# SHORT-TERM PERFORMANCE OF CHINESE A-SHARE IPOS

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## SHORT-TERM PERFORMANCE OF CHINESE A-SHARE IPOS

## ABSTRACT

Short-run IPO underpricing is extensively documented for the developed countries. In this thesis, we use market-adjusted returns (both offer-to-close and close-to-close) for periods ending on days 1, 30, 60, 90, 120, 180, and one year post issue for 1162 Chinese A-share IPOs, which were issued between 1995 and 2006. We find significant underpricing in this emerging market, and that IPO underpricing is significantly (positively and negatively) related with various issuer ownership characteristics and negatively with the number of independent directors and supervisors on the board. The latter result is consistent with the findings of Filatotchev (2002) for U.K. IPOs. Unlike the current literature on Chinese IPOs (e.g., Su and Fleisher, 1999; and Chen *et al.*, 2004), we find that the percentage of shares owned by the State becomes insignificant when a wider set of ownership, governance and issue(r) determinants are considered.

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## 1. INTRODUCTION

Studies of IPOs in developed countries find short-term excess returns and long-term poor performance (e.g., Ritter, 1984, 1991). To illustrate, Ibboson, Sindelar and Ritter (1988) find an average initial return of 16% for a sample of over 8,000 U.S. IPOs. Loughran *et al.* (1994) provide a comprehensive survey of the IPO literature for 25 countries (including seven Asian countries) that finds statistically and economically significant first-day IPO underpricing.

Some studies also report Chinese IPO underpricing. For example, Mok and Hui (1998) find average underpricing of 289% for A-share IPOs in Shanghai between 1990 and 1993. Chan *et al.* (2004) find a mean initial-day return of 145% for a sample of 701 A-share IPOs that listed between 1992 and 1997. For a sample of 668 IPOs for the period 1996-2000, Chi and Padgett (2005a) find IPO underpricing of 127.3%.

Several theoretical explanations are offered for the underpricing of IPOs. Baron (1982) believes that high initial returns are caused by informational asymmetry between the underwriters and the issuers. Loughran, Ritter and Rydqvist (1994) offer an array of possible reasons for IPO underpricing, including "The Winner's Curse", "Dynamic Information Acquisition", "Information Cascades", and "Reducing Legal Liability".

The Chinese Stock Market is an emerging market. The Shanghai Stock Exchange (SHSE) officially opened on December 19, 1990 with four listed A-shares, which were available only to domestic investors and were priced and traded in the Chinese Yuan.

Trading of B-shares started in February 1992 on the SHSE. B-Shares were issued only to foreign investors initially, and became available to domestic investors since February 20, 2001. B-shares are priced and traded in U.S. dollars. Since the IPO process in China involves privatization, the IPO issuing process is highly influenced by government regulations.

The objectives of this thesis are two-fold. The first objective is to examine underpricing using hand-collected market-adjusted returns [both offer-to-close and (open-)close-to-close] for periods ending at days 1, 30, 60, 90, 120, 180 and one year post issue for 1162 Chinese A-share IPOs, which were issued between 1995 and 2006. The second objective is to determine if IPO underpricing in China is related to several unique ownership and governance characteristics in this emerging or developing market.

The remainder of the thesis is organized as follows. In the next section, the IPO literature is briefly reviewed. Section 3 describes the sample and descriptive statistics. Section 4 discusses the methodology and presents empirical results. Section 5 offers some concluding remarks.

## 2. LITERATURE REVIEW

In this section of the thesis, we first describe the characteristics of the Chinese stock market, followed by a review of the short- and long-term performances of non-Chinese IPOs, and finish with a review of the studies that examine the relationships between performance and corporate governance for Chinese IPOs.

## 2.1 The Characteristics of the Chinese Stock Market

The Chinese stock market is an emerging market that is highly influenced by government regulations. It was established with the opening of the Shanghai Stock Exchange in 1990 and the Shenzhen Stock Exchange in 1991. The following four types of tradable shares co-exist in the Chinese stock market: 1) A-shares, which trade publicly on the Shanghai and Shenzhen Stock Exchanges and can be purchased by domestic citizens of the P. R. China; 2) B-shares, which also trade publicly on the Shanghai and Shenzhen Stock Exchanges, but can only be purchased by foreign investors or P.R.C. citizens who hold the required foreign currency deposits; 3) H-shares, which are listed on the Stock Exchange of Hong Kong, and are restricted to foreign investors; and 4) N-shares, which are listed on the New York Stock Exchange (NYSE). Other non-tradable share types include: (1) government shares, which are held by the central government and State Assets Management Bureau; and (2) legal-entity shares, which are held by the local government, domestic legal entities, institutions and enterprises or foreign partners. A 2008 change of the regulations allows government and legal-entity shares to be traded in the stock market.

Before the 1990's, the decision to go public was made by the government and not the issuing firm. Since the issues were not underwritten, the issue price was set by the government and most of the shares were purchased by state and legal-entities. From the early 1990's, the following offering types have developed: (1) Offering by online inquiry; (2) Online offering at a fixed price; (3) Placement with investors of the secondary market; (4) Offering by online and offline accumulated tender pricing inquiry; (5) Placement with investors of secondary market plus online offering at fixed price; (6) Offline

placement with legal person plus online offering at fixed price; (7) Offline placement with inquirers plus online placement with investors of secondary market; (8) Offline legal person placement plus online offering at fixed price plus online placement with investors of secondary market; (9) Offering by full prepayment; (10) Offering by linking to savings deposits; (11) Offering by delivering subscription table of new issues; and (12) Private placement.

### 2.2 Short-term Non-Chinese IPO Underpricing

The IPO literature finds positive initial returns in most markets, including the United States. Ibbotson *et al.* (1988) document an average initial return of 15.3% for a sample of 10,626 IPOs filed between 1960 and 1992 in the U.S. Loughran *et al.* (1994) provide a comprehensive survey of the IPO literature for 25 countries (including seven Asian countries) that finds statistically and economically significant first-day IPO underpricing. Loughran and Ritter (2004) argue that the IPO issue period plays a significant role in IPO underpricing in the U.S. Average first-day IPO returns are about 7% in the 1980s, around 15% during 1990-1998, around 65% during the internet bubble years of 1999-2000, and about 12% from 2001 to 2003. Lowry and Schwert. (2002) also report similar results for U.S. IPOs over the period 1985-1997. They argue that IPO volumes and average first-day returns are highly autocorrelated, and more companies go public when the period has high initial returns. Country-specific studies that identify IPO underpricing include Jog and Sirvastava (1993) for Canada, Levis (1995) for the United Kingdom, Lim *and Saunders* (1990) for Singapore and Dhatt *et al.* (1993) for Korea.

By examining 507 privatization IPO offerings from 39 countries from 1979-1996, Huang and Levich (2003) find cross-country IPO underpricing differences and suggest that the differences in institutional and governmental regulations and policies play a great role in shaping IPO underpricing differences. Engelen and Van Essen (2010) examine a large dataset of 2920 IPOs from 21 countries and report a 10% variation in the level of underpricing between countries. They argue that the quality of the legal framework reduces the level of IPO underpricing.

Several explanations are proposed to explain IPO underpricing. Baron (1982) proposes that informational asymmetries between underwriters and issuers cause the significant first-day returns, due to underwriters possessing superior information regarding the demand for IPOs while issuers are not able to discern the distribution efforts of underwriters. Rock (1986) argues that due to the existence of a group of investors whose information is superior to that of the firm and all other investors, the offering firm must price the IPO at a discount in order to guarantee that uninformed investors purchase the issue. Beatty and Ritter (1986) argue that a monotonic relation exists between expected IPO underpricing and the uncertainty of investors regarding its value. Thus, underpricing is expected to increase with higher ex ante uncertainty surrounding the value of an IPO. The signalling theory developed by Allen and Faulhaber (1989), Grinblatt and Hwang (1989) and Welch (1989) assumes that owner-managers have better knowledge about the true value of the firm than potential investors. Thus, IPO underpricing is deliberate and voluntary to signal a firm's intrinsic value. Chemmanur (1993) proposes that a high first-day return can generate publicity, which attracts additional interest among investors. Ritter (2003) notes that fear of lawsuits may be one

rationale for why Internet IPOs are under-priced by such a large amount during the 1999-2000 period.

