25]

The results from estimating eq. (8), our cross-sectional regression model, and eq. (9), our portfolio time-series model, appear in Table 5. For each of the four events, we first present the WLS results from eq. (8), followed by the time-series results from eq. (9) based upon two portfolios: long on the high-quintile (third) and short on the low-quintile (third) of firms based upon each orthogonalized explanatory variable. We

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[25] When we regress CG-Q against these variables, we find that CG-Q is positively related to the cash flow ownership of the controlling shareholder and the B-share dummy, and negatively related to the dominance of the largest shareholder and the State dummy. All relations are significant at better than 1% (results available from authors).

focus our discussion on the results from the portfolio-time series model because the standard errors from this model fully account for cross-sectional heteroscedasticity and interdependence returns of portfolios of firms, and because the results are qualitatively similar, for most part, across the three sets of results.

First, we note that at least two of the explanatory variables are significant for each of the first three events, but none are significant for the independent-directors event. This is consistent with the results reported in Table 4. Clearly, the market found value in the first three regulations, but each of those regulations present clear rules that can easily be enforced in a rule-based civil law country like China by a powerful regulator such as the CSRC. While the regulation requiring independent directors is clear, the ability of investors to hold independent directors accountable for the quality of their monitoring is much less clear. Thus far, more than 90% of Chinese firms have adopted independent directors but their effectiveness is questionable.[26]

Second, we find that cash-flow rights of the largest shareholder are negatively related to the CARs for each of the first three events, but are only significant for the asset transfer announcement. However, when we combine the three "bright-line" regulations announced during the second quarter in 2000 and test whether the sum of the three coefficients is different from zero, we find that the negative relation between the CARs and the ownership of the largest shareholder is significant at the 1% level and that the sum of the differences in cumulative abnormal returns of the portfolios of the highest and lowest quintile firms is 4.3 %. This evidence suggests that expropriation from minority shareholders is lower for firms where the largest

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[26] A recent report by the Shenzen Stock Exchange argues that it is difficult for independent directors to exert effective power because of their lack of knowledge, and their dependence on the firm in terms of compensation and information. Furthermore, it is difficult for investors to obtain information about the actions of independent directors, making them less accountable.

shareholder has greater ownership, and that these minority shareholders benefit less from the new regulation relative to those where the largest shareholder has less ownership.

Third, we find a positive and significant relationship between CARs and our Large Shareholder Dominance variable for each event except the requirement of independent directors. Firms with relatively powerful controlling block holders, who can more easily expropriate wealth from minority shareholders, experienced significantly larger increases in value around the announcement of the new regulations than firms with less dominant controlling block holders.[27] The total difference in the cumulative abnormal return around the first three events between the highest and lowest quintile portfolios is 4.9% and is statistically significant at the 1% level.

Fourth, the presence of foreign shareholders (Class-B shares) has a negative effect on the abnormal return for the first three announcements (not significant for the second announcement), and an insignificant positive effect on abnormal returns around the new regulation on independent directors. These results are consistent with our hypothesis that controlling shareholders of firms with foreign shareholders are less likely to expropriate minority shareholders because of the greater transparency and greater sophistication of these minority shareholders. The total difference in CARs around the first three events between the highest and lowest quintile portfolios is 5.4%, statistically significant at better than the one-percent level.

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[27] In an alternative specification, we use a trichotomous variable that also proxies for the monitoring of the largest shareholder by other large block holders. This variable equals 1 if the sum of the number of shares of the second and third block holders exceeds the number of shares held by the largest block holder. The variable equals –1 if no shareholder other than the largest block holder holds more than 0.5 percent of the shares outstanding. For all other firms the variable equals 0. Consistent with the results in table 5, we find that this variable is negatively correlated with the CARs around the first 3 events at the 10% significance level or better, and not related to the independent director announcement (p-value is 0.95).

State ownership is only significantly negatively related to the CARs around the related-guarantee regulation. This result might reflect the fact that the issuance of related guarantees is more common at firms controlled by Legal Persons than at State-controlled firms. An alternative explanation is that minority shareholders are less likely to be expropriated when the State is the largest shareholder. However, State ownership is not significantly related to the CARs around the other three regulatory events.

Other results in Table 5 show that the CARs around the announcements are not related to leverage, as none of the coefficients are statistically significant. This result is consistent with the idea that creditors in China play a very limited role in the governance of firms. The four largest banks in China control the majority of banking assets in the country and are directly controlled by the Chinese government. These banks typically allocate credit to individual firms on the basis of national policy rather than on financial condition or performance, and typically are not involved in active monitoring.[28]

The CARs around the asset transfer regulation are positively related to firm size, indicating that larger firms benefited relatively more from the restrictions on asset transfers that smaller firms. For the other regulatory events, the results indicate no relationship between firm size and benefits from the new regulations.

