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There is growing evidence in the finance literature that media coverage can influence security pricing by facilitating news dissemination and reducing informational frictions even if it does not provide new information. This study examines the role of media coverage in the well-known foreign share discount puzzle in China. We show that differential level of news coverage for the same firm by Chinese and English media is significantly associated with the foreign share discount. Specifically, the discount is greater among firms with relatively more Chinese than English press coverage. We also find this effect more pronounced among firms with less analyst following and less institutional ownership. This implies that media coverage compensates for limitations in analyst coverage and is more influential among less sophisticated investors. Our evidence is robust to controls of other determinants of Chinese foreign share discount documented by previous literature. Despite of the widespread belief that the Chinese media is tightly controlled, our study reveals that it still plays an influential role in the capital market.

Keywords: media coverage; foreign share discount; China

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1. Introduction

There is increasing empirical evidence in the finance literature that media coverage serves as information intermediary in the capital market and therefore affects security pricing (e.g. Fan and Peress, 2009; Tetlock, 2007; Tetlock et al., 2008). To the extent that the media facilitates financial information dissemination to the wider public by reducing the informational costs and providing credibility (Dyck and Zingales, 2003), these findings confirms that media contributes to the corporate information environment available to investors. However, these researches are carried out in developed countries such as the US where the media is more independent and competitive. Thus, evidence from these studies may not necessarily apply to emerging countries such as China where the media are assumed to be under tighter control. Thus, to what extend media coverage can influence security pricing in the capital market of emerging countries is an interesting and open question.

To answer this question, we exploit the well-documented foreign share discount puzzle of China. Unlike segmented stock market of other countries, the foreign B-shares issued by Chinese firms are largely traded at a discount instead of premium relative to local A-shares issued by the same firm despite of identical cash flow and voting rights (Bailey et al., 1999). Since A- and B-shares depend on the same stream of future cash flows, the price differentials between these shares reflects that local and foreign investors perceives the risk of the same firm differently. Existing literature put forward many explanations to this phenomenon, including market liquidity (Chen et al., 2001), information asymmetry (Chan et al., 2008), investor speculation (Mei et al., 2009), accounting disclosure (Tan, 2011), corporate governance (Tong and Yu, 2012), and state ownership (Hou and Lee, 2012). We offer new insight to this literature by examining the effect of media coverage.

According to the "investor recognition hypothesis" of Merton (1987), investors are not

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aware of all securities in an informationally incomplete market. As a result, stocks of firms with lower investor recognition have greater information uncertainty and rational investors would attach to such stocks a higher level of discount rate. By providing information dissemination and credibility to wider audience, media coverage increases investor recognition of firms and reduces information uncertainty, which contributes to the reduction of firms' discount rate. Foreign share discount is implied from the price difference between A-shares and B-shares issued by the same firm. If media coverage contributes to foreign share discount in China, then we expect the discount to be greater among firms with relatively more local than foreign media coverage. This is because greater local media coverage could lead local investors to attach lower discount rate to A-shares and less foreign coverage could lead foreign investors to attach a higher discount rate to B-shares.

If the effect of media coverage on foreign share discount in China is indeed due to its capability to reach a wider public by reducing information cost and providing credibility, then we expect its effect to be more pronounced among firms with less sell-side financial analyst following and firms with less institutional ownership. When compared to media journalists, financial analysts are have more expertise and knowledge of the firms they follow. Thus, analyst reports are likely to be more informative and therefore supersede media reports in terms of credibility and influence to investors. Thus, media coverage is expected to be less influential on investors among firms where financial analyst researches are more available. When compared to individual investors, institutional investors such as mutual fund are more sophisticated and often have their own buy-side analysts to study the firms they invest. Thus, the investment decisions of institutional investors are less likely to be influenced by media coverage than individual investors.

To test these assertions, we sample A- and B-share dual-listed Chinese firms in both the Shanghai and Shenzhen stock exchanges over the period from 2004 to 2008. For each firm, we

count the monthly number of news that appears in influential business press. We select four most established Chinese language business newspapers published in mainland China. This captures the level of media coverage targeting local public, which makes up most of the investors for the A-shares. We select another four most influential English language business newspapers both published in China and abroad (including *Wall Street Journal* of US and *Financial Times* of UK). This captures the level of media coverage targeting foreigners, which makes up most of the investors for B-shares. We use the ratio of Chinese to English language news for each firm on a monthly basis as a proxy for the disparity in media coverage available to local and foreign investors.

Our main findings are as follows. First, among firms with relatively more Chinese language relative to English language news, we observe significantly greater level of foreign share discount. This is consistent with more media coverage in Chinese language reducing the discount rate of the domestic A-shares and less media coverage in English language increasing the discount rate of foreign B-shares. Second, the association between media coverage and foreign share discount is more pronounced among firms with less analyst coverage. This is consistent with investor decision being more reliant on media coverage when financial analyst researches are less available. Third, this association between media and foreign share discount is also more pronounced among firms with less institutional ownership. This is consistent with the decision of less sophisticated individual investors being more dependent on media coverage. These findings are robust to controls by other determinant of foreign share discount in China, firm characteristics that influence discount rates, as well as industry, year, and regional effects.

These findings distinguish our study from the few existing studies of media influence on asset pricing in China. A concurrent study by Gong and Gul (2011) examines influence of local media on Chinese domestic stock market but did not address the issue of foreign share discount.

Since the Chinese foreign share discount is considered a "puzzle" by existing literature, our study applies a more unique research setting offered by China. An earlier study by Chakravarty et al (1998) did examine whether foreign share discount in China is influenced by media, but considers only the influence of foreign media and not the local media. Since foreign share discount is derived from the relative price between foreign and local shares, the complete set of media influence would incorporate the effect of both foreign and local media, which our study considers.

Our findings contribute to two strands of the academic literature. In relation to the growing literature on economic development in China, we show that the media coverage contributes to the corporate information environment despite of the widely held view that the Chinese media might be less informative due to tight control. Our evidence shows that media coverage is especially important to reduce the information disadvantage of unsophisticated individual investors, which in turn promotes greater degree of fairness across investor groups. To the established literature on Chinese foreign share discount puzzle, we provide evidence that media coverage plays a role above and beyond determinants identified by previous studies. We show that the foreign share discount influenced by media coverage through investment decisions of unsophisticated individual investors.

Our paper is organized as follows. Section 2 provides the literature and develops our hypotheses. Section 3 describes our research design and sample. Section 4 describes our empirical findings. Section 5 concludes.

2. Literature and hypotheses
2.1 Influence of media on security pricing

There is increasing interest and empirical evidence in the finance literature on the influence of media on security pricing. Klibanoff et al. (1998) show that country-specific news coverage affects the pricing of closed-end country funds. Dyck and Zingales (2003) show that stock

prices are more reactive to the type of earnings emphasized by the media and this effect is more pronounced when firms have less analyst coverage or when the media outlet is more credible. Chan (2003) shows that headline news of firms influences stock return momentum and reversal patterns. Meschke (2004) show increase in stock value and reversal after CEO interviews on CNBC. Tetlock (2007) show that pessimism in media reports predicts downward pressure in stock price and Tetlock et al. (2008) further document that the amount of negative words in news stories also predicts earnings performance. Bushee et al. (2008) show larger stock price and trading volume reaction to earnings announcement among firms with more media coverage. Fang and Peress (2009) show firms with less media coverage earn higher stock returns and that this effect is more pronounced among firms with low analyst following and low institutional investors.