Khurshed and Mudambi (2002) use IPO data from the U.K. main market from 1989 to 1996 to test the Rock model. Their findings are consistent with the Rock model. This contradicts the Ritter *et al.* (2002) argument that asymmetric information is not the main reason for the IPO underpricing phenomena. Instead, Ritter *et al.* (2002) propose agency conflict as a possible explanation. Filatochev and Bishop (2002) demonstrate that underpricing decreases with a high proportion of nonexecutive directors. Smart and Zutter (2003) argue that less underpricing is associated with firms with dual versus single class share structures. For a sample of 1135 U.S. IPOs from 1996-2000, James and Karceski (2006) document that poorer aftermarket performance of IPOs is more likely when there are strong buy recommendations by analysts who are affiliated with lead underwriters.

### 2.3 Long-term Underperformance of Non-Chinese IPOs

Ritter (1991) finds that IPO firms that issued between 1975 and 1984 substantially underperformed their seasoned counterparts over the long run. Loughran and Ritter (1995) find that firms going public between 1970 and 1990 significantly underperformed their matched non-issuing firms over a period of five years after the offering date.

Long-term underperformance is also documented for non-U.S. IPOs. Lee *et al.* (1996) find that aftermarket performance of 266 firms that went public in Australia between 1976 and 1989 is -46.5%. Kooli and Suret (2004) document long-run underperformance for 445 Canadian IPOs between 1991 and 1998. Cai and Wei (1997) find that the

disappointing long-run stock performance of Japanese IPOs is confirmed for 180 IPOs listed on the Tokyo Stock Exchange between 1971 and 1992, and that the underperformance is large in magnitude relative to a number of benchmarks. Firth (1997) finds a negative aftermarket performance for 143 IPOs in New Zealand. Álvarez and González (2005) analyse 52 Spanish IPOs from 1987 to 1997 and find that long-run performance is positively related to underpricing.

A number of explanations are advanced for the long-run return underperformance of IPOs. Jensen (1986) proposes the agency cost hypothesis where the manager has a preference to invest IPO proceeds into projects with negative NPVs at a cost to shareholders. According to the earnings management hypothesis, (Teoh *et al.* 1998) finds that IPO firms normally exhibit a higher profit than their industry average one year prior to the offer date, which cannot be sustained post-IPO. Ritter (1991) and Loughran and Ritter (1995) propose the window of opportunity hypothesis, which states that the managers of the IPOs are likely to issue equity to lower the cost of capital when the company is overvalued. Daniel *et al.* (2001) reports that size and book-to-market are important determinants of IPO stock returns. Borges (2007) finds no evidence of long-run underperformance for 43 IPOs in Portugal from 1988-2004. Friesen and Swift (2009) find positive cumulative excess returns for 12 months post-IPO, and that the average return decreases and corrects for 18 month starting at the beginning of the second year post-IPO. For the first 5 years, most IPOs experience negative cumulative abnormal returns, which is consistent with the hypothesis that investors overreact for stocks that go public.

### 2.4 Short-run Performance of Chinese IPOs

Most studies of Chinese IPOs examine underpricing. Mok and Hui (1998) find that the average underpricing of A-share IPOs in Shanghai was 289% between 1990 and 1993. Su and Fleisher (1999) finds that the cross-section of underpricing for 308 A-share IPOs between 1987 and 1995 can be explained by a separating equilibrium under asymmetric information in which underpricing is a strategy for firms to signal their value to investors. Su (2004a) finds that first-day underpricing for 587 A-share IPOs is correlated with proxies of ex ante uncertainty, including the size of offering, insider ownership, disclosure practice, market conditions and allocation mechanisms. His empirical results are largely consistent with the "winner's curse" and signalling models.

Chan *et al.* (2004) find an average initial day return of 145% for a sample of 701 A-share IPOs that listed between 1992 and 1997. Su (2004) finds that leverage and insiders have information and signalling roles in explaining IPO underpricing for 348 non-financial A-share IPOs from 1994 to 1999. Su reports that underpricing is positively correlated with pre-IPO leverage and insider ownership, and that underpricing is part of a pair of reinforcing signals of firm quality. Gu (2003b) finds that the proportion of state ownership and firm size have significantly negative and positive relationships, respectively, with short-term returns for 68 A-share IPOs in 1994. He interprets the latter result as indicating that investors perceive large companies as being less risky.

Chi and Padgett (2005) report underpricing of 127.3% for a sample of 668 IPOs for the 1996-2000 period. Wang (2005) finds a sharp decline in post-issue operating performance of 747 A-share IPOs from 1994 to 1999, and that neither state nor concentrated ownership are associated with performance. He also finds a curvilinear

relation between legal-entity ownership and performance changes, and between non-state ownership concentration and performance changes.

Shiah-Hou (2005) finds a substantial decline in post-issue operating performance of 44 B-share IPOs, which is significantly smaller than for other matching firms in the same industry. Huang and Song (2005) find that real sales increase for 44 H-share IPOs due to Chinese economic growth instead of listing, and that increased dividend payout and managing performance after listing may be caused by the stricter corporate governance regulations in the Hong Kong market.

Based on tests of the winner's curse, ex-ante uncertainty and signalling hypotheses for 343 A-share IPOs from 1995 to 1998, Yu and Tse (2006) find that the main reasons for Chinese IPO underpricing are high levels of ex-ante uncertainty about IPO value and the winner's curse problem. Gannon and Zhou (2007) find a negative relationship between underwriter fees and A-share underpricing for 293 A-share IPOs for the 2000-2003 time period, and a structural break in the Chinese primary market. Chang *et al.* (2008) divide the initial return of 891 A-share IPOs completed between 1996 and 2004 into initial returns in the primary and secondary markets. They find that the initial returns of IPOs in the secondary market are significantly positive because of the higher risk involved. They suggest that the lottery ratio has a negative and significant impact on the initial returns of IPOs in the primary but not secondary market. They also find that market returns and offering prices have a significant and positive relation with initial returns in the secondary markets; and that offering size has a significantly negative relationship with initial turnover of A-share IPOs.

Gao (2010) study the effect of two government regulations on the performance of 366 A-share IPOs over a three year period (1996-1999). These regulations are pricing regulations which use accounting performance as the major determinant for setting the offering price, and penalty regulations which penalize firms which have too optimistic management earnings forecasts. They find that these regulations are related with the decline in post-IPO stock outperformance.

Some studies examine the relationship between governance and underpricing in this market. For a sample of 790 A-share IPOs from 1993 to 2001, Fan *et al.* (2007) find that IPO initial (first-day) returns are negatively related to whether or not a CEO is politically connected (i.e., is or was a government bureaucrat), and that politically unconnected firms underprice their IPO shares more than do politically connected firms. For 1064 A-share IPOs through 1991-2003, Ma (2007) finds that IPO firms with more information asymmetry and valuation uncertainty are more likely to prefer private placements to local public offerings, or local public offerings to national public offerings, or national public offerings to book building.

### 2.5 Long-run Performance of Chinese IPOs

Unlike the case for other markets, Chi and Padgett (2005a) document superior long-run performance of Chinese IPOs that went public from January 1996 through December 1997. They also report that firms that perform better in the long-run tend to issue more SEOs. Bai *et al.* (2004) find that the long-run stock performance of A-share IPOs from 1998 to 2000 is better than that of non-IPO firms. Chi and Padgett (2005b) report that the average market-adjusted cumulative return and buy-and-hold return over the three years

after listing for a sample of 668 IPOs for the period January 1996-December 2000 are a statistically significant 10.3% and 10.7%, respectively.

Chi and Padgett (2005b) also find that firms with lower government ownership, smaller offering size, high-tech features and lower initial returns perform better over the long-run. For a sample of 790 A-share IPOs from 1993 to 2001, Fan *et al.* (2007) find that almost 27% of the CEOs are politically connected (i.e., are current or former government bureaucrats), and that long-term post-IPO stock returns and accounting performance are significantly worse when the CEOs of issuing firms are politically connected.

## 3. SAMPLE AND DATA COLLECTION

We begin with all 1173 A-share IPOs issued in the Chinese stock market for the 1995-2006 time period. These A-share IPOs are identified using the database of the China Securities Regulatory Committee (CSRC), Shanghai Stock Exchange (SHSE), and Shenzhen Stock Exchange (SZSE). The data on public offerings (including the listing dates, the issue prices, the number of shares to be issued, and the amounts of capital to be raised), ownership structure and financial information are manually collected from the Tsinghua Financial Database* and are confirmed by examining the prospectuses. Management information is collected from the issuer's financial report. Daily stock prices and returns for the issuers and the market index are hand collected on days 30, 60, 90, 120, 180, and 1year after each IPO using the trading software available from brokers. Since the return information is missing for 11 issues, they are dropped from the sample.