5.4 Discussion

Our results indicate that, in aggregate, announcements of the regulatory changes designed to improve the protection of minority investors were associated with a 16 percent increase in the market value of firms listed on the Chinese Stock

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[28] In a recent study by the World Bank, the authors observe that "creditors are among the least effective instruments of corporate control in China" (World Bank (2002), p. xvi)

Exchanges. The CAR around each announcement is positive, but only for the first announcement is this CAR statistically significant. This leads to a couple of potential criticisms. First, one could argue that our results are spurious, with our first event occurring just after a bottom in the Chinese market. Hence, our sole significant event is simply a result of happenstance. If this were the case, however, then there is no reason to expect us to be able to explain cross-sectional variation in the firm-level CARs. Yet we do find cross-sectional variables that are significant at better than the .01 level and are supportive of our hypotheses.

Second, one could argue that there are no statistically significant results for our last three events because we find positive but insignificant portfolio CARs. If this argument is true, then we should find only noise in our cross-sectional analysis of these CARs. Yet, we find cross-sectional variables for events 2 and 3 that, again, are significant at better than the .01 level and are supportive of our hypotheses.

For three of the four individual announcements, we find statistically significant cross-sectional differences in abnormal returns of firms with high and low levels of expropriation (whether proxied by Corporate Governance-Q, or the ownership and relative power of the largest shareholder and the presence of foreign shareholders) that are supportive of our hypotheses. These results constitute new evidence that superior investor protection in the form of share-market regulation can create substantial value for minority shareholders, supporting the theoretical models of La Porta *et al*. (2002) and Glaeser, Johnson and Shleifer (2001).

Given the lack of judicial enforcement in China, one might question how it is possible that we find such strong wealth effects. Only for the announcement regarding the requirement of independent directors do we fail to find any significant differences in the returns of firms with high and low levels of expropriation. We

attribute our results to a fundamental difference in the nature of independent-director regulation and the three earlier regulatory changes.

Each of the first three regulations clearly set forth new protections of minority shareholders' interests that are "self-enforcing," e.g., that rely upon direct participants (shareholders, directors and regulators) rather than indirect participants (lawyers and judges). The first regulation enabled minority shareholders to propose motions at Annual Meetings; increased their effective voting rights on associated trading; improved their ability to elect directors by requiring votes for each individual rather than for a slate; and enhanced their ability to take legal action when these and other rights are in dispute. The second regulation clearly prohibited loan guarantees by the firm to the controlling shareholder, a bright line enabling shareholders, directors or the CSRC to easily demonstrate a violation. The third regulation required much greater transparency regarding significant asset sales by the firm, including approval at the Annual Meeting, again enabling shareholders, directors or the CSRC to easily demonstrate a violation. Even in cases where direct participants are required to seek relief in the Chinese Courts, there is virtually no need for judicial interpretation, the key weakness of a Civil-Law judiciary.

In summary, each of the first three regulations can be viewed as simple "bright-line" rules that provide regulators, regulatees and the judiciary with clear boundaries as to what is required and what is legal. In large part, the regulations rely upon enforcement by direct participants in the corporation, e.g., shareholders, directors, and regulators, reducing the need for interpretation and official enforcement by indirect participants outside the corporation, e.g., lawyers and judges. Black and Kraakman (1996) argue that, in transitional economies, enforcement by direct participants is preferable to enforcement by indirect participants because indirect enforcement often is unavailable or ineffective. Black and Kraakman also emphasize

that simplicity of legal rules is important in transitional countries where institutions such as the courts are underdeveloped.

We argue that the fourth regulation (requiring independent directors) falls into the category of a "broad standard" rather than a "bright-line" rule. While it is easy to evaluate compliance with the requirement that independent directors be appointed to the Board of Directors, it is a far more difficult task to evaluate whether or not the firm has provided these new directors with the information and support necessary for them to carry out their duty to protect the interests of minority shareholders. Moreover, the interpretation and enforcement of the regulations regarding the adequacy of support provided to independent directors relies heavily on parties outside the corporation, i.e., lawyers and judges. Hence, this regulation fails the "bright-line" test, fails the simplicity test and fails the self-enforcement test. Accordingly, we expect that market participants in a civil-law country with a weak judiciary would view this regulation as of little value in protecting the interests of minority shareholders, and our results are consistent with this expectation.