The "investor recognition hypothesis" of Merton (1987) stipulates that in an informationally incomplete market, investors prefer stocks of firms with more information available. Yohn (1998) show smaller bid-ask spread around earnings announcement for firm with greater analyst following. Grullon et al. (2004) show that advertising expenditures increase the liquidity of stocks. Frieder and Subrahmanyam (2005) document that investors prefer stocks from firms with brand recognition. In addition to these alternative ways in which firms can gain investor recognition, the media facilitates information dissemination, reduces information cost, and provides credibility to a wider public. Indeed, Barber and Odean (2008) show that individual investors are net buyers of attention-grabbing stocks.

The perception from western developed countries is that media is under tight control and political influence in China (e.g. Besley and Prat, 2006; Esarey, 2006). Thus, to what extent media coverage influence security pricing in China is an interesting and open question. Gong and Gul (2011) show mixed evidence on the benefit of media coverage on Chinese stock market. On the one hand, they provide evidence that firms under greater media coverage have

lower stock returns and more active trading, which is consistent with media coverage exerting positive influence through the reduction of discount rate and increase of liquidity. On the other hand, they show greater bid-ask spread and analyst forecast dispersion among firms with more media coverage, which suggest that media cause more divergence in opinions among investors. To gain further insight into the role of media in security pricing of Chinese capital market, our study applies the interesting and well-known foreign share discount puzzle in China as the research setting.

2.2 *The Chinese stock market and the foreign share discount puzzle*

To encourage external capital acquisition and promote economic development, China established stock exchanges separately in the Shanghai and Shenzhen since the early 1990s. By 2001, the market capitalization of China's stock market was already the largest among developing countries. Currently, China has the second largest stock market in the world, only the US being larger.[1]. Majority of Chinese listed firms only issue A-shares denominated in the Chinese currency RMB and are traded in Shanghai or Shenzhen exchanges. Domestic investors largely dominate the A-share market despite some qualified foreign institutional investors (QFII) being allowed access since 2003. By the end of 2009, 1,632 Chinese listed firms are listed in the exchanges with pure A-shares. Some Chinese firms also issue B-shares denominated in US dollars if traded in Shanghai exchange or in Hong Kong dollars if traded in Shenzhen exchange. Foreign investors largely dominate the B-share market although domestic investors were allowed trade such shares since 2001. However, domestic investors' participation in B-share market is largely hampered by limits of their access to foreign currencies (Tan, 2011). By the end of 2009, 86 Chinese listed firms issue both A-shares and B-shares. To accommodate foreign investors' need for financial statement information, these dual-listed firms had always been required to provide additional accounting information under International Financial Reporting Standards (IFRS) on top of their main financial reporting

based on the Chinese domestic accounting standards.

Bailey et al (1999) examined the segmented stock market of 11 countries. Across majority of these countries, i.e. Indonesia, South Korea, Malaysia, Mexico, Norway, the Philippines, Singapore, Switzerland, Taiwan, and Thailand, foreign shares issued by the same firm are traded at a premium than domestic shares. China is the only country where foreign shares are traded at a discount relative to domestic shares and this inconsistency relative to other emerging countries came to be known in the literature as a puzzle. The argument that foreign investors are better able to diversify their risk and therefore have lower expected returns than domestic investors seems to apply to most countries except China. The argument that informational disadvantages (e.g., Brennan and Cao, 1997; Grinblatt and Keloharju, 2001) of foreign investors cause them to have higher expected returns than domestic investors seems to apply to China but not other countries. Fernald and Rogers (2002) suggest that Chinese investors have lower expected returns due to the lack of alternative investment channels. However, although the foreign investor information disadvantage and the domestic investment channel explanation can explain why B-shares would be traded at a discount relative to A-shares, they do not address cross-sectional variations in this discount across firms.

Existing literature generally suggest three sets of determinants of cross-sectional variations in Chinese foreign share discount, i.e. market liquidity, corporate governance, and information asymmetry. In terms of market liquidity, existing studies show that trading volume differential between A- and B-share (Chen et al., 2001) and the speculative component of A-share price (Mei et al., 2009) correlates with Chinese foreign share discount. In terms of corporate governance, empirical evidence shows that foreign share discount is higher among firms with less independent board (Tong and Yu, 2011) or when the conflict of interest between dominant and minority shareholders is higher (Hou and Lee, 2012). In terms of information asymmetry, Chinese foreign share discount is shown to be correlated with the probability of informed

trading (PIN) measure (Chan et al., 2008), the disparity in accounting disclosure (Tan, 2011) and firm citations in *Wall Street Journal* headline by Chakravarty et al. (1998).

Although Chakravarty et al (1998) documented the influence of media coverage on foreign discount of China, they only provide limited analysis and apply an early and short sample period of 1994 to 1996. Furthermore, they only consider influence of foreign media published in English language and do not account for the possible role of local media published in Chinese language. Finally, their evidence assumes media effect to be unconditional and not affected by cross-sectional variations in corporate information environment or type of investors. As recent finance literature pay increasing attention to effect of media on security pricing, we believe the Chinese foreign share discount provides a useful setting and the role of media in this phenomenon deserves more thorough and rigorous study. We fill this literature gap.

2.3 *Hypothesis development*

To generate our research hypotheses, we intersect the two aforementioned strands of literature, i.e. the influence of media on security pricing and the Chinese foreign share discount phenomenon. Media coverage facilitates information dissemination, reduces information costs, and provides information credibility to the wider public (e.g. Dyck and Zingales, 2003). In a market with incomplete information, investors prefer stocks from firms with more information available (e.g. Merton, 1987). Investors are expected to have greater preference and recognition for firms with more media coverage. Investors are better able to anticipate future performance of such firms due to lower information risk. Thus, based on the positive relation between information risk and investors' required returns established in the literature (e.g. Diamond and Verrecchia, 1991; Easley and O'Hara, 2004), investors are also expected attach a lower discount rate to firms with greater media coverage. Chinese dual-listed firms issue A-shares mostly traded by local investors and B-shares mostly traded by foreign investors. Most such

firms have A-share traded at a higher value than B-shares, and this pricing difference (i.e. A-price minus B-price) implies the foreign share discount. Chinese language media coverage can be assumed to be more influential to the local investors and English language media coverage can be assumed to affect investment decisions of foreign investors more. Among dual-listed firms with relatively more coverage in Chinese language media than English language media, the discount rate of A-shares is expected to be relatively lower than that of B-shares. This leads to our testable hypothesis:

H1: Firms with relatively higher ratio of Chinese language to English language media coverage are associated with higher foreign share discount.

There are two critiques against our assumption above. First, perhaps due to English being an international language, the local investors also get influenced by English language media coverage. If so, the A-share discount rate may also decrease as English language media coverage increase. Second, perhaps due to the assumption that local information sources are quicker and more accurate, foreign investors may seek to access Chinese language media coverage through translation service. If so, the B-share discount rate may also decrease as Chinese language media coverage increase. However, these two possible factors would potentially bias against us finding evidence in support of hypothesis H1. As further test, the effects of Chinese and English media coverage on foreign share discount are compared. If Chinese language media coverage is indeed more influential to A-share investors than B-share investors, then it should be positively related instead of negatively to foreign share discount. If English language media is indeed more influential to B-share investors than A-share investors, then it should be negatively related to foreign share discount.