Thus, the final sample contains 1162 IPO issues of A-shares for both SHSE and SZSE. Table 1 gives a year-by-year tabulation of the number of IPOs included in the sample. For the period of 1995 to 2006, 1997 has the largest number of A-share IPOs (206), followed by 1996 with 203 A-share IPOs. These large numbers of issues for both exchanges are partially explained by the suspension of IPOs in 1995 by government regulation. In 2005 and 2006, regulated IPO suspension also affects the number of A-share IPOs in those years (only 15 in 2005). Since 2001, the central government requires that all the A-share IPOs be listed in SHSE in order to reinforce the financial center position of Shanghai. Since both SHSE and SZSE are controlled by the central government under similar regulations; underpricing is (as expected) not significantly different between these two exchanges. Thus, we do not differentiate the A-share IPOs between exchanges in our subsequent examination of the stock performance of Chinese A-share IPOs.

**[Please place table 1 about here.]**

## 4. POST-ISSUE RETURN PERFORMANCE OF CHINESE A-SHARE IPOs

Market performance of IPOs is measured using the returns based on closing prices of each IPO at the end of days 1, 30, 60, 90, 180 and 365 (one year) after each IPO begins trading. For the first trading day, we calculate the returns (and market-adjusted versions) using first the offer price and then that day's opening price as the initial price. For the other periods, we calculate the returns (and market-adjusted versions) using first the offer price and then that day's closing price as the initial price. To illustrate, the equations for

calculating the offer-to-close return for the first day $r_{n,1}$ and the market-adjusted close-to-close return $R_{n,\tau}^{Adj.}$ for a period $\tau$ post-IPO are respectively given by:

$$r_{n,1} = (P_{n,1} / P_{n,0}) - 1;$$

$$R_{n,\tau}^{Adj.} = [(P_{n,\tau} + Div_{\tau}) / P_{n,1}] / [I_{n,\tau} / I_{n,1}]$$

where $P_{n,\tau}$ and $I_{n,\tau}$ are the closing price of IPO $n$ and level of market index $I$, respectively, at the end of period $\tau$; $P_{n,1}$ and $I_{n,1}$ are the closing prices of IPO $n$ and level of market index $I$, respectively, at the end of day 1; and $Div_{\tau}$ is the cumulative dividend on IPO $n$ up to the end of period $\tau$.

The various measures of return performance for the sample of IPOs are presented in Table 2. The average offer-to-close return for the first trading day is 212.21% and ranges from 4900% to -93.88%. When the highest and lowest returns in the sample are dropped, the average offer-to-close return is 207.50%. When the two and three highest and lowest returns are dropped, the average return is 204.17% and 201.22%, respectively. Most of these returns are not captured in the opening prices as the average open-to-close return for the first trading day is also very high at 191.86%. The average turnover for the first day is 59.18%, which suggest that institutional and individual investors (so-called "flippers" who bought the shares at the offering price and sold them after the first day of trade made a quick, often huge profit, on average).

**[Please place table 2 about here.]**

The average offer-to-close returns for post-IPO periods of 30, 90, 120, 180 days and one year are 200.85%, 199.28%, 201.73%, 212.09%, 226.75%, and 249.17% respectively. Their close-to-close counterparts are considerably lower at -1.34%, -0.91%, 1.37%, 4.05%, 7.85%, 14.31% respectively, due to the removal of the large first-day offer-to-close returns. These averages for our larger sample of IPOs are considerably lower than the 647% reported by Chau, Cicotello, and Grant (1999) in their study of 72 Chinese IPOs in 1993 and 1994.

Various market-adjusted IPO returns are reported in Table 3. As expected, market adjusting lowers the IPO returns but does not remove the large returns for all the examined time horizons, which suggests that the high IPO returns are not caused by market movements.

**[Please place table 3 about here.]**

## 5. POST-ISSUE RETURN PERFORMANCE OF CHINESE A-SHARE IPOs AND IPO CHARACTERISTICS

In this section, we examine the relationship between the post-issue return performance of Chinese A-share IPOs and three characteristics groupings for these IPOs; namely, issuer ownership, issuer management, and issue(r) characteristics.

### 5.1 Hypothesis

The tested hypothesis in its alternate form is:

$H_A$: The after-market return performance of Chinese IPOs is related to their various unique issuer ownership, governance and issue(r) characteristics.

The IPO issuance process in China represents privatization and has had the highest initial and first-day returns documented in various international financial markets. As an emerging market with certain unique characteristics that were discussed earlier in section 2.1, we expect that the IPO returns post-issue are related to various ownership, governance and issue(r)-specific characteristics as specified and tested in the next section of the thesis.

## 5.2 Cross-sectional Regression Results

Cross-sectional regressions are run to examine the determinants of the market-adjusted returns for Chinese A-share IPOs over the various time periods examined herein. The explanatory variables are chosen based on those found to be important in the previous literature and others used to capture the distinctive characteristics of the Chinese market. We run various cross-sectional regression models to examine these relationships. Coefficient estimates that are significant at the 0.10, 0.05 and 0.01 level are referred to as being marginally significant, significant and highly significant throughout.

### 5.2.1 Relationship between return performance and issuer ownership

We examine the relationship between return performance and issuer ownership by running the following cross-sectional regression for either offer-to-close (j = 1) or close-to-close (j = 2) market-adjusted returns, $MAR_{i,\tau}^{j}$, for various periods after the IPO:

$$MAR_{i,\tau}^{j} = \beta_0 + \beta_1 \text{STATE}_i + \beta_2 \text{LEGAL}_i + \beta_3 \text{NATURAL}_i + \beta_4 \text{EMPLOYEE}_i + \beta_5 \text{PUBLIC}_i + \beta_6 \text{OTHERSHARE} + \beta_7 \text{ OTHERCLASS}_i + \varepsilon_{i,\tau} \quad (1)$$

where *STATE* is the percentage of shares held by the government;

*LEGAL* is the percentage of shares held by legal entities;

*NATURAL* is the percentage of shares held by natural persons;

*EMPLOYEE* is the percentage of shares held by employees of the IPO issuer;

*PUBLIC* is the percentage of shares held by public investors (individual investors);

*OTHERSHARE* is the percentage of share issued to others (holders are not specified); and

*OTHERCLASS* is a dummy variable equal to one if the issuer has other share classes (B or H shares), and zero otherwise.

Descriptive statistics for these ownership variables are given in panel A of table 4. The largest percentage share ownership is by the state with mean and median ownership percentages of 41.8% and 50.6%, respectively. This is followed by public ownership with mean and median ownership percentages of 30.0% and 28.6%, respectively, and legal ownership with mean and median ownership percentages of 21.9% and 12.0%, respectively. Employee ownership is very small at a mean and median percentage ownership of 3.5% and 0.0%, respectively.

**[Please place table 4 about here.]**

The results of the cross-sectional regressions of offer-to-close and (open-)close-to-close returns and various ownership variables are presented in tables 5 and 6, respectively. The percentages of state and legal ownerships are highly significant and positively related with offer-to-close returns for all time periods but only significant (and positive) for

close-to-close returns only for the first day post-issue. PUBLIC has a highly significant positive relationship with underpricing when measured using $MAR^1$ over the various time periods. However, when underpricing is measured using $MAR^2$, PUBLIC is highly significant but negative related with underpricing. The estimated coefficients of STATE, LEGAL and PUBLIC are with one exception positively and significantly related to offer-to-close returns, and the estimated coefficients of NATURAL, EMPLOYEE and OTHERCLASS are negatively and significantly related to offer-to-close returns. The relationship between these ownership variables remains for (open-)close-to-close returns for only the first day post-IPO. For subsequent time periods, many of the estimated coefficients are insignificant or carry different signs as the time period changes. Our findings for STATE ownership are consistent with Su and Fleisher (1999) and Chan *et al.* (2004), who both find a positive relationship with underpricing for samples of 348 and 701 IPOs for the 1994-1999 and 1992-1997 time periods, respectively.