6. Summary and Conclusions

Outside of the U.S. and Japan, relatively few firms are widely held; instead, firms with controlling shareholders predominate. For such firms, the primary concern of corporate governance is the protection of minority shareholders from expropriation by a controlling shareholder and her management team.

In this study, we examine whether securities-market regulation intended to improve investor protection in China, a civil-law transitional economy with poorly developed institutions, create or destroy shareholder wealth. In aggregate, we find positive and significant increases in firm value of approximately 16 percent, primarily accruing to firms with weak governance. These results provide new evidence

supporting the theoretical model of La Porta *et al*. (2002), which predicts that better investor protection is rewarded with higher firm valuations.

Our results also demonstrate that regulations to protect minority shareholders in a country with weak corporate governance can result in substantial increases in the value of minority shares, so long as there is an effective regulator and the new rules set clear boundaries. These results are consistent with the theory and evidence of Glaeser, Johnson and Shleifer (2001), who compare strategies for investor protection in Poland and the Czech Republic; they conclude that regulatory enforcement can effectively substitute for judicial enforcement in emerging markets with weak investor protection. In China, as in Poland, the securities-market regulator stepped up to fill the void in investor protection left by an ineffective and reactive judiciary.

We find no evidence that Chinese shareholders found value in the introduction of independent directors, which we classify as a broad standard. We interpret this finding as evidence consistent with the disadvantage of broad standards relative to bright-line rules in a civil-law jurisdiction with poorly developed institutions, as postulated by Black and Kraakman (1996). For each of the three bright-line regulations examined, which rely upon self-enforcement by direct market participants rather than by the judicial system, we find significant improvements in firm value for firms with weak governance.

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Appendix 1: The Four Regulatory Announcements

On May 18, 2000, the CRSC released a new regulation regarding the procedures for shareholder meetings, while emphasizing that all corporate directors have a fiduciary duty to conduct proper shareholder meetings. The new regulation was publicly announced on May 26, 2000.[29] The most important improvements in terms of minority investor protection are:

i) Shareholders who hold, separately or jointly, more than five percent of the voting power may propose motions for discussion at the shareholders' Annual General Meeting.

ii) When the meeting votes on associated trading, shareholders involved in the associated trading shall not participate in the voting, and their rights to vote shall not be counted among the aggregate shares possessing voting rights.

iii) When a motion concerning the election of directors and members of the supervisory board is discussed at the shareholders' meeting, shareholders shall vote on the candidate for director or supervisor individually.

iv) When disputes occur concerning the assembling and convening of a meeting, voting procedures, or the legitimacy and effectiveness of a resolution, the parties concerned can take legal action in a People's Court in order to resolve the dispute.

On June 6, 2000, the CSRC released a new regulation prohibiting listed firms from issuing loan guarantees to their shareholders, shareholders' subsidiaries, and individuals. In addition, if the firm should issue a loan guarantee to an unrelated party, it should obtain a mutual guarantee to control risk, and the firm's managers are prohibited from signing a loan guarantee contract without approval of the board, or approval at a shareholders' meeting. This regulation was first publicly reported in Chinese newspapers on June 15, 2000.

On June 26, 2000, the CSRC released a new regulation regarding reorganizations of listed companies. The regulation, which was published in the newspapers on July 24, 2000, stipulates that if gross (net) assets are acquired or sold that account for more than 50% of the latest audited gross (net) assets of the listed company, or the profit from acquired or sold assets account for more than 50% of the latest audited profit of the listed company, then the listed company shall perform the following procedures:

i) The board of directors shall conduct a feasibility study and disclose the information as if it was a public offering.

ii) The board shall hire accounting and law firms qualified to conduct securities business to certify the relevant issues.

iii) The board shall issue a resolution on the relevant issues and report to the Stock Exchange within two days after the resolution is made, and announce to the public the resolution with the comments of the intermediaries and the board of supervisors.

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[29] Before publication in the newspapers, the regulatory changes were first released to a limited number of market participants: the securities regulatory offices, the stock exchanges and the listed companies.

iv)　　Upon examination and approval of the shareholders meeting, the listed company shall implement the plan of asset purchase or sale.

v)　　If the counter-party has a tacit understanding with the controlling shareholder of the listed company, the transaction shall be deemed an affiliated transaction, which shall be subject to the relevant rules and regulations.

vi)　　After the major purchase or sale of assets, the listed company shall ensure the separation of personnel, assets and accounting from its controlling shareholder.