An interesting and related issue is whether the Chinese or English media coverage effect plays greater role in foreign share discount. On the one hand, prestigious English language business press published abroad such as *Wall Street Journal* and *Financial Times* can assumed

to be more independent and therefore more authoritative than Chinese language business press published domestically. Based on this argument, English language press and especially those published abroad should play a greater role in influencing foreign share discount. Indeed, Chakravarty et al. (1998) confirms the effect of *Wall Street Journal* coverage on Chinese foreign share discount but did not horse-race this against Chinese language media coverage. On the other hand, there are also reasons to believe that Chinese language business press may be more influential on foreign share discount. First, foreign investors have more expertise (e.g. Froot and Ramadorai, 2007) and access to more sophisticated information channels (e.g. sell-side analyst for individual investors or buy-side analysts for institutional investors). As a result, they depend less on media coverage than the local investors in China. In other words, even if foreign business press is more authoritative, their influence on Chinese foreign share discount may be limited because foreign investors rely on them less. Second, despite the widely held view from western developed countries that Chinese media is tightly controlled and less independent, it is still possible that Chinese media journalists have more local knowledge and provide richer information relative to their foreign counterparts on business related issues that are not politically sensitive. Existing studies (e.g. Bae et al., 2008) document that local analyst outperform foreign analysts in forecast accuracy. Given these arguments, we hypothesize that:

H2: Foreign share discount is associated more with Chinese language media coverage than English language media coverage.

The argument above that access to more sophisticated information channel reduces foreign investors reliance on media coverage also applies to local investors. Thus, among firms where sell-side analyst researches reports are more available, even local investors may have less dependence on media coverage. The influence of media coverage on security pricing is also expected to vary across investor groups. Institutional investors have more expertise and often have their own buy-side analyst to evaluate firms. Such investors are less reliant on media when

compared to individual investors. Thus, among firms with more institutional investors, the influence of media is also reduced. Given these arguments, we further hypothesize that:

H3: Evidence in support of Hypotheses H1 and H2 are more pronounced among firms with less analyst following.

H4: Evidence in support of Hypotheses H1 and H2 are more pronounced among firms with less institutional fund ownership.

There are potential critiques against some of our hypotheses due to the possible differences in the characteristics of Chinese and English media. First, Chinese news may be more positive than English news. However, the reluctance to disseminate negative news by Chinese media will only reduce their informativeness to investors relative to English news. In this case, the effect of Chinese media on stock price should be lower than that of the effect of English media. In other words, the empirical results are more likely to bias against, instead of in favor of, our hypotheses. Second, the release of English news may lag that of Chinese news, which makes the former largely reconfirming the information of the latter. However, we are not looking at the impact of news content per se on stock prices like an event study setting. In that case, earlier released news will incur more share price response than later released news on the same information. Instead, we are looking at the impact of media coverage on stock prices, which is based on well established literature (Merton, 1987; Fang and Peress, 2009). The intuition is that more media coverage strengthens information environment of a firm and reduces investors information cost, which in turn affects the discount rate they attach to the firm. If media coverage per se has no affect on share prices, then this would affect both Chinese and English media coverage. In words, the empirical results are again more likely to bias against, instead of in favor of, our hypotheses.

3. Sample and methodology
3.1 *Test of hypotheses*

To test our predictions in Hypotheses H1 and H2 we use regression analyses based on Equations 1 and 2 respectively:

$$
\begin{aligned}
FSD_{i,t} = \alpha_0 &+ \alpha_1 RNEWS_{i,t} \\
&+ \alpha_2 SOE_{i,t} + \alpha_3 REFORM_{i,t} + \alpha_4 RMV_{i,t-1} + \alpha_5 RTO_{i,t-1} + \alpha_6 RRET_{i,t-1} \\
&+ \alpha_7 LEV_{i,t} + \alpha_8 \Delta SALE_{i,t} + \alpha_9 IROA_{i,t} + \alpha_{10} TQ_{i,t} + \alpha_{11} BETA_{i,t} + \alpha_{12} \Delta PI_{i,t} \\
&+ \alpha_{13} OWNC_{i,t} + \alpha_{14} CHOLD_{i,t} + \alpha_{15} CDUAL_{i,t} \\
&+ \alpha_{16} BINDP_{i,t} + \alpha_{17} BMEET_{i,t} + \alpha_{18} BSIZE_{i,t} \\
&+ Industry + Year + Area + \varepsilon_{i,t}
\end{aligned} \tag{1}
$$

$$
\begin{aligned}
FSD_{i,t} = \delta_0 &+ \delta_1 CNEWS_{i,t} + \delta_2 ENEWS_{i,t} \\
&+ \delta_3 SOE_{i,t} + \delta_4 REFORM_{i,t} + \delta_5 RMV_{i,t-1} + \delta_6 RTO_{i,t-1} + \delta_7 RRET_{i,t-1} \\
&+ \delta_8 LEV_{i,t} + \delta_9 \Delta SALE_{i,t} + \delta_{10} IROA_{i,t} + \delta_{11} TQ_{i,t} + \delta_{12} BETA_{i,t} + \delta_{13} \Delta PI_{i,t} \\
&+ \delta_{14} OWNC_{i,t} + \delta_{15} CHOLD_{i,t} + \delta_{16} CDUAL_{i,t} \\
&+ \delta_{17} BINDP_{i,t} + \delta_{18} BMEET_{i,t} + \delta_{19} BSIZE_{i,t} \\
&+ Industry + Year + Area + \varepsilon_{i,t}
\end{aligned} \tag{2}
$$

The dependent variable $FSD_{i,t}$ is the foreign share discount of firm i at the end of month t, calculated as the A-share price minus the B-share price, divided by the A-share price. Based on this construction, a higher $FSD_{i,t}$ value indicates a greater foreign share discount. We use two key variables to test our hypotheses. $RNEWS_{i,t}$ of Equation 1 is the natural logarithm of the number of Chinese language news reports divided by the number of English language news reports for firm i during month t.[2] Higher value of $RNEWS_{i,t}$ indicates relatively greater media coverage available to local investors relative to foreign investors for the same firm. $CNEWS_{i,t}$ and $ENEWS_{i,t}$ of Equation 2 are the natural logarithm of number of Chinese language news reports and the number of English news reports respectively. To measure Chinese language media coverage, we select four influential Chinese newspapers published in mainland China. This includes *Yangzi Evening Post* (*Yangzi Wanbao*), *First Financial Daily* (*Diyi Caijing Ribao*[3]), *China Securities Journal* (*Zhongguo Zhengquan Bao*), and *Securities Times*

(*Zhengquan Shibao*). To measure English language media coverage, we select four influential newspapers that are published abroad (i.e. *Wall Street Journal* and *Financial Times*), in Hong Kong (i.e. *South China Morning Post*), and on mainland China (i.e. *China Daily*). We search by the name of each dual-listed firm that we sample and count the number of reports about the firm in these newspapers. If the coefficient α_1 in Equation 1 is significantly positive, this will indicate that the same dual-listed firms with relatively more Chinese than English language news counts over the same period are associated with relatively higher A-share than B-share value. This will support the prediction of Hypothesis H1 that firms with higher foreign share discount are associated with relatively more Chinese language than English media coverage. If coefficient δ_1 is significantly positive and coefficient δ_2 is insignificant in Equation 2, this will indicate that the association between foreign share discount and media coverage is dominated by Chinese news reports instead of English news report. This provides evidence in support of the prediction in Hypothesis H2.