**[Please place tables 5 and 6 about here.]**

### 5.2.2 Relationship between return performance and corporate governance of the issuer

We now examine the relationship between return performance and corporate governance by running the following cross-sectional regressions for first offer-to-close and then (open-)close-to-close market-adjusted returns for various periods after the IPO:

$$MAR^{j}_{i,\tau} = \gamma_0 + \gamma_1 \text{SALARY}_i + \gamma_2 \text{EDUCATION}_i + \gamma_3 \text{AGEMEAN}_i + \gamma_4 \text{HOLDINGMEAN}_i + \gamma_5 \text{FEMALE}_i + \gamma_6 \text{IDP}_i + \eta_{i,\tau} \quad (2)$$

where *SALARY* is the average annual compensation of management in the year prior to its listing (such data are only available for the 2003-6 period);

*EDUCATION* is a dummy variable equal to one if at least 50% of the management executive team has an undergraduate degree;

*AGEMEAN* is the average age of the management and executives;

*HOLDINGMEAN* is the number of shares owned by the executives of the issuer;

*FEMALE* is the percentage of woman on the management team; and

*IDP* is a determinant not previously examined for Chinese IPOs and is the percentage of independent and supervisor board members at the time of listing (these data are drawn from the prospectuses).

Descriptive statistics for these governance variables are given in panels B and C of table 4 where panel B provides such information for the subsample that includes salary data and panel C provides such information for the full sample. For the full sample, the average age of management and executives is 45.7 years with 55.8% of the management executive team holding at least an undergraduate degree. On average, females account for 10.9% of the management team, and only 4.2% of the board members are independent. The medians are similar except for the zero median for independent board members.

The cross-sectional regression results for the relationships between return performance and corporate governance are reported in tables 7a and 7b for the subsample that includes the SALARY variable and in tables 8a and 8b for the full sample that does not include the SALARY variable. We concentrate our discussion on the full sample

results reported in tables 8a and 8b. We find significant relationships with return performance with three variables for some or all the time periods. The proportion of the executive team with at least an undergraduate degree, EDUCATION, is negatively related with return performance in all the cross-sectional regressions. However, it is only significant for the one year period based on offer-to-close returns, and for the post-IPO period ending on day one (weakly), 120 (weakly), 180 and 365 based on open- or close-to-close returns. The percentage of women on the management team, FEMALE, is positively related with offer-to-close return performance for all time periods but only significant for post-IPO periods ending on day one, 30 (weakly) and 90 (weakly) based on offer-to-close returns. In other words, underpricing is higher with a higher proportion of women on the management team. FEMALE is positively and significantly related with open-to-close return performance for day one, and negatively and significantly related with close-to-close return performance for periods ending on days 180 and 365. The percentage of independent or supervisory board members is negatively (and highly significantly) related with offer-to-close and (open-)close-to-close return performances for all time periods. In other words, the higher the percentage of independent directors or supervisors on the board, the lower is IPO underpricing.

**[Please place tables 7a, 7b, 8a and 8b about here.]**

### 5.2.3 Relationship between return performance and issue(r) characteristics

We now examine the relationship between return performance and issue(r) characteristics by running the following cross-sectional regressions for first offer-to-close and then (open)close-to-close market-adjusted returns for various periods after the IPO:

$$MAR_{i,\tau}^{j} = \lambda_0 + \lambda_1 \text{SIZE}_i + \lambda_2 \text{ROE}_i + \lambda_3 \text{P/E}_i + \lambda_4 \text{AM}_i + \lambda_5 \text{UFEE}_i + \lambda_6 \text{LOGIPOMV}_i + \upsilon_{i,\tau} \quad (3)$$

where SIZE is the logarithm of the market value of the IPO offer size;

ROE is the previous year's return on equity of the issuer;

P/E is the price-to-earnings ratio on the first day of trading of the completed IPO;

AM is the IPO allocation methods (13 different types);

UFEE is the percentage of the underwriter fee to the IPO's market value; and

LOGIPOMV is the log of the IPO market value.

Descriptive statistics for the issue(r) variables are given in panel D of table 4 for the full sample. The full sample of IPOs has a mean ROE of 23.7% and a P/E ratio of 19.2 times.

The results of the cross-sectional regressions of offer-to-close and (open-)close-to-close returns and various issue(r) characteristics are presented in tables 9a and 9b, respectively. The offer-to-close return performance is positively and significantly related to ROE, P/E and UFEE, and negatively and significantly related with LOGIPOMV for almost all time periods. These relationships hold for (open)close-to-close returns for the first day post-IPO.

**[Please place tables 9a and 9b about here.]**

### 5.2.4 Relationship between return performance and selected ownership, governance and issue(r) characteristics

Based on the above, the return performance and relationship with the various characteristics examined are most interesting for the first day of trading of the IPO. Thus,

we now examine the relationship between return performance and a reduced-form selection of ownership, governance and issue(r) characteristics by running the following cross-sectional regressions for first offer-to-close and then open-to-close market-adjusted returns for the first day of trading of the IPO:

$$MAR_{i,\tau}^{j} = \delta_0 + \delta_1 \text{STATE}_i + \delta_2 \text{LEGAL}_i + \delta_3 \text{NATURAL}_i + \delta_4 \text{EMPLOYEE}_i + \delta_5 \text{PUBLIC}_i + \delta_6 \text{OTHERCLASS}_i + \delta_7 \text{FEMALE}_i + \delta_8 \text{IDP}_i + \delta_9 \text{ROE}_i + \delta_{10} \text{P/E}_i + \delta_{11} \text{UFEE}_i + \delta_{12} \text{LOGIPOMV}_i + \xi_{i,\tau} \quad (4)$$

where all the terms are as previously defined.

Based on the results presented in table 10, both cross-sectional regressions are significant and have good explanatory power with adjusted $R^2$-values of 0.26 and 0.27 using the offer-to-close and open-to-close market-adjusted returns, respectively. The estimated coefficients for NATURAL (percentage of shares held by natural persons) remain negative and highly significant but that for LEGAL changes sign from positive to negative and is now only weakly significant. Other ownership variables, such as STATE, EMPLOYEE and OTHERCLASS, are no longer significant. Of the governance variables, IDP (proportion of independents or supervisors on the board) remains highly significant and negative, and FEMALE remains positive but is no longer significant at conventional levels of significance. All four issue(r) variables, ROE, P/E, UFEE and LOGIPOMV, keep their previously estimated signs (positive except for LOGIPOMV). While the estimated coefficient for ROE is now only weakly significant and not significant for

offer-to-close and open-to-close market-adjusted returns, the estimated coefficients for the other three issue(r) variables remain highly significant.

**[Please place table 10 about here.]**

## 6. CONCLUSION

This paper examines the short-term stock performance of A-share IPOs issued between January 1995 and December 2006 in China. The average offer-to-close return for periods ending on days 1, 30, 90, 120, 180 days and one year are high (between 199% and 249%). Based on close-to-close returns, we find that the average return of A-share Chinese IPOs declined within the first 30 days of trading.

We concentrate our conclusion on the determinants of IPO underpricing and first-day return performance since this produces the most interesting results. When we examine characteristics grouping first by ownership, then governance and finally by issue(r), the results of our cross-sectional regressions are consistent with the findings reported previously in the literature (e.g., Su and Fleisher (1999) and Chan *et al.* (2004) for state ownership). When only ownership characteristics are considered, the percentages of shares held by state and legal entities and the public (STATE, LEGAL and PUBLIC) are highly significant and positively related with underpricing and first-day return performance, and the percentages of shares held by NATURAL, EMPLOYEE and OTHERCLASS are negatively and significantly related to IPO underpricing and first-day return performance.

When only governance characteristics are considered, the proportion of the executive team with at least an undergraduate degree (EDUCATION), the percentage of independent or supervisory board members (IDP) and the percentage of women on the management team, FEMALE, are significantly (respectively negatively, negatively and positively) related with underpricing and first-day return performance.

When only issue(r) characteristics are considered, the issuer's ROE and P/E ratio and the percentage of the underwriter fee to the IPO's market value (UFEE) are positively and significantly related to underpricing and first-day return performance, while the natural log of the IPO market value (LOGIPOMV) is negatively and significantly related to underpricing and first-day return performance.

When a reduced-form selection for the three groups of characteristics is considered, there are some notable changes in which characteristic determinants are significant. Specifically, STATE, EMPLOYEE and OTHERCLASS lose their significance, LEGAL changes sign from positive to negative and becomes only weakly significant, FEMALE remains positive but becomes insignificant, and ROE becomes only weakly significant and not significant in its relation with underpricing and first-day performance, respectively. Thus, the STATE variable loses its significance when a wider set of determinants are considered. Interestingly, a determinant not previously examined in the literature for Chinese IPOs (the percentage of independent or supervisory board members or IDP) is negatively and highly significantly related with underpricing and first-day return performance.