Finally, on May 30, 2001, both the chairman and the vice-chairman of the CSRC gave a speech in which they outlined a new independent director system requiring all listed firms to include independent directors on their board of directors. Detailed draft guidelines were released the next day on 31 May 2001, and published in the newspapers on June 4, 2001. The final regulation was released on August 16, 2001. According to the CRSC press release, the regulation was explicitly intended to "improve the corporate governance structure and operation of listed companies." and "[independent directors] shall be especially concerned with protecting the interests of minority shareholders from being infringed."[30] Specifically, the regulation requires the following:

i)　　Listed company shall include independent directors on their boards of directors. Independent directors are defined as those who hold no position with the company other than director, and who maintain no relationship with the company or its major shareholder that might impair his or her objective judgement.

ii)　　Independent directors must possess the qualifications necessary for them to perform their duties. In this respect, they must be familiar with the operation of listed companies and with the regulations and laws that apply to listed companies.

iii)　　Independent directors must meet a set of "independence" requirements. These requirements disqualify (a) anyone holding a position with the listed company or its affiliates, along with their relatives; (b) anyone controlling more than one percent of the firm's outstanding shares, either directly or indirectly, along with relatives of such persons; (c) anyone holding a position in a unit that directly or indirectly controls more then five percent of the listed company, along with the relatives of such persons; anyone who met conditions (a), (b), or (c) within the preceding year; anyone providing consulting, financial or legal services to the firm or its subsidiaries.

iv)　　CSRC laws and regulations shall govern the nomination, election and replacement of independent directors.

v)　　Independent directors must play an active role in the oversight of the firm. To this end, the independent directors are given special powers, including initial approval of major related party transactions prior to submission to the full board; the power to propose that the board hire or fire an accounting firm; the power to propose to the board that an interim shareholders' meeting be convened; the power to propose a

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[30] CSRC, Notice on Issuing the Guidelines for Introducing Independent Directors to the Board of Directors of Listed Companies, August 16, 2001.
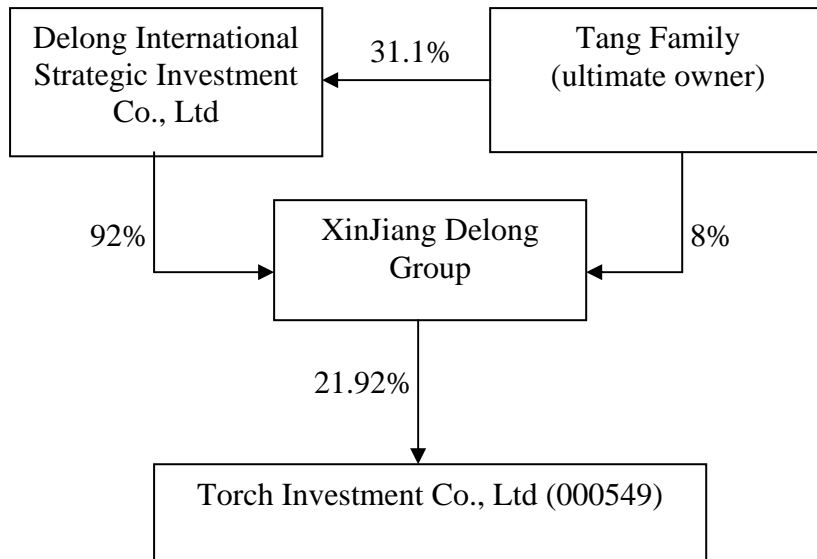
meeting of the board; the power to appoint outside auditing and consulting organizations; the power to solicit proxies prior to the convening of a shareholders' meeting. To exercise any of these powers, a majority of independent directors must concur. At least one half of certain board subcommittees, including audit, compensation, and nomination, should consist of outside directors.

vi)   Independent directors should make their positions known on major events affecting the governance of the firm. Specific events mentioned include: nomination, appointment and removal of directors; appointment or removal of senior managers; compensation of directors and senior managers; loans from the firm and other fund transfers that exceed RMB3 million or 5% of the firm's net assets; whether the firm has taken effective actions to collect outstanding past-due loans; and any events that the independent directors consider detrimental to the interests of the firm's minority shareholders. The independent directors are to provide one of four possible opinions: consent, reserved, dissent, or no-comment. The independent director also shall provide the reasoning behind his or her opinion. If the firm is required to disclose the matter, it must publish the opinions of the independent directors.