In our regression analysis we include four sets of control variables. The first set addresses the ownership influence (Hou and Lee, 2012), information asymmetry (e.g., Chan et al., 2008), market liquidity (Chen et al., 2001), and investor speculation (Mei et al., 2009) explanations put forward in the literature to address the Chinese foreign share discount. $SOE_{i,t-1}$ is 1 for state-controlled firms and 0 otherwise. $REFORM_{i,t-1}$ is 1 from the years in which the firm begins the process of the Split Share Structure Reform and all years afterward, and 0 for the years before this.[4] The conflict of interest between controlling shareholders and outside minority shareholders is assumed to be higher among state-controlled firms and prior to the reform. $RMV_{i,t-1}$ is the ratio of the market capitalization of A-shares to B-shares at the end of the previous month. Assuming firm size is inversely related with information asymmetry, firms with a lower B-share than A-share market capitalization can be assumed to have greater information asymmetry between foreign than local investors. $RTO_{i,t-1}$ is the ratio of the turnover

of A- to B-shares at the end of the previous month. Firms with higher turnover are assumed to be more liquid. $RRET_{i,t-1}$ is the ratio of the stock returns of A- to B-shares in the last month. Higher past returns is expected to increase the likeliness of speculation. This particular variable further addresses the relative price movement between A- and B-shares of the same firm.

We incorporate determinants of cost of equity capital in our second set of control variables. $LEV_{i,t-1}$ is the debt-to-equity ratio of the last fiscal year, which measures financial distress. $\Delta SALE_{i,t-1}$ is the percentage change in sales growth in the last fiscal year, which captures demand-side growth. $IROA_{i,t-1}$ is the industry median-adjusted return on assets in the last fiscal year, calculated as operating income divided by total assets, and this measure captures firms' profitability. $TQ_{i,t-1}$ is the Tobin's Q in the last fiscal year, calculated as the sum of market value and debt, divided by total equity, and this measure proxies for firm performance. $BETA_{i,t-1}$ captures firms' exposure to systematic risk and it is measured as CAPM beta up to the end of the last year, estimated from time-series regressions of firm-specific daily excess returns on daily market excess returns over the past one-year period. $\Delta PI_{i,t-1}$ is the percentage change in residual variance or share price informativeness over the last year, which serves as a proxy for changes in the firm-specific information environment. This measure is estimated as the log of $[(1-R^2)/R^2]$ where R^2 is the goodness-of-fit measure based on a time-series regression of firm-specific weekly excess returns on both Chinese domestic and U.S. weekly market excess returns, following Fernandes and Ferreira (2008).[5] These control variables either requires data available from the financial statements (e.g., leverage, sales, profitability, and Tobin's Q) or estimation through past historical return data (e.g., beta and price informativeness). Therefore, they are updated on an annual frequency, based on the previous fiscal year-end values.

Corporate governance qualities make up the third set of control. Governance not only affects the cost of equity capital (e.g., Lombardo and Pagano, 2002) but also has been documented to explain the Chinese foreign share discount (Tong and Yu, 2011). $OWNC_{i,t-1}$ is the ownership

concentration of the last fiscal year, measured by the Herfindahl index based on the ownership held by the ten largest shareholders of the firm. $CHOLD_{i,t-1}$ is equal to 1 for firms with CEO shareholdings above top 75th or below bottom 25th percentile of yearly cross-section, and 0 otherwise. Higher CEO ownership induces entrenchment and lower CEO ownership reduces the incentive alignment with the shareholders. Both effects increase the potential of agency problem. $CDUAL_{i,t-1}$ is 1 for firms whose CEO also served as board chairman in the last fiscal year, and 0 otherwise. The board has less power to monitor CEOs that also serve as the chairman. $BINDP_{i,t-1}$ is 1 for firms whose proportion of independent directors in the last fiscal year was above the cross-sectional median, and 0 otherwise. Managers are better monitored by independent shareholders who are assumed to have a greater incentive and expertise. $BMEET_{i,t-1}$ is 1 for firms with number of board meetings in the last fiscal year above the cross-sectional median, and 0 otherwise. More active monitoring is assumed for boards that meet up more frequently. $BSIZE_{i,t-1}$ is 1 for firms with board size in the last fiscal year above the cross-sectional median, and 0 otherwise. These governance control variables are also updated annually, and based on the previous fiscal year-end values.

As the fourth set of control, we also include three sets of dummy variables that control for industry (*Industry*), year (*Year*), and regional (*Area*) fixed effects, respectively. We define industry according to the first two digits of the GICS (Global Industry Classification Standard) code. Following Firth et al (2006) we define region based four different regions based on economic development level.

To test Hypotheses H3 and H4, we first split our samples by number of analyst following and the percentage of institutional ownership, and then carry out regression analyses of Equations 1 and 2. If $\alpha_1 > 0$ in Equation 1 and $\delta_1 > 0$ while $\delta_2 = 0$ in Equation 2 only in low analyst following and low institutional ownership firms, then we have evidence in support of Hypothesis H3 and H4 respectively.

3.2 *Sample description, summary statistics, and correlation matrix*

The sample period of our analyses covers 2004 to 2008.[6] The Chinese Security Market and Accounting Research (CSMAR) and China Center of Economic Research (CCER) databases provides the data used to compute variables such as the foreign share discount, state control status, the proportion of restricted shares, the firm-specific year of reform, market capitalization, turnover, stock returns, debt-to-equity ratio, the return on assets ratio, Tobin's Q, share price informativeness, ownership concentration, CEO ownership, CEO duality, the number of outside directors, the number of board meetings, board size, and industrial and regional classifications. Datastream provides Chinese domestic market returns and the Center for Research in Security Prices (CRSP) provides US stock market returns. The Chinese language media coverage is collected from China National Knowledge Infrastructure (CNKI).[7] The English language media coverage is collected from Factiva. We deal with outliers by winsorizing the top and bottom 1% of all our regression variables, except those that are constructed as dummy variables. We include listed firms that issue both A- and B-shares in both the Shanghai and Shenzhen stock exchanges. Finally, our sample requires all of the aforementioned variables to have valid values and includes a total of 4,218 firm-month observations.

Table 1 presents the summary statistics of the variables used in our analyses. Over our sample period, the average monthly B-share discount (*FSD*) is 43.66%. The natural logarithm of average monthly ratio of Chinese to English language media coverage (*RNEWS*) is 1.2674, which suggests that on the average the dual-listed firms we sample have more news reported in Chinese than English language media. The average ratio of the monthly turnover (*RTO*) between A- and B-shares of the same firms is 1.1027. Since *RTO* > 1, this confirms that the B-share market is relatively less liquid than A-share market. In terms of correlation matrix, Table 2 suggests that *FSD* is negatively correlated with *RNEWS*, which is surprising given our

prediction in Hypothesis H1. However, the correlation analysis does not control for the confounding effect of other variables that could influence foreign share discount and correlate with our media coverage variable. The *FSD* is positively correlated with *SOE* and negatively correlated with *REFORM*, which is consistent with Hou and Lee (2012) and suggests greater foreign share discount when conflict of interest between controlling shareholder and outside investors is higher. *RTO* is positively correlated with *FSD*, which is consistent with Chen et al (2001) and indicates a higher foreign share discount for dual-listers when the B-share stocks are less liquid. The *FSD* is positively related to leverage (*LEV*) and negatively related to profitability (*IROA*), which suggests that foreign share discount is higher for firms with more financial risk and lower for firms that are more profitable. The FSD is negatively related with board independence (*BINDP*) and board size (*BSIZE*), which suggests that better monitoring reduces foreign share discount.