Other non-considered factors, such as the lack of investment opportunities, may affect the level of underpricing and first-day return performance. Before the establishment of stock markets in the early 1990s, bank deposits and Treasury bonds were the only investment instruments available to Chinese individual investors. Miurin and Sommariva (1993) document the poor real returns on bank deposits for Chinese savers given high rates of inflation. Under these circumstances, many investors may have perceived stocks as being the only avenue for obtaining positive real returns. Furthermore, IPO shares were probably perceived as providing the best opportunity to earn high returns quickly. Due to the imbalance of supply and demand, only a small fraction of the interested investors obtained IPO shares from the lottery allocation method. Thus, once a new issue reaches the secondary market, the large numbers of unsuccessful bidders are willing to pay higher prices for the shares, which, in turn, drives up the price, especially on the first day of trading.

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**Table 1. The number of IPOs (not) differentiated by exchange**

This table reports the number of IPOs by year (not) differentiated by listing exchange. The two exchanges are Shenzhen and Shanghai.

| Year | Number of IPO Listings | | |
|---|---|---|---|
| | Total | Shenzhen Exchange ( SZSE) | Shanghai Exchange (SHSE) |
| 1995 | 24 | 9 | 15 |
| 1996 | 203 | 100 | 103 |
| 1997 | 206 | 121 | 85 |
| 1998 | 106 | 53 | 53 |
| 1999 | 98 | 52 | 46 |
| 2000 | 137 | 49 | 88 |
| 2001 | 79 | 1 | 78 |
| 2002 | 71 | 1 | 70 |
| 2003 | 67 | 0 | 67 |
| 2004 | 100 | 39 | 61 |
| 2005 | 15 | 12 | 3 |
| 2006 | 56 | 45 | 11 |
| Total | 1162 | 482 | 680 |

**Table 2. Descriptive statistics for the offer-to-close and (open-)close-to-close returns for various time periods post-IPO**

This table reports the descriptive statistics on A-share IPO returns; namely, offer-to-close returns and open-to-close returns for day one, and offer-to-close returns and close-to-close returns for the other time periods. Sample size is 1161 for first day and 1162 thereafter.

| Time Period | Return | Mean% | SD% | Median% | Min% | Max% | Skewness% | Kurtosis% |
|---|---|---|---|---|---|---|---|---|
| 1 Day | Offer-to-close | 212.21 | 429.97 | 110.99 | -93.88 | 4900.00 | 573.94 | 4061.15 |
| | Open-to-close | 191.86 | 337.39 | 108.97 | -82.27 | 3776.00 | 487.73 | 3040.18 |
| 30 Days | Offer-to-close | 200.85 | 412.18 | 110.02 | -76.56 | 5963.99 | 650.79 | 5722.27 |
| | Close-to-close | -1.34 | 16.58 | -2.84 | -50.86 | 99.00 | 88.96 | 324.15 |
| 60 Days | Offer-to-close | 199.28 | 410.89 | 108.14 | -79.10 | 6483.90 | 690.81 | 6829.05 |
| | Close-to-close | -0.91 | 22.14 | -3.13 | -57.88 | 118.49 | 121.42 | 354.47 |
| 90 Days | Offer-to-close | 201.73 | 405.27 | 110.78 | -83.31 | 6629.90 | 703.11 | 7336.60 |
| | Close-to-close | 1.37 | 28.50 | -3.08 | -64.49 | 252.77 | 215.82 | 1066.76 |
| 120Days | Offer-to-close | 212.09 | 448.65 | 115.42 | -77.75 | 7771.77 | 760.41 | 8743.72 |
| | Close-to-close | 4.05 | 34.19 | -2.02 | -63.49 | 342.49 | 232.19 | 1211.07 |
| 180 Days | Offer-to-close | 226.75 | 490.59 | 120.65 | -76.45 | 8157.58 | 739.52 | 7982.02 |
| | Close-to-close | 7.85 | 39.05 | -0.20 | -59.14 | 247.06 | 161.43 | 408.53 |
| 1 Year | Offer-to-close | 249.17 | 521.77 | 125.71 | -82.00 | 6959.24 | 597.46 | 4764.83 |
| | Close-to-close | 14.31 | 55.63 | 2.53 | -66.71 | 383.21 | 202.61 | 676.13 |

**Table 3. Descriptive statistics for the market-adjusted offer-to-close and (open-)close-to-close returns for various time periods post-IPO**

This table reports descriptive statistics on the market-adjusted offer-to-close returns $MAR^1$ and open-to-close returns $MAR^2$ for day one, and the market-adjusted offer-to-close returns $MAR^1$ and close-to-close returns $MAR^2$ for the other time periods. Sample size is 1161 for first day and 1162 thereafter.

| Time Period | Return | Mean% | SD% | Median% | Min% | Max% | Skewness% | Kurtosis% |
|---|---|---|---|---|---|---|---|---|
| First day | $MAR^1$ | 212.03 | 429.70 | 110.35 | -94.44 | 4895.66 | 573.95 | 4060.11 |
| | $MAR^2$ | 191.86 | 337.34 | 108.20 | -81.98 | 3776.33 | 487.82 | 3041.43 |
| First 30 days | $MAR^1$ | 200.70 | 412.15 | 109.67 | -76.14 | 5959.62 | 650.63 | 5716.70 |
| | $MAR^2$ | -1.50 | 16.53 | -2.98 | -48.49 | 95.59 | 87.63 | 309.08 |
| First 60 days | $MAR^1$ | 198.97 | 410.87 | 108.48 | -78.82 | 6482.80 | 690.78 | 6828.26 |
| | $MAR^2$ | -1.23 | 21.97 | -3.44 | -57.03 | 119.43 | 119.53 | 349.03 |
| First 90 days | $MAR^1$ | 201.48 | 405.24 | 110.76 | -82.25 | 6629.85 | 703.48 | 7341.53 |
| | $MAR^2$ | 1.12 | 28.13 | -3.21 | -64.25 | 220.66 | 202.57 | 902.79 |
| First 120 days | $MAR^1$ | 211.90 | 448.53 | 114.82 | -79.22 | 7771.29 | 760.68 | 8750.16 |
| | $MAR^2$ | 3.85 | 34.24 | -2.74 | -65.77 | 341.82 | 232.08 | 1208.18 |
| First 180 days | $MAR^1$ | 226.46 | 490.63 | 120.74 | -76.67 | 8166.91 | 740.52 | 8007.27 |
| | $MAR^2$ | 7.55 | 39.00 | 0.02 | -62.70 | 244.57 | 160.46 | 404.43 |
| First 365 days | $MAR^1$ | 249.16 | 521.79 | 125.99 | -81.43 | 6960.46 | 597.57 | 4767.19 |
| | $MAR^2$ | 14.29 | 55.70 | 2.62 | -67.26 | 383.80 | 201.95 | 671.75 |

**Table 4. Descriptive statistics for the ownership, governance and issue(r)-specific characteristics**

This table reports some descriptive statistics for ownership, governance and issue-specific characteristics for the final sample of Chinese A-share IPOs. *STATE*, *LEGAL*, *EMPLOYEE* and *PUBLIC* are the percentages of shares held by the government, legal entities, employees of the IPO issuer, and public investors (individual investors), respectively. *EDUCATION* is a dummy variable equal to one if at least 50% of the management executive team has an undergraduate degree. *AGEMEAN* is the average age of the management and executives. *HOLDINGMEAN* is the number of shares (including stock options) owned by the executives of the issuer. *FEMALE* is the percentage of woman on the management team. *IDP* is the percentage of independent board members at the time of listing (this number is provided in the prospectuses). *SALARY* is the average annual compensation of management in the year prior to its listing (such data are only available for the 2003-6 period). SIZE (¥) is the value of IPO shares in Chinese currency of Yuan. SIZE (shares) is the number of shares of IPOs.ROE is the previous year's return on equity of the issuer. P/E is the P/E ratio on the first day of trading of the completed IPO. AM is the IPO allocation methods (13 different types). UFEE (¥) is total underwriting expenses of the listing. UFEE (%) is the percentage of the underwriter fee to the IPO's market value. LOGIPOMV is the natural log of the IPO market value and IPO market value is in millions of Chinese Yuan. OFFERINGPRICE is the offering price of the IPO. TURNOVEROF1STD is the average turnover rate of shares on the first trading day of IPO trading.