The firm must provide the facilities necessary for the independent directors to carry out their duties. The firm must provide the independent directors with timely information on important matters facing the firm, including sufficient documentation. The independent directors can request supplemental documents if they deem initial documentation insufficient. When insufficient documentation is provided, independent directors may propose postponement of the meeting at which the matter is to be discussed. Employees of the firm shall cooperate with independent directors and shall not hinder their work. The firm shall bear any reasonable expenses incurred by the independent directors in performance of their duties. The firm shall compensate independent directors appropriately. Finally, the firm shall purchase liability insurance to protect independent directors from risks arising during performance of their duties.

Appendix II
Examples of Ownership Chain

Control and Ownership of Privately-owned Torch Investments Co. Ltd

```
┌─────────────────────┐   31.1%   ┌─────────────────────┐
│ Delong International │ ◄──────── │     Tang Family      │
│ Strategic Investment │           │  (ultimate owner)    │
│      Co., Ltd        │           │                      │
└─────────────────────┘           └─────────────────────┘
         │                                    │
      92%│         ┌──────────────┐        8% │
         └────────►│ XinJiang Delong│◄─────────┘
                   │     Group      │
                   └──────────────┘
                          │
                   21.92% │
                          ▼
             ┌─────────────────────────────┐
             │ Torch Investment Co., Ltd (000549) │
             └─────────────────────────────┘
```

Cash flow right of ultimate owner = 31.1%*92%*21.92%+21.92%*8%=8.025%
Control right of ultimate owner = 21.92%

Control and Ownership of State-owned Xiamen Overseas Chines Electronic Ltd.

```
             ┌─────────────────────┐
             │    Xiamen local     │
             │     government      │
             │  (ultimate owner)   │
             └─────────────────────┘
                       │
                   100%│
                       ▼
             ┌─────────────────────┐
             │ Xiamen Jianfa Group │
             │       Co., Ltd      │
             └─────────────────────┘
                       │
                    93%│
                       ▼
             ┌─────────────────────┐
             │   Xiamen Overseas   │
             │ Chinese electronic  │
             │    enterprises Co   │
             └─────────────────────┘
                       │
                 58.26%│
                       ▼
             ┌─────────────────────┐
             │   Xiamen Overseas   │
             │  Chinese Electronic │
             │  Co., Ltd (600870)  │
             └─────────────────────┘
```
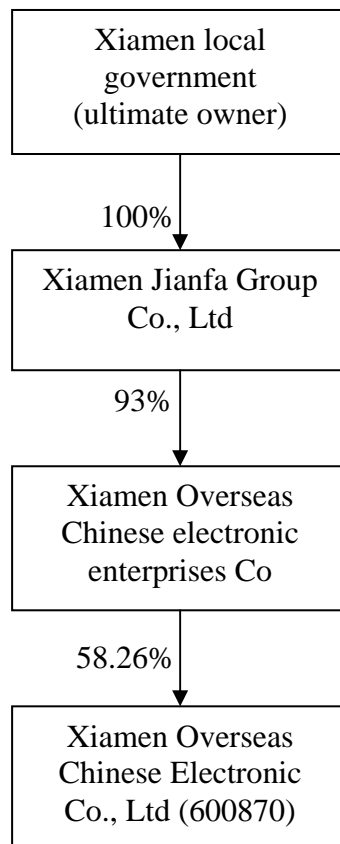
Cash flow right of ultimate owner =58.26%*93%*100%=54.18%
Control right of ultimate owner =58.26%

Table 1
Sample Descriptive Statistics by Tobin's-Q Quintiles

The sample consists of 850 publicly traded Chinese firms, segmented into five quintiles based upon industry-adjusted Tobin's Q measured at the end of year 1999. *Tobin's Q* is the sum of the market value of equity and the book value of debt divided by the book value of total assets. We control for differences in Q across industries by calculating the median Q for each industry and then by subtracting the appropriate industry median from each firm's Q. *Return on Equity* is the firm's net income divided by the book value of total equity at the end of year 1999. *Leverage* is the book value of debt divided by the book value of total assets at the end of year 1999. *Total Assets* is expressed in million RMB. *Cash Flow Rights Largest* is the cash flow rights of the ultimate owner of the shareholder with the largest direct shareholding as a percentage of all outstanding shares. *Largest Shareholder Dominance* is the natural log of the ratio of the shareholding of the largest shareholder to the sum of the shareholdings of the second and third largest shareholders. *B-shares* is a dummy variable equal to one if a firm has B-shares outstanding, and zero otherwise. *State is the Largest Shareholder* is a dummy variable equal to one if a government agency or a solely-state owned enterprise is the largest shareholder, and zero otherwise. For each variable in column 1, we calculate the mean and standard deviation across all firms in each quintile. Standard deviations appear in parentheses.