[insert Tables 1 and 2 here]

4. Empirical findings
4.1 *Tests of H1 and H2*

Table 3 presents regression analyses to test Hypothesis H1, which predicts that foreign share discount is positively associated with the ratio of Chinese to English language media coverage. Regression 1 shows that under the control of industry, year, region, and firm fixed effect, the coefficient of *RNEWS* is significantly positive (0.0026, t-statistics = 3.22). In Regressions 2 and 3, we incorporate other control variables including the determinants of foreign share discounts, firms characteristics that affect cost of capital, and corporate governance characteristics. In Regression 3 where the full Equation 1 is implemented, the coefficient of *RNEWS* also significantly positive (0.0019, t-statistics = 2.56). This confirms that our evidence in support of the prediction of Hypothesis H1 is not due to potential confounding effects captured by the control variables we applied.

The direction of the coefficients estimated for most control variables in Regression 3 are consistent with previous studies or intuition. For instance, *SOE* is significantly positive and *REFORM* is significantly negative, which is broadly consistent with Hou and Lee (2006) and suggest that greater foreign share discount when there is greater conflict of interest between controlling and minority shareholders. *RMV* and *RTO* are both significantly positive, which suggests higher foreign share discount among firms where B-shares are associated with relatively greater information asymmetry (e.g. Chan et al., 2008) and illiquidity (Chen et al., 20011). The coefficients are significantly positive for *LEV, ΔSALE*, and *BETA* and significantly negative for *IROA*, which suggest higher foreign share discount for firms with more financial risk, growth, systematic risk exposure, and less profitable.

[insert Table 3 here]

Table 4 presents the regression analyses to test Hypothesis H2, which predicts that Chinese media coverage may have more association with foreign share discount than English media coverage.[8] Under industry, year, region, and firm fixed effect control in Regression 1, the coefficient of *CNEWS* is significantly positive (0.0026, t-statistics = 3.23) while the coefficient of *ENEWS* is statistically insignificant. In Regressions 2 and 3 when other control variables are applied, the coefficient pertaining to *CNEWS* is consistently significantly positive while the coefficient of *ENEWS* is consistently insignificant. These findings provide robust evidence in support of the prediction of Hypothesis H2. It indicates that firms with greater Chinese media exposure are associated with incrementally higher A-share price than B-share price relative to firms with less Chinese media exposure. In contrast, cross-sectional variations in English media exposure have no association with cross-sectional variations in A- and B-share price differences. In other words, our evidence in support of hypothesis H1 is mainly attributed to Chinese media coverage instead of the English counterpart.

[insert Table 4 here]

4.2 *Test of H3 and H4*

Table 5 presents the test of Hypothesis H3, which predicts that evidence in support of Hypotheses H1 and H2 occurs mainly among firms with lower analyst following, reflected by a smaller number of financial analysts issuing reports on the listed firm. Indeed, the coefficient of *RNEWS* is significantly positive (0.0019, t-statistics = 2.03) among firms with less analyst following (Panel A) but statistically insignificant among firms with higher analyst following (Panel B). The coefficient of *CNEWS* is also significantly positive (0.0018, t-statistics = 2.00) only in Panel A and not in Panel B. In other words, Table 5 indicates that the empirical evidence in Tables 3 and 4 of the association between foreign share discount and Chinese media coverage mainly exist when more sophisticated information channel such as sell-side analystsare not available. This supports the prediction of Hypothesis H3.[9]. In untabulated robustness checks, we obtain consistent results by using the number of analyst reports as an alternative proxy for analyst following.

[insert Table 5]

Table 6 presents the test of Hypothesis H4, which predicts that evidence in support of Hypotheses H1 and H2 occurs mainly among firms with lower institutional fund ownership. As expected, the coefficient of *RNEWS* is significantly positive (0.0019, t-statistics = 2.29) among firms with less institutional fund ownership (Panel A) but statistically insignificant among firms with higher institutional ownership (Panel B). The coefficient of *CNEWS* is also significantly positive (0.0019, t-statistics = 2.26) only in Panel A and not in Panel B. Therefore, Table 6 indicates that the empirical evidence in Tables 3 and 4 of the association between foreign share discount and Chinese media coverage mainly exist when the security price are influenced more by unsophisticated individual investors than sophisticated institutional investors. This supports the prediction of Hypothesis H4.[10]

[insert Table 6]

5. Conclusion

The role of media in security pricing in the capital market is receiving increasing attention in the literature. The media is able to influence investors beyond conventional sources of information such as financial statements and analyst researches because it facilitates information dissemination and reduces information costs for the wider public. However, most studies in this area are limited to developed economies such as the US. As a result of institutional differences such as media independence and control, evidence from the US is difficult to be generalized to emerging countries. China is a high growth and increasingly influential transitional economy that is attracting increasing attention from academics, practitioners, and regulators. The foreign share discount puzzle of China is a well-document phenomenon that attracted the substantial interest in the literature over the past decade. Our study provides original evidence that intersects both topics.

We provide four main findings. First, firms with relatively more Chinese than English language media coverage are associated with greater foreign share discount. This is consistent with domestic investors attaching lower discount rate and foreign investors attaching higher discount rate when firm coverage in local media outnumbers foreign media. Second, Chinese language media coverage dominate English language media coverage in terms of association with foreign share discount. This is consistent either with foreign investors being less reliant on media or with local business press being more timely and informative than foreign business press. Third, the two aforementioned effects are more pronounced among firms with less analyst coverage. This is consistent with investors being more reliant on media when more sophisticated and credible sources of information is not available. Finally, the influence of media on foreign share discount is more pronounced among firms with less institutional investors. This is consistent with less sophisticated individual investors being more dependent on media than more sophisticated institutional investors.

Our study has two main implications. First, despite widely held views in the western developed countries that Chinese media is politically influenced and tightly controlled, we confirm that it influences security pricing in the capital market. This implies that Chinese local media is still provides timely and informative perhaps for business news that are less sensitive politically. Second, media coverage is useful when there is limitation in alternative sources of information and especially to individual investors. In other words, media contributes to the capital market by narrowing the information gap between sophisticated and unsophisticated investors.[11]

References

Bae, K., R. Stulz, and H. Tan. 2008. Do local analysts know more? A cross-country study of the performance of local analysts and foreign analysts. *Journal of Financial Economics* 88, 581–606.

Bailey, W., Y. P. Chung, and J. Kang. 1999. Foreign ownership restrictions and equity price premiums: What drives the demand for cross-border investments? *Journal of Financial and Quantitative Analyses* 34, no. 4: 489–511.

Barber, B., and T. Odean. 2008. All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *Review of Financial Studies* 21, no. 2 785-818.

Besley, T. and A. Prat, 2006. Handcuffs for the grabbing hand? Media capture and government accountability. *American Economic Review* 96, no. 3: 720-736.

Brennan, M.J. and H. H. Cao. 1997. International portfolio investment flows. *Journal of Finance* 52, no. 5: 1851–1880.

Bushee, B., J. Core, W. Guay, and S. Hamm. 2008. The role of business press as an information intermediary. Working paper, University of Pennsylvania.

Chakravarty, S., A. Sarkar, and L. Wu. 1998. Information asymmetry, market segmentation and the pricing of cross-listed shares: Theory and evidence from Chinese A and B shares. *Journal of International Financial Markets, Institutions and Money* 8 no. 3-4: 325–355.

Chan, W. 2003. Stock price reaction to news and no-news: drift and reversal after headlines. *Journal of Financial Economics* 70, 223–260.