| **Characteristic** | **N** | **Mean** | **Median** | **Std. Deviation** |
|---|---|---|---|---|
| **Panel A**: Ownership characteristics | | | | |
| STATE (%) | 1162 | 41.80 | 50.57 | 26.97 |
| LEGAL (%) | 1161 | 21.89 | 11.96 | 24.51 |
| EMPLOYEE (%) | 1161 | 3.48 | 0.00 | 6.38 |
| PUBLIC (%) | 1161 | 30.02 | 28.57 | 8.00 |
| **Panel B**: Governance characteristics for subsample with salary data | | | | |
| EDUCATION (%) | 266 | 68.56 | 70.00 | 22.24 |
| EDUCATION (dummy) | 266 | 0.83 | 1 | 0.38 |
| AGEMEAN (years) | 267 | 45.17 | 45.05 | 3.43 |
| HOLDINGMEAN (shares) | 264 | 477,985.90 | 0.00 | 1,136,417.26 |
| FEMALE (%) | 268 | 12.43 | 11.50 | 0.09 |
| IDP (%) | 268 | 13.16 | 15.00 | 0.08 |
| SALARY ¥ | 268 | 62,350.71 | 46,039.74 | 54,626.45 |

**Table 4. Continued**

| Characteristic | N | Mean | Median | Std. Deviation |
|---|---|---|---|---|
| **Panel C**: Governance characteristics (absent salary data) for full sample | | | | |
| EDUCATION (%) | 1145 | 55.90 | 57.10 | 25.823 |
| EDUCATION (dummy) | 1145 | 0.60 | 1.00 | 0.01 |
| AGEMEAN (years) | 1151 | 45.67 | 45.57 | 3.82 |
| HOLDINGMEAN (shares) | 1149 | 151,307.20 | 2,268.75 | 692,447.23 |
| FEMALE (%) | 1162 | 10.94 | 9.10 | 0.10 |
| IDP (%) | 1162 | 4.25 | 0.00 | 0.07 |
| **Panel D**: Issue(r)-specific characteristics | | | | |
| SIZE (¥) | 1162 | 506,005,149.91 | 276,720,000.00 | 1,622,999,694.51 |
| SIZE (shares) | 1162 | 97,986,119.42 | 40,000,000.00 | 533,630,031.26 |
| ROE | 964 | 23.70 | 21.51 | 11.49 |
| P/E | 1072 | 19.25 | 17.00 | 8.812 |
| UFEE (¥) | 1065 | 16,915,093.00 | 12,500,000.00 | 40,629,74 |
| UFEE (%) | 1078 | 1.59 | 1.17 | 0.03 |
| LOGIPOMV | 1162 | 8.42 | 8.45 | 0.45 |
| OFFERINGPRICE (¥) | 1085 | 7.23 | 6.36 | 5.20 |
| TURNOVEROF1STD (¥) | 1162 | 59.18 | 60.00 | 0.15 |

**Table 5. Cross-sectional regression results for tests of the relationship between offer-to-close return performance and issuer ownership**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and the ownership characteristics of the issuers. The returns are market adjusted and are based on offer-to-close prices. The sample size is 1160 IPOs for day one, and 1161 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Intercept | STATE | LEGAL | NATURAL | EMPLOYEE | PUBLIC | OTHERSHARE | OTHERCLASS | | |
| 1 | 0.0555 (0.9215) | 0.0256*** (0.0000) | 0.0303*** (0.0000) | -0.0254** (0.0270) | -0.0616*** (0.0017) | 0.0476*** (0.0034) | -0.1705 (0.2761) | -1.5562*** (0.0079) | 10.02*** (0.0000) | 0.0517 |
| 30 | 0.9643* (0.0735) | 0.0237*** (0.0000) | 0.0297*** (0.0000) | -0.0254** (0.0210) | -0.0556*** (0.0031) | 0.0473 (0.0023) | -0.1435 (0.3389) | -1.5676*** (0.0053) | 10.11*** (0.0000) | 0.0521 |
| 60 | 1.0186* (0.0581) | 0.0240*** (0.0000) | 0.0303*** (0.0000) | -0.0243** (0.0266) | -0.0530*** (0.0046) | 0.0438*** (0.0047) | -0.1398 (0.3503) | -1.4718*** (0.0086) | 9.97*** (0.0000) | 0.0513 |
| 90 | 1.0547** (0.0471) | 0.0224*** (0.0000) | 0.0289*** (0.0000) | -0.0232** (0.0323) | -0.0462** (0.0126) | 0.0443*** (0.0038) | -0.1280 (0.3870) | -1.5038*** (0.0066) | 9.21*** (0.0000) | 0.0472 |
| 120 | 1.0436* (0.0763) | 0.0252*** (0.0000) | 0.0314*** (0.0000) | -0.0244** (0.0422) | -0.0452** (0.0274) | 0.0452*** (0.0077) | -0.1471 (0.3697) | -1.6407*** (0.0075) | 8.73*** (0.0000) | 0.0446 |
| 180 | 1.0539 (0.1013) | 0.0280*** (0.0000) | 0.0354*** (0.0000) | -0.0278** (0.0342) | -0.0541** (0.0158) | 0.0470** (0.0112) | -0.1559 (0.3841) | -1.7270** (0.0100) | 9.12*** (0.0000) | 0.0467 |
| 1 Year | 0.7073 (0.2987) | 0.0325*** (0.0000) | 0.0409*** (0.0000) | -0.0318** (0.0223) | -0.0548** (0.0207) | 0.0610*** (0.0019) | -0.1252 (0.5092) | -2.0537*** (0.0038) | 10.79*** (0.0000) | 0.0558 |

**Table 6. Cross-sectional regression results for tests of the relationship between (open-)close-to-close return performance and issuer ownership**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and the ownership characteristics of the issuers. The returns are market adjusted and are based on open-to-close prices for day one and close-to-close prices for the other periods. The sample size is 1160 IPOs for day one, and 1161 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Intercept | STATE | LEGAL | NATURAL | EMPLOYEE | PUBLIC | OTHERSHARE | OTHERCLASS | | |
| 1 | -0.2088<br>(0.6346) | 0.0238***<br>(0.0000) | 0.0228***<br>(0.0000) | -0.0204**<br>(0.0229) | -0.0477***<br>(0.0018) | 0.0537***<br>(0.0000) | -0.1424<br>(0.2439) | -1.5126***<br>(0.0010) | 12.03***<br>(0.0000) | 0.06 |
| 30 | 1.0304***<br>(0.0000) | 0.0000<br>(0.9896) | -0.0001<br>(0.5988) | -0.0009*<br>(0.0503) | 0.0004<br>(0.6425) | -0.0014**<br>(0.0311) | 0.0006<br>(0.9284) | -0.0134<br>(0.5605) | 1.43<br>(0.1886) | 0.00 |
| 60 | 1.0553***<br>(0.0000) | 0.0003<br>(0.2952) | 0.0000<br>(0.8859) | -0.0005<br>(0.4048) | 0.0016<br>(0.1095) | -0.0026***<br>(0.0020) | 0.0009<br>(0.9163) | 0.027<br>(0.3773) | 2.40**<br>(0.0194) | 0.01 |
| 90 | 1.0776***<br>(0.0000) | 0.0000<br>(0.9654) | 0.0001<br>(0.7428) | -0.0001<br>(0.92480 | 0.0034**<br>(0.0104) | -0.0027**<br>(0.0124) | 0.0045<br>(0.6642) | 0.0061<br>(0.8758) | 2.14*<br>(0.0371) | 0.01 |
| 120 | 1.1086***<br>(0.0000) | 0.0001<br>(0.7882) | 0.0006<br>(0.1931) | -0.0004<br>(0.6997) | 0.0056***<br>(0.0004) | -0.0035***<br>(0.0076) | 0.0045<br>(0.7199) | 0.0039<br>(0.9343) | 3.62***<br>(0.0007) | 0.02 |
| 180 | 0.0002<br>(0.6664 | 0.0008<br>(0.1066) | -0.0015<br>(0.1550) | 0.0049***<br>(0.0061) | -0.0050***<br>(0.0008) | 0.0065<br>(0.6546) | 0.0182<br>(0.7350) | 0.0002<br>(0.6664 | 4.06***<br>(0.0002) | 0.02 |
| 1 Year | 1.2243***<br>(0.0000) | 0.0006<br>(0.3905) | 0.0023***<br>(0.0011) | -0.0025<br>(0.0999) | 0.0089***<br>(0.0006) | -0.0055***<br>(0.0095) | 0.0253<br>(0.2174) | -0.0300<br>(0.6958) | 5.83***<br>(0.0000) | 0.03 |