Variable	Quintile					Full Sample
	1	2	3	4	5	
Industry-Adjusted Tobin's Q	-1.64 (0.57)	-0.64 (0.19)	0.01 (0.18)	0.97 (0.43)	5.51 (5.81)	0.84 (3.61)
Return on Equity	-0.03 (0.49)	0.04 (0.32)	0.02 (0.49)	0.06 (0.23)	0.11 (0.22)	0.04 (0.37)
Leverage	0.54 (0.19)	0.44 (0.19)	0.43 (0.18)	0.40 (0.18)	0.36 (0.18)	0.43 (0.19)
Total Assets	286.0 (452.2)	201.3 (234.9)	141.8 (141.0)	97.9 (95.5)	71.0 (54.3)	159.5 (252.8)
Growth in Total Assets	0.03 (0.51)	0.23 (0.58)	0.31 (0.45)	0.29 (0.47)	0.57 (0.64)	0.29 (0.57)
Cash Flow Rights of the Largest Shareholder	0.43 (0.18)	0.45 (0.17)	0.46 (0.18)	0.44 (0.19)	0.37 (0.18)	0.43 (0.18)
Largest Shareholder Dominance	2.45 (1.68)	2.37 (1.68)	2.45 (1.68)	2.11 (1.84)	1.29 (1.35)	2.13 (1.71)
State is the Largest Shareholder	0.54 (0.49)	0.50 (0.50)	0.50 (0.50)	0.56 (0.50)	0.35 (0.48)	0.48 (0.50)
B-shares	0.11 (0.31)	0.11 (0.31)	0.04 (0.19)	0.07 (0.27)	0.06 (0.23)	0.08 (0.26)

Table 2
Cumulative Abnormal Returns around Regulatory Events

This table reports the cumulative abnormal returns (CARs) around four events regarding new regulations intended to improve corporate governance at Chinese publicly listed firms, using an equally weighted portfolio consisting of all 850 sample firms. The results in column two and three are based on eq. (1) and eq. (2), respectively:

$$Market\ Return_t = \beta_0 + \Sigma \beta_j\ Event\ J + \varepsilon_t \tag{1}$$

$$Market\ Return_t = \beta_0 + \Sigma \beta_j\ Event\ J + \beta_5\ HK\ Return_t + \varepsilon_t \tag{2}$$

where *Market Return$_t$* is the return on an equally weighted market portfolio during day t; *Event J,* J = *1* to *4* are dummy variables that equal 1/n for the dates within the event window of length *n* for the first, second, third and fourth regulation and equal zero otherwise; *HK Return$_t$* is the return for day t on an equally weighted portfolio of 24 Chinese firms listed on the Hong Kong Stock Exchange; and β_j, J = 1 to 4 are the estimated cumulative mean/market-adjusted returns associated with each event window. The model is estimated over 500 trading days ending June 5, 2001 (one day after the newspapers published the draft regulation regarding Event 4). The event windows for event s1, 2, 3 and 4 are 11, 10, 23 and 6 trading days, respectively. *p*-values are in parentheses.
[a], [b], and [c] indicate statistical significance at the .01, .05, and .10 levels, respectively.

(1)	(2)	(3)
Variable	Model (1)	Model (2)
Intercept	0.000	-0.000
	(0.09)	(0.97)
Event 1:	0.095 [a]	0.109 [a]
Shareholder Meeting	(0.01)	(0.01)
Event 2:	0.008	0.001
Related Guarantees	(0.83)	(0.98)
Event 3:	0.032	0.024
Asset Transfer	(0.57)	(0.68)
Event 4:	0.026	0.021
Independent Directors	(0.37)	(0.48)
Hong-Kong		0.075 [a]
Return		(0.01)

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Table 3
Cross sectional Regression model Tobin's Q

This table reports the results from estimating eq. (4), where we regress Tobin's Q on firm size, leverage and growth opportunities along with a set of 25 industry dummy variables:

$$Q_i = b_0 + b_1 \text{ Firm Size }_i + b_2 \text{ Leverage }_i + b_3 \text{ Growth Opportunities }_i$$
$$+ b_K \text{ Industry Dummies } + e_i, \quad K = 4, \ldots, 28 \qquad (4)$$

For each firm, size is measured by the log of total assets, leverage is measured by the ratio of total debt to total assets, and growth opportunities are proxied by the actual growth in total assets from 1999 to 2002. Total assets and total debt are year-end 1999 book values. The residual e_i from eq. (4), which we refer to as $CG\text{-}Q_i$, provides a firm-specific summary measure of corporate governance that is based on concurrent market prices. There are 850 observations.
t-statistics appear below each coefficient in parentheses.
[a], [b], and [c] indicate statistical significance at the .01, .05, and .10 levels, respectively.