Chan, K., A. J. Menkvled, and Z. Yang. 2008. Information asymmetry and asset prices: Evidence from China foreign share discount. *Journal of Finance* 63, no. 1: 159–196.

Chen, G.M., B. Lee, and O. Rui. 2001. Foreign ownership restrictions and market segmentation in China's stock markets. *Journal of Financial Research* 24, no. 1: 133–155.

Da, Z., J. Engelberg, J., and P. Gao. 2012. In search of attention. *Journal of Finance*, forthcoming

Diamond, D., and R. Verrecchia. 1991. Disclosure, liquidity, and the cost of capital. *Journal of Finance* 46, no. 4: 1325-59.

Dyck, A., and L. Zingales. 2003, The media and asset prices, Working Paper, University of Chicago.

Easley, D., and M. O'Hara. 2004. Information and the cost of capital. *Journal of Finance* 59, no. 4 1553-83.

Esarey, A. 2006. Speak no evil: Mass media control in contemporary China, Freedom House Special Report

Fang, L., and J. Peress. 2009, Media coverage and the cross-section of stock returns. *Journal of Finance* 64, no. 5: 2023–52.

Fernandes, N. and M. A. Ferreira. 2008. Does international cross-listing improve the information environment? *Journal of Financial Economics* 88, no. 2: 216-244.

Fernald, J. and J. H. Rogers. 2002. Puzzles in the Chinese stock market. *Review of Economics and Statistics* 84, no. 3: 416–432.

Frieder, L, and A. Subrahmanyam. 2005. Brand perceptions and the market for common stock. *Journal of Financial and Quantitative Analysis* 40, no. 1: 57-85.

Froot, K.A. and T. Ramadorai, T. 2007. Institutional portfolio flows and international investments. *Review of Financial Studies* 21, no. 2: 937–971.

Gong, S., and F. Gul. 2011. Chinese media coverage, divergence of opinion, and stock market outcomes. Working paper, Hong Kong Polytechnic University.

Grinblatt, M. and M. Keloharju. 2001. Distance, language, and culture bias: The role of investor sophistication. *Journal of Finance* 56, no. 3: 1053–1073.

Grullon, G., G. Kanatas, and J. Weston. 2004. Advertising, breadth of ownership, and liquidity. *Review of Financial Studies* 17, no. 2: 439–461.

Hou, W., and E. Lee. 2012. Split Share Structure Reform, corporate governance, and the foreign share discount puzzle in China. *European Journal of Finance*, forthcoming

Llibanoff, P., O. Lamont, and T. Wizman. 1998. Investor reaction to salient news in closed-end country funds. *Journal of Finance* 53, no. 2: 673-99.

Lombardo, D. and M. Pagano. 2002. Law and equity markets: a simple model. In: McCahery, Joseph A. (Ed.), Corporate Governance Regimes: Convergence and Diversity, Oxford University Press, London.

Mei, J., J. A. Scheinkman, and W. Xiong, 2009. Speculative trading and stock prices: An analyses of Chinese A-B share premia. *Annals of Economics and Finance* 10, no. 2: 225–255.

Merton, R.C., 1987. A simple model of capital market equilibrium with incomplete information. *Journal of Finance* 42, no. 3: 483–510.

Meschke, F. 2004. CEO interviews in CNBC, Working paper, Arizona State University.

Stepanyan, G. (2011). Foreign Institutional Investors. Working paper. Catholic University of Portugal.

Tan, V. 2011. Isolating the effect of disclosure on information risk. *Journal of Accounting Economics* 52, no.1: 81-99.

Tetlock, P. 2007. Giving content to investor sentiment: The role of media in the stock market, *Journal of Finance* 62, no. 3: 1139-1168.

Tetlock, P., M. Saar-Tsechansky, and S. Macskassy. 2008, More than words: Quantifying language to measure firms' fundamentals. *Journal of Finance* 63, no. 3: 1437-1467.

Tong, W.H.S. and W. Yu. 2011. A corporate governance explanation of the A-B share discount in China. *Journal of International Money and Finance* 31, no. 2: 125-147

Table 1. Summary statistics

	Mean	Stdev.	Median	25%	75%	Obs
FSD	0.4366	0.1556	0.4513	0.3372	0.5536	4,218
RNEWS	1.2674	2.1324	0.0000	0.0000	2.3026	4,218
CNEWS	1.3876	2.1809	0	0	2.5649	4,218
ENEWS	0.1201	0.3603	0	0	0	4,218
SOE	0.7930	0.4052	1.0000	1.0000	1.0000	4,218
REFORM	0.4912	0.5000	0.0000	0.0000	1.0000	4,218
RMV	1.1027	0.0894	1.0946	1.0311	1.1705	4,218
RTO	1.3718	0.2565	1.3320	1.2031	1.4882	4,218
RRET	0.9928	6.1070	0.8466	0.1859	1.5835	4,218
LEV	0.5513	0.2722	0.5205	0.3864	0.6474	4,218
ΔSALE	0.2737	1.2348	0.1384	-0.0121	0.3137	4,218
IROA	0.0002	0.0200	0.0014	-0.0043	0.0101	4,218
TQ	0.6893	0.2431	0.7205	0.6228	0.7926	4,218
BETA	1.1319	0.3394	1.1276	0.9315	1.3467	4,218
ΔPI	-0.5561	1.9583	0.0156	-0.8495	0.4485	4,218
OWNC	0.1736	0.1263	0.1295	0.0804	0.2594	4,218
CHOLD	0.3046	0.4603	0	0	1	4,218
CDUAL	0.0308	0.1729	0	0	0	4,218
BINDP	0.1036	0.3048	0	0	0	4,218
BMEET	0.5372	0.4987	1	0	1	4,218
BSIZE	0.3480	0.4764	0	0	1	4,218
Analyst	5.2496	12.7051	0	0	5	4,218
Institutional ownership	0.0220	0.0544	0	0	0.0054	4,218

Note. This table presents the summary statistics of the variables used in our analyses. The sample period covers 2004-2008 and includes A- and B-share dual-listing stocks appearing in both the Shanghai and Shenzhen stock exchanges. $FSD_{i,t}$ is the monthly foreign share discount, calculated as the A-share price minus the B-share price, divided by the A-share price. *SOE* is 1 for state-controlled firms and 0 otherwise. *REFORM* $_1$ is 1 from the years in which the firm begins the process of the Split Share Structure Reform and all years afterward, and 0 for the years before this. $RNEWS_{i,t}$ is the natural logarithm of the ratio of monthly Chinese language news number to the English language news number. $CNEWS_{i,t}$ and $ENEWS_{i,t}$ are natural logarithm of the monthly number of Chinese language news reports and the number of English news reports respectively. *RMV* is the ratio of the market capitalization of A- to B-shares at the end of the previous month. *RTO* is the ratio of the turnover of A- to B-shares at the end of the previous month. *RRET* is the ratio of the stock returns of A- to B-shares at the end of the previous month. *LEV* is the debt-to-equity ratio of the last fiscal year. *ΔSALE* is the percentage change in sales growth over the last fiscal year. *IROA* is the industry median adjusted return on assets in the last fiscal year, calculated as operating income divided by total assets. *TQ* is the Tobin's Q for the last fiscal year, calculated as the sum of market value and debt, divided by total equity. *BETA* is the CAPM beta up to the end of the last year, estimated from time-series regressions of firm-specific daily excess returns on daily market excess returns over the past one-year period. *ΔPI* is the percentage change in share price informativeness over the last year, calculated as the log of $[(1-R^2)/R^2]$ where R^2 is based on a time-series regression of firm-specific weekly excess returns on both Chinese domestic and U.S. weekly market excess returns. *OWNC* is ownership concentration in the last fiscal year, measured by the Herfindahl index, based on the ownership held by the ten largest shareholders in the firm. *CHOLD* is equal to 1 for firms with CEO shareholdings above top 75th or below bottom 25th percentile of yearly cross-section, and 0 otherwise. *CDUAL* is 1 for firms whose CEO also served as the board chairman in the last fiscal year, and 0 otherwise. *BINDP* is 1 for firms whose proportion of independent directors in the last fiscal year was above the cross-sectional median, and 0 otherwise. *BMEET* is 1 for firms that held more board meetings in the last fiscal year than the cross-sectional median, and 0 otherwise. *BSIZE* is 1 for firms whose board in the last fiscal year was larger than the cross-sectional median, and 0 otherwise. Analyst following is the number of analysts issuing reports for the firm. Institutional ownership is the proportion of shares owed by mutual fund