**Table 7a. Cross-sectional regression results for tests of the relationship between offer-to-close return performance and issuer corporate governance for salary subsample**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and the corporate governance characteristics of the issuers for the subsample for which salary data could be obtained. The returns are market adjusted and are based on offer-to-close prices. The sample size is 260 IPOs for day one, and 261 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|
| | Intercept | SALARY | EDUCATION | AGEMEAN | HOLDINGMEAN | FEMALE | IDP | | |
| 1 | 0.0260<br>(0.9894) | 0.0000<br>(0.6924) | 0.0736<br>(0.8487) | 0.0325<br>(0.4293) | 0.0000<br>(0.7077) | 3.2615**<br>(0.0446) | -7.1218***<br>(0.0003) | 3.08***<br>(0.0063) | 0.0459 |
| 30 | 0.5990<br>(0.7671) | 0.0000<br>(0.8257) | 0.1333<br>(0.7361) | 0.0422<br>(0.3206) | 0.0000<br>(0.6975) | 2.8801*<br>(0.0861) | -7.6990***<br>(0.0002) | 3.06***<br>(0.0066) | 0.0454 |
| 60 | 0.5352<br>(0.7851) | 0.0000<br>(0.6433) | 0.1964<br>(0.6091) | 0.0418<br>(0.3111) | 0.0000<br>(0.5435) | 2.6588<br>(0.1026) | -7.8446***<br>(0.0001) | 3.25***<br>(0.0043) | 0.0493 |
| 90 | 0.4918<br>(0.7994) | 0.0000<br>(0.5875) | 0.1904<br>(0.6151) | 0.0430<br>(0.2911) | 0.0000<br>(0.4664) | 2.5243<br>(0.1159) | -7.8761***<br>(0.0001) | 3.35***<br>(0.0034) | 0.0513 |
| 120 | 0.3330<br>(0.8688) | 0.0000<br>(0.5906) | 0.2422<br>(0.5392) | 0.0459<br>(0.2790) | 0.0000<br>(0.4555) | 2.6772<br>(0.1094) | -8.2868***<br>(0.0000) | 3.40***<br>(0.0030) | 0.0525 |
| 180 | 0.6216<br>(0.7210) | 0.0000<br>(0.5445) | 0.1604<br>(0.6376) | 0.0387<br>(0.2907) | 0.0000<br>(0.3796) | 2.1188<br>(0.1422) | -7.2406***<br>(0.0000) | 3.45***<br>(0.0027) | 0.0536 |
| 1 Year | 0.6049<br>(0.7112) | 0.0000<br>(0.4532) | 0.2301<br>(0.4717) | 0.0341<br>(0.3216) | 0.0000<br>(0.1558) | 1.3977<br>(0.3018) | -6.5291***<br>(0.0001) | 3.13***<br>(0.0056) | 0.0468 |

**Table 7b. Cross-sectional regression results for tests of the relationship between (open-)close-to-close return performance and issuer corporate governance for salary subsample**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and the corporate governance characteristics of the issuers for the subsample for which salary data could be obtained. The returns are market adjusted and are based on open-to-close prices for day one, and close-to-close prices for the other periods. The sample size is 260 IPOs for day one, and 261 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|
| | Intercept | SALARY | EDUCATION | AGEMEAN | HOLDINGMEAN | FEMALE | IDP | | |
| 1 | -0.1817 | 0.0000 | 0.0811 | 0.0367 | 0.0000 | 3.5724** | -7.6425*** | 3.19*** | 0.0482 |
| | (0.9300) | (0.6525) | (0.8428) | (0.4008) | (0.5972) | (0.0382) | (0.0002) | (0.0049) | |
| 30 | 0.8998*** | 0.0000 | -0.0093 | 0.0027 | 0.0000 | -0.2301** | -0.2378** | 2.06* | 0.0239 |
| | (0.0000) | (0.4309) | (0.6947) | (0.2825) | (0.8653) | (0.0224) | (0.0485) | (0.0585) | |
| 60 | 0.8765*** | 0.0000 | 0.0372 | 0.0025 | 0.0000 | -0.2770* | -0.3671** | 1.80* | 0.0180 |
| | (0.0000) | (0.3564) | (0.2859) | (0.5101) | (0.3637) | (0.0606) | (0.0381) | (0.1004) | |
| 90 | 0.8783*** | 0.0000* | 0.0177 | 0.0028 | 0.0000* | -0.3301** | -0.4147** | 2.57** | 0.0351 |
| | (0.0000) | (0.0681) | (0.6284) | (0.4777) | (0.0925) | (0.0332) | (0.0255) | (0.0194) | |
| 120 | 0.8006*** | 0.0000* | 0.0366 | 0.0041 | 0.0000** | -0.2951* | -0.5420*** | 2.98*** | 0.0437 |
| | (0.0001) | (0.0582) | (0.3542) | (0.3297) | (0.0481) | (0.0781) | (0.0072) | (0.0079) | |
| 180 | 0.7548*** | 0.0000 | 0.0315 | 0.0049 | 0.0000* | -0.3586* | -0.3253 | 1.63 | 0.0143 |
| | (0.0023) | (0.2693) | (0.5116) | (0.3437) | (0.0904) | (0.0783) | (0.1817) | (0.1397) | |
| 1 Year | 0.8376** | 0.0000 | 0.0866 | 0.0015 | 0.0000** | -0.6989** | -0.2413 | 2.01* | 0.0227 |
| | (0.0283) | (0.4743) | (0.2447) | (0.8484) | (0.0240) | (0.0270) | (0.5221) | (0.0652) | |

**Table 8a. Cross-sectional regression results for tests of the relationship between offer-to-close return performance and issuer corporate governance for full sample**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and the corporate governance characteristics of the issuers for the full sample. The returns are market adjusted and are based on offer-to-close prices. The sample size is 1128 IPOs for day one, and 1129 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|
| | Intercept | EDUCATION | AGEMEAN | HOLDINGMEAN | FEMALE | IDP | | |
| 1 | 3.0944** (0.0494) | -0.3128 (0.2532) | -0.0142 (0.6736) | 0.0000 (0.9569) | 2.7547** (0.0424) | -9.6870*** (0.0000) | 8.11*** (0.0000) | 0.0306 |
| 30 | 4.2794*** (0.0046) | -0.3424 (0.1912) | -0.0195 (0.5444) | 0.0000 (0.9352) | 2.3241* (0.0738) | -9.4623*** (0.0000) | 8.45*** (0.0000) | 0.0320 |
| 60 | 4.5406*** (0.0025) | -0.3486 (0.1819) | -0.0247 (0.4412) | 0.0000 (0.9917) | 2.0480 (0.1139) | -9.6116*** (0.0000) | 8.60*** (0.0000) | 0.0326 |
| 90 | 4.6785*** (0.0016) | -0.3390 (0.1875) | -0.0275 (0.3849) | 0.0000 (0.9952) | 2.1654* (0.0896) | -9.8385*** (0.0000) | 9.23*** (0.0000) | 0.0352 |
| 120 | 4.5989*** (0.0051) | -0.4458 (0.1176) | -0.0210 (0.5491) | 0.0000 (0.9788) | 2.0491 (0.1470) | -10.5991*** (0.0000) | 8.99*** (0.0000) | 0.0342 |
| 180 | 4.7945*** (0.0075) | -0.5008 (0.1079) | -0.0191 (0.6187) | 0.0000 (0.9124) | 1.5975 (0.3010) | -11.7028*** (0.0000) | 9.07*** (0.0000) | 0.0345 |
| 1 Year | 5.2169*** (0.0059) | -0.6927** (0.0353) | -0.0191 (0.6378) | 0.0000 (0.9345) | 1.8326 (0.2612) | -14.0938*** (0.0000) | 12.20*** (0.0000) | 0.0473 |