Variable	Coefficient (*t*-statistic)
Intercept	23.197 [a] (13.15)
Firm Size	-1.583 [a] (-10.76)
Leverage	-1.899 [a] (-2.86)
Growth Opportunities	0.951 [a] (4.40)
Industry Dummies	Yes
Adjusted R^2	0.24

Table 4
Corporate-Governance Q and Cumulative Abnormal Returns

This table reports the relation between our firm-specific summary measure of corporate governance (*CG-Q*) and cumulative abnormal returns (CARs). Estimation of CG-Q is described in Table 3. Panel A reports the results from the weighted-least-squares cross-sectional regression model:

$$\beta_{J,i} = \gamma_0 + \gamma_1 \, CG\text{-}Q_i + \varepsilon_i \qquad (6)$$

where $\beta_{J,i}$ is the CAR for event J estimated for each firm using the market model:

$$Return_{i,t} = \beta_0 + \Sigma \beta_{J,i} \, Event\, J + \beta_{5,i} \, Market\, Return_t + \varepsilon_{i,t} \qquad (5)$$

where: $Return_{i,t}$ is the return for stock i on day t, $\beta_{J,i}$, J = 1 to 4, is the estimated cumulative abnormal return (CAR) of stock i during event window *J*; $\varepsilon_{i,t}$ is an i.i.d. random-error term for stock i on day t; and *Market Return$_t$* and *Event J* are defined in Table 2. This model is estimated over 500 trading days ending June 5, 2001 (one day after the newspapers published the draft regulation regarding Event 4).

Panel A: Weighted-Least-Squares Regression of CAR$_i$ on CG-Q$_i$

	Shareholder Meeting	Related Guarantees	Asset Transfer	Independent Directors
Intercept	0.001	0.002	0.004	0.002
	(0.30)	(0.34)	(0.26)	(0.21)
CG-Q	-0.002 [c]	-0.004 [a]	-0.005 [a]	0.000
	(0.09)	(0.01)	(0.01)	(0.99)

Panel B reports the results from the portfolio time-series regression model:

$$R\,(CG\text{-}QHigh_t) - R\,(CG\text{-}QLow_t) = \beta_0 + \Sigma \beta_J \, Event\, J + \beta_5 \, Market\, Return_t + \varepsilon_t \qquad (7)$$

where: $R\,(CG\text{-}QHigh_t)$ is the return for day t on an equally weighted portfolio of the highest quintile/third/half of firms based upon CG-Q; $R\,(CG\text{-}QLow_t)$ is the return for day t on an equally weighted portfolio of the lowest quintile/third/half of firms based upon CG-Q; β_J, J = 1 to 4, give the estimated differences in the cumulative abnormal returns (CARs) of the high-CG-Q and low-CG-Q portfolios during each event window J; and *Market Return$_t$*, *Event J* and ε_t are defined as above.

Each cell in Panel B presents the estimated difference in the CARs of the low- and high-*CG-Q* groups around each of the four regulatory changes. *CG-Q* is a firm-specific measure of corporate governance, defined as the difference between each firm's actual and predicted Q, where the predicted value is based on a set of variables commonly used in the literature to explain Q (industry, firm size, leverage and growth opportunities) as shown in Table 3. The *p*-values in Panel A are based on heteroscedasticity-consistent White standard errors. [a], [b], and [c] indicate statistical significance at the .01, .05, and .10 levels, respectively.

Panel B: Portfolio Time-Series Regressions
(Return(High CG-Q) – Return(Low CG-Q))

	Shareholder Meeting	Related Guarantees	Asset Transfer	Independent Directors
5 Groups	-0.024 [c]	-0.032 [a]	-0.054 [a]	-0.001
	(0.07)	(0.01)	(0.01)	(0.92)
3 Groups	-0.018 [c]	-0.025 [a]	-0.049 [a]	0.001
	(0.07)	(0.01)	(0.01)	(0.91)
2 Groups	-0.015 [b]	-0.022 [a]	-0.049 [a]	0.001
	(0.04)	(0.01)	(0.01)	(0.85)