Table 2. Correlation analyses

	FSD	RNEWS	CNEWS	ENEWS	SOE	REFORM	RMV	RTO	RRET	LEV	ΔSALE	IROA	TQ	BETA	ΔPI	OWNC	CHOLD	CDUAL	BINDP	BMEET	BSIZE
FSD	1.00																				
RNEWS	-0.16*	1.00																			
CNEWS	-0.20*	0.99*	1.00																		
ENEWS	-0.26*	0.05*	0.22*	1.00																	
SOE	0.11*	0.01	0.05*	0.22*	1.00																
REFORM	-0.33*	0.29*	0.01	0.02	-0.10*	1.00															
RMV	0.26*	0.04	0.29*	0.29*	0.01	-0.12*	1.00														
RTO	0.04*	-0.06*	0.04	0.04	0.01	-0.01	0.02	1.00													
RRET	-0.06	0.01	-0.06*	-0.05*	-0.02	0.05*	-0.02	0.01	1.00												
LEV	0.05*	-0.07*	0.01	0.01	-0.06*	-0.02	0.04*	-0.01	0.02	1.00											
ΔSALE	0.00	0.00	-0.07*	-0.06*	0.01	0.01	-0.00	-0.03*	-0.00	0.07*	1.00										
IROA	-0.26*	0.12*	0.00	0.00	-0.02	0.14*	-0.19*	-0.03	0.00	-0.50*	0.14*	1.00									
TQ	0.12*	-0.13*	0.12*	0.13*	0.10*	-0.22*	0.04*	0.01	0.01	0.53*	0.00	-0.34*	1.00								
BETA	-0.03*	-0.06*	-0.13*	-0.12*	0.01	0.05*	-0.06*	0.12*	0.02	0.15*	-0.07*	-0.19*	0.05*	1.00							
ΔPI	-0.03	-0.05*	-0.06*	-0.07*	0.02	-0.09*	0.06*	-0.05*	-0.01	0.05*	-0.00	-0.05*	0.06*	-0.08*	1.00						
OWNC	0.19*	-0.10*	-0.05*	-0.05*	0.19*	-0.09*	-0.03*	-0.01	0.00	0.05*	0.01	-0.07*	0.20*	0.04*	0.05*	1.00					
CHOLD	-0.17*	0.09*	-0.10*	-0.10*	-0.11*	0.13*	-0.11*	0.01	0.02	-0.08*	-0.05*	0.15*	-0.16*	-0.05*	-0.11*	-0.38*	1.00				
CDUAL	0.02	-0.04	0.09*	0.10*	-0.01	-0.01	-0.06*	-0.00	0.00	0.02	0.01	-0.01	-0.03	0.07*	0.02	-0.07*	0.09*	1.00			
BINDP	-0.09*	-0.12*	-0.04	-0.03	0.01	-0.13*	-0.12*	-0.01	0.01	0.12*	0.01	-0.03*	0.10*	0.06*	0.05*	0.01	-0.06*	0.01	1.00		
BMEET	0.05*	-0.00	-0.12*	-0.12*	0.05*	-0.02	-0.05*	0.02	0.01	-0.05*	-0.05*	-0.01	0.01	-0.10*	0.03	0.01	0.08*	-0.02	0.01	1.00	
BSIZE	-0.04*	-0.02	0.00	-0.01	0.05*	-0.09*	0.02	-0.01	0.01	0.11*	0.00	0.01	0.12*	-0.08*	-0.02	-0.13*	-0.02	-0.01	0.25*	0.02	1.00

Note. This table presents the correlation analyses of the variables used in our analyses. The sample period covers 2004-2008 and includes A- and B-share dual-listing stocks appearing in both the Shanghai and Shenzhen stock exchanges. $FSD_{i,t}$ is the monthly foreign share discount, calculated as the A-share price minus the B-share price, divided by the A-share price. $RNEWS_{i,t}$ is the natural logarithm of the ratio of monthly Chinese language news number to the English language news number. $CNEWS_{i,t}$ and $ENEWS_{i,t}$ are the natural logarithm of the monthly number of Chinese language news reports and the number of English news reports respectively. SOE is 1 for state-controlled firms and 0 otherwise. $REFORM_1$ is 1 from the years in which the firm begins the process of the Split Share Structure Reform and all years afterward, and 0 for the years before this. RMV is the ratio of the market capitalization of A- to B-shares at the end of the previous month. RTO is the ratio of the turnover of A- to B-shares at the end of the previous month. RRET is the ratio of the stock returns of A- to B-shares at the end of the previous month. LEV is the debt-to-equity ratio of the last fiscal year. ΔSALE is the percentage change in sales growth over the last fiscal year. IROA is the industry median adjusted return on assets in the last fiscal year, calculated as operating income divided by total assets. TQ is the Tobin's Q for the last fiscal year, calculated as the sum of market value and debt, divided by total equity. BETA is the CAPM beta up to the end of the last year, estimated from time-series regressions of firm-specific daily excess returns on daily market excess returns over the past one-year period. ΔPI is the percentage change in share price informativeness over the last year, calculated as the log of $[(1-R^2)/R^2]$ where R^2 is based on a time-series regression of firm-specific weekly excess returns on both Chinese domestic and U.S. weekly market excess returns. OWNC is ownership concentration in the last fiscal year, measured by the Herfindahl index, based on the ownership held by the ten largest shareholders in the firm. CHOLD is equal to 1 for firms with CEO shareholdings above top 75th or below bottom 25th percentile of yearly cross-section, and 0 otherwise. CDUAL is 1 for firms whose CEO also served as the board chairman in the last fiscal year, and 0 otherwise. BINDP is 1 for firms whose proportion of independent directors in the last fiscal year was above the cross-sectional median, and 0 otherwise. BMEET is 1 for firms that held more board meetings in the last fiscal year than the cross-sectional median, and 0 otherwise. BSIZE is 1 for firms whose board in the last fiscal year was larger than the cross-sectional median, and 0 otherwise.