**Table 8b. Cross-sectional regression results for tests of the relationship between (open-)close-to-close return performance and issuer corporate governance for full sample**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and the corporate governance characteristics of the issuers for the full sample. The returns are market adjusted and are based on open-to-close prices for day one, and close-to-close prices for the other periods. The sample size is 1128 IPOs for day one, and 1129 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|
| | Intercept | EDUCATION | AGEMEAN | HOLDINGMEAN | FEMALE | IDP | | |
| 1 | 1.9992 | -0.3709* | 0.0038 | 0.0000 | 3.0831*** | -8.2974*** | 11.06*** | |
| | (0.1033) | (0.0823) | (0.8839) | (0.9015) | (0.0036) | (0.0000) | (0.0000) | 0.0427 |
| 30 | 0.9859*** | -0.0107 | 0.0005 | 0.0000 | -0.0825 | -0.1650** | 2.49** | |
| | (0.0000) | (0.3040) | (0.7103) | (0.9115) | (0.1115) | (0.0223) | (0.0300) | 0.0065 |
| 60 | 1.1046*** | -0.0074 | -0.0019 | 0.0000 | -0.1002 | -0.3111*** | 3.41*** | |
| | (0.0000) | (0.5946) | (0.2606) | (0.9506) | (0.1450) | (0.0012) | (0.0046) | 0.0106 |
| 90 | 1.1716*** | -0.0064 | -0.0028 | 0.0000 | -0.0933 | -0.4722*** | 4.04*** | |
| | (0.0000) | (0.7183) | (0.2007) | (0.6532) | (0.2882) | (0.0001) | (0.0012) | 0.0133 |
| 120 | 1.1074*** | -0.0362* | -0.0002 | 0.0000 | -0.0801 | -0.6862*** | 6.76*** | |
| | (0.0000) | (0.0909) | (0.9340) | (0.7120) | (0.4503) | (0.0000) | (0.0000) | 0.0249 |
| 180 | 1.2005*** | -0.0530** | -0.0005 | 0.0000 | -0.2382** | -0.9720*** | 11.76*** | |
| | 0.0000 | 0.0295 | 0.8652 | 0.9310 | 0.0485 | 0.0000 | (0.0000) | 0.0455 |
| 1 Year | 1.5030*** | -0.0997*** | -0.0038 | 0.0000 | -0.4024** | -1.8268*** | 20.23*** | |
| | 0.0000 | 0.0036 | 0.3607 | 0.8154 | 0.0177 | 0.0000 | (0.0000) | 0.0785 |

**Table 9a. Cross-sectional regression results for tests of the relationship between offer-to-close return performance and other issue(r) characteristics for full sample**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and various characteristics of the issue(r)s for the full sample. The returns are market adjusted and are based on offer-to-close prices. The sample size is 947 IPOs for day one, and 948 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|
| | Intercept | ROE | P/E | AM | UFEE | LOGIPOMV | | |
| 1 | 10.3350*** (0.0000) | 0.0066*** (0.0030) | 0.0208*** (0.0000) | -0.0033 (0.7587) | 0.0000** (0.0296) | -1.1412*** (0.0000) | 44.32*** (0.0000) | 0.1863 |
| 30 | 10.8896*** (0.0000) | 0.0076*** (0.0005) | 0.0219*** (0.0000) | -0.0060 (0.5659) | 0.0000** (0.0166) | -1.0987*** (0.0000) | 43.49*** (0.0000) | 0.1832 |
| 60 | 10.6501*** (0.0000) | 0.0074*** (0.0007) | 0.0218*** (0.0000) | -0.0018 (0.8639) | 0.0000*** (0.0041) | -1.0741*** (0.0000) | 41.77*** (0.0000) | 0.1771 |
| 90 | 11.0334*** (0.0000) | 0.0089*** (0.0001) | 0.0230*** (0.0000) | -0.0032 (0.7735) | 0.0000*** (0.0049) | -1.1219*** (0.0000) | 39.89*** (0.0000) | 0.1704 |
| 120 | 11.8586*** (0.0000) | 0.0089*** (0.0003) | 0.0235*** (0.0000) | 0.0084 (0.4724) | 0.0000*** (0.0045) | -1.2211*** (0.0000) | 41.34*** (0.0000) | 0.1756 |
| 180 | 12.7001*** (0.0000) | 0.0130*** (0.0000) | 0.0227*** (0.0000) | 0.0218* (0.0860) | 0.0000*** (0.0013) | -1.3278*** (0.0000) | 41.03*** (0.0000) | 0.1745 |
| 1 Year | 14.2445*** (0.0000) | 0.0183*** (0.0000) | 0.0023 (0.5936) | 0.0535*** (0.0006) | 0.0000*** (0.0051) | -1.4791*** (0.0000) | 39.12*** (0.0000) | 0.1676 |

**Table 9b. Cross-sectional regression results for tests of the relationship between (open-)close-to-close return performance and other issue(r) characteristics for full sample**

This table reports the cross-sectional regression results for tests of the relationship between return performance for various periods after the Chinese IPOs and various characteristics of the issue(r)s for the full sample. The returns are market adjusted and are based on open-to-close prices for day one, and close-to-close prices for the other periods. The sample size is 1128 IPOs for day one, and 1129 IPOs for the other time periods. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4.

| Time Period | Coefficient Estimates | | | | | | F-value | $R^2$ |
|---|---|---|---|---|---|---|---|---|
| | Intercept | ROE | P/E | AM | UFEE | LOGIPOMV | | |
| 1 | 9.4163*** (0.0000) | 0.0051*** (0.0088) | 0.0188*** (0.0000) | -0.0059 (0.5263) | 0.0000*** (0.0363) | -1.0294*** (0.0000) | 47.17*** (0.0000) | 0.1962 |
| 30 | 1.1153*** (0.0000) | 0.0005 (0.3315) | 0.0006 (0.3289) | 0.0006 (0.7865) | 0.0000 (0.1226) | -0.0185 (0.3173) | 0.71 (0.6196) | -0.0016 |
| 60 | 1.1811*** (0.0000) | 0.0004 (0.4862) | 0.0006 (0.4933) | 0.0025 (0.3876) | 0.0000*** (0.0024) | -0.0276 (0.2483) | 2.20* (0.0528) | 0.0063 |
| 90 | 1.3683*** (0.0000) | 0.0008 (0.2946) | 0.0008 (0.4185) | 0.0011 (0.7572) | 0.0000** (0.0110) | -0.0487 (0.1076) | 1.47 (0.1961) | 0.0025 |
| 120 | 1.7633*** (0.0000) | 0.0007 (0.4665) | 0.0007 (0.5933) | 0.0065 (0.1351) | 0.0000** (0.0210) | -0.0941*** (0.0077) | 2.25** (0.0479) | 0.0065 |
| 180 | 2.0306*** (0.0000) | 0.0020* (0.0580) | -0.0002 (0.8732) | 0.0120** (0.0150) | 0.0000*** (0.0043) | -0.1259*** (0.0018) | 4.37*** (0.0006) | 0.0175 |
| 1 Year | 2.7108*** (0.0000) | 0.0042*** (0.0054) | -0.0093*** (0.0000) | 0.0246*** (0.0006) | 0.0000** (0.0466) | -0.1896*** (0.0011) | 13.53*** (0.0000) | 0.0620 |

**Table 10. Cross-sectional regression results for tests of the relationship between offer-to-close and open-to-close return performance and a reduced-form selection of ownership, governance and issue(r) characteristics for the full IPO sample for first day post-IPO**

This table reports the cross-sectional regression results for tests of the relationship between return performances and a reduced-form selection of ownership, governance and issue(r) characteristics for the full sample of IPO for the first day of trading. *, ** and *** indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively. P-values are reported in the parentheses. The definitions of and some summary statistics for each variable are reported in table 4. The sample size is 936.

| | **Market-adjusted returns based on:** | |
|---|---|---|
| **Variable** | **Offer-to-close prices** | **Open-to-close prices** |
| Intercept | 10.7202*** (<0.0001) | 9.4466*** (<0.0001) |
| STATE | -0.0015 (0.1931) | -0.0013 (0.2043) |
| LEGAL | -0.0020* (0.0592) | -0.0016* (0.094) |
| NATURAL | -0.0063*** (0.0047) | -0.0047** (0.0166) |
| EMPLOYEE | -0.0037 (0.3509) | -0.0036 (0.3028) |
| PUBLIC | 0.0024 (0.4690) | 0.0045 (0.1244) |
| OTHERCLASS | -0.1085 (0.4418) | -0.1395 (0.2596) |
| FEMALE | 0.3398 (0.1832) | 0.3284 (0.1425) |
| IDP | -2.5422*** (<0.0001) | -2.4596*** (<0.0001) |
| ROE | 0.0039* (0.0831) | 0.0026 (0.1982) |
| P/E | 0.0192*** (<0.0001) | 0.0169*** (<0.0001) |
| UFEE | 0.0000*** (0.0017) | 0.0000*** (0.0012) |
| LOGIPOMV | -1.1916*** (<0.0001) | -1.0394*** (<0.0001) |
| Adj. $R^2$ | 0.26 | 0.27 |
| F-value | 26.20*** | 28.03*** |