Table 5
Ownership Structure and Cumulative Abnormal Returns

This table reports the results from estimating eq. (8) and eq. (9). In eq. (8), we use a weighted-least-squares regression model to regress ownership-structure variables on cumulative abnormal returns of individual stocks around each of four regulatory announcements ($CAR_{J, i}$), using the standard deviation of the prediction errors derived from the market model as weights:

$$CAR_{J, i} = \gamma_0 + \gamma_{J, 1}\ CF\ Rights\ Largest\ Shareholder_i + \gamma_{J, 2}\ Large\ Shareholder\ Dominance_i + \gamma_{J, 3}\ B\text{-}shares_i$$
$$+ \gamma_{J, 4}\ State\ is\ Largest_i + \gamma_{J, 5}\ Leverage_i + \gamma_{J, 6}\ Firm\ Size_i + \gamma_{J, K}\ Industry\ Dummies + \varepsilon_{J, i}, \quad K = 7, \ldots, 31 \qquad (8)$$

In eq. (9), we use a portfolio time-series regression model to regress a set of four event-window dummies on the returns from a portfolio that is long on the highest and short on the lowest third or quintile of firms based upon orthogonalized explanatory variable OV, where OV is either *Cash-flow rights of the largest shareholder*, *Largest shareholder dominance*, *State is the largest shareholder*, *B-shares*, *Leverage* or *Firm size*:

$$Return(OVHigh_t) - Return(OVLow_t) = \beta_0 + \Sigma \beta_J\ Event\ j + \beta_5\ Market\ Return_t + \varepsilon_t \qquad (9)$$

Each cell under the heading Third and Quintile gives β_J, J = 1 to 4, the difference in the CARs of the high-OV and low-OV groups during the event window around each announcement of a regulatory change. The models are estimated over 500 trading days ending June 5, 2001.
p-values appear in parentheses. The p-values in the WLS-regression are based on heteroscedasticity-consistent White standard errors
[a], [b], and [c] indicate statistical significance at the .01, .05, and .10 levels, respectively.

	Shareholder Meeting			Related Guarantees			Asset Transfers			Independent Directors		
	WLS	Portfolio		WLS	Portfolio		WLS	Portfolio		WLS	Portfolio	
		Third	Quintile		Third	Quintile		Third	Quintile		Third	Quintile
Cash-flow rights of the largest Shareholder	-0.039[b]	-0.004	-0.012	-0.015	-0.005	-0.005	-0.047[c]	-0.021[b]	-0.026[b]	0.010	0.003	0.005
	(0.04)	(0.55)	(0.14)	(0.42)	(0.44)	(0.48)	(0.08)	(0.02)	(0.02)	(0.35)	(0.52)	(0.36)
Largest shareholder Dominance	0.005[a]	0.018[a]	0.019[a]	0.004[c]	0.012[b]	0.012[c]	0.007[a]	0.030[a]	0.019[c]	-0.002	0.004	-0.002
	(0.01)	(0.01)	(0.01)	(0.07)	(0.04)	(0.07)	(0.01)	(0.01)	(0.07)	(0.83)	(0.42)	(0.64)
State is the largest shareholder	-0.001	-0.004	-0.006	-0.007	-0.013[a]	-0.020[a]	0.007	0.003	0.005	-0.001	0.001	-0.002
	(0.77)	(0.46)	(0.49)	(0.14)	(0.01)	(0.01)	(0.27)	(0.76)	(0.65)	(0.81)	(0.91)	(0.69)
B-shares	-0.034[a]	-0.017[a]	-0.018[b]	-0.019[b]	-0.007	-0.01	-0.017	-0.026[a]	-0.025[b]	0.016[b]	0.001	0.005
	(0.01)	(0.01)	(0.04)	(0.02)	(0.22)	(0.20)	(0.19)	(0.01)	(0.05)	(0.02)	(0.78)	(0.40)
Leverage	-0.013	0.005	0.003	-0.012	0.001	0.002	-0.009	0.012	-0.001	0.007	0.002	0.003
	(0.35)	(0.65)	(0.84)	(0.37)	(0.89)	(0.87)	(0.64)	(0.40)	(0.95)	(0.32)	(0.76)	(0.73)
Firm Size	0.009[a]	0.014	0.015	0.011[a]	0.008	0.016	0.027[a]	0.036[b]	0.043[b]	-0.002	-0.004	-0.007
	(0.01)	(0.22)	(0.29)	(0.01)	(0.47)	(0.23)	(0.01)	(0.03)	(0.03)	(0.19)	(0.62)	(0.52)