Table 3. Test of hypothesis H1: Chinese to English language media coverage ratio

	Regression 1			Regression 2			Regression 3		
RNEWS	0.0026	(3.22)	***	0.0020	(2.52)	**	0.0019	(2.56)	**
SOE				0.0388	(5.27)	***	0.0346	(5.17)	***
REFORM				-0.0386	(-10.36)	***	-0.1096	(-17.20)	***
RMV				0.6074	(8.71)	***	0.4749	(6.91)	***
RTO				0.0921	(13.11)	***	0.0739	(11.13)	***
RRET				0.0003	(1.19)		0.0001	(0.51)	
LEV				0.1264	(5.47)	***	0.0695	(3.17)	***
ΔSALE				0.0052	(3.48)	***	0.0037	(2.72)	***
IROA				-0.3776	(-3.32)	***	-0.4184	(-4.01)	***
TQ				-0.0399	(-4.54)	***	-0.0001	(-0.01)	
BETA				-0.0075	(-1.36)		0.0295	(5.53)	***
ΔPI				-0.0064	(-7.50)	***	-0.0005	(-0.57)	
OWNC				0.0697	(1.86)	*	0.1347	(3.94)	***
CHOLD				-0.0177	(-2.42)	**	-0.0134	(-2.02)	**
CDUAL				-0.0305	(-2.37)	**	-0.0144	(-1.22)	
BINDP				0.0148	(2.03)	**	0.0141	(2.06)	**
BMEET				-0.0107	(-2.70)	***	-0.0029	(-0.80)	
BSIZE				-0.0291	(-4.56)	***	-0.0114	(-1.95)	*
Constant	0.4633	(89.07)	***	-0.4042	(-5.12)	***	-0.1589	(-1.99)	**
Industry effect		Yes			No			Yes	
Year effect		Yes			No			Yes	
Region effect		Yes			No			Yes	
Firm fixed effect		Yes			Yes			Yes	
R^2		0.0345			0.0327			0.113	
Obs.		4,218			4,218			4,218	

Note. This table presents the summary statistics of the variables used in our analyses. The sample period covers 2004-2008 and includes A- and B-share dual-listing stocks appearing in both the Shanghai and Shenzhen stock exchanges. $FSD_{i,t}$ is the monthly foreign share discount, calculated as the A-share price minus the B-share price, divided by the A-share price. $RNEWS_{i,t}$ is the natural logarithm of the ratio of monthly Chinese language news number to the English language news number. *SOE* is 1 for state-controlled firms and 0 otherwise. *REFORM* $_1$ is 1 from the years in which the firm begins the process of the Split Share Structure Reform and all years afterward, and 0 for the years before this. *RMV* is the ratio of the market capitalization of A- to B-shares at the end of the previous month. *RTO* is the ratio of the turnover of A- to B-shares at the end of the previous month. *RRET* is the ratio of the stock returns of A- to B-shares at the end of the previous month. *LEV* is the debt-to-equity ratio of the last fiscal year. *ΔSALE* is the percentage change in sales growth over the last fiscal year. *IROA* is the industry median adjusted return on assets in the last fiscal year, calculated as operating income divided by total assets. *TQ* is the Tobin's Q for the last fiscal year, calculated as the sum of market value and debt, divided by total equity. *BETA* is the CAPM beta up to the end of the last year, estimated from time-series regressions of firm-specific daily excess returns on daily market excess returns over the past one-year period. *ΔPI* is the percentage change in share price informativeness over the last year, calculated as the log of $[(1–R^2)/R^2]$ where R^2 is based on a time-series regression of firm-specific weekly excess returns on both Chinese domestic and U.S. weekly market excess returns. *OWNC* is ownership concentration in the last fiscal year, measured by the Herfindahl index, based on the ownership held by the ten largest shareholders in the firm. *CHOLD* is equal to 1 for firms with CEO shareholdings above top 75th or below bottom 25th percentile of yearly cross-section, and 0 otherwise. *CDUAL* is 1 for firms whose CEO also served as the board chairman in the last fiscal year, and 0 otherwise. *BINDP* is 1 for firms whose proportion of independent directors in the last fiscal year was above the cross-sectional median, and 0 otherwise. *BMEET* is 1 for firms that held more board meetings in the last fiscal year than the cross-sectional median, and 0 otherwise. *BSIZE* is 1 for firms whose board in the last fiscal year was larger than the cross-sectional median, and 0 otherwise.

Table 4. Test of hypothesis H2: Chinese vs English language media coverage

	Regression 1			Regression 2			Regression 3		
CNEWS	0.0026	(3.23)	***	0.0021	(2.53)	**	0.0020	(2.59)	**
ENEWS	-0.0006	(-0.10)		-0.0010	(-0.17)		0.0011	(0.21)	
SOE				0.0388	(5.27)	***	0.0347	(5.19)	***
REFORM				-0.0386	(-10.36)	***	-0.1096	(-17.2)	***
RMV				0.6076	(8.71)	***	0.4761	(6.93)	***
RTO				0.0921	(13.11)	***	0.0739	(11.13)	***
RRET				0.0003	(1.19)		0.0001	(0.51)	
LEV				0.1264	(5.46)	***	0.0693	(3.16)	***
ΔSALE				0.0052	(3.48)	***	0.0037	(2.71)	***
IROA				-0.3774	(-3.32)	***	-0.4177	(-4.01)	***
TQ				-0.0400	(-4.54)	***	0.0000	(-0.01)	
BETA				-0.0075	(-1.36)		0.0295	(5.52)	***
ΔPI				-0.0064	(-7.51)	***	-0.0005	(-0.59)	
OWNC				0.0695	(1.85)	*	0.1341	(3.92)	***
CHOLD				-0.0178	(-2.43)	**	-0.0136	(-2.03)	**
CDUAL				-0.0305	(-2.37)	**	-0.0144	(-1.22)	
BINDP				0.0148	(2.03)	**	0.0141	(2.06)	**
BMEET				-0.0108	(-2.70)	***	-0.0029	(-0.81)	
BSIZE				-0.0291	(-4.56)	***	-0.0115	(-1.95)	*
Constant	0.4631	(88.20)	***	-0.4044	(-5.13)	***	-0.1605	(-2.01)	**
Industry effect		Yes			No			Yes	
Year effect		Yes			No			Yes	
Region effect		Yes			No			Yes	
Firm fixed effect		Yes			Yes			Yes	
R^2		0.0334			0.0322			0.1105	
Obs.		4,218			4,218			4,218	

Note. This table presents the summary statistics of the variables used in our analyses. The sample period covers 2004-2008 and includes A- and B-share dual-listing stocks appearing in both the Shanghai and Shenzhen stock exchanges. $FSD_{i,t}$ is the monthly foreign share discount, calculated as the A-share price minus the B-share price, divided by the A-share price. $CNEWS_{i,t}$ and $ENEWS_{i,t}$ are the monthly number of Chinese language news reports and the number of English news reports respectively. SOE is 1 for state-controlled firms and 0 otherwise. $REFORM_1$ is 1 from the years in which the firm begins the process of the Split Share Structure Reform and all years afterward, and 0 for the years before this. RMV is the ratio of the market capitalization of A- to B-shares at the end of the previous month. RTO is the ratio of the turnover of A- to B-shares at the end of the previous month. $RRET$ is the ratio of the stock returns of A- to B-shares at the end of the previous month. LEV is the debt-to-equity ratio of the last fiscal year. $ΔSALE$ is the percentage change in sales growth over the last fiscal year. $IROA$ is the industry median adjusted return on assets in the last fiscal year, calculated as operating income divided by total assets. TQ is the Tobin's Q for the last fiscal year, calculated as the sum of market value and debt, divided by total equity. $BETA$ is the CAPM beta up to the end of the last year, estimated from time-series regressions of firm-specific daily excess returns on daily market excess returns over the past one-year period. $ΔPI$ is the percentage change in share price informativeness over the last year, calculated as the log of $[(1-R^2)/R^2]$ where R^2 is based on a time-series regression of firm-specific weekly excess returns on both Chinese domestic and U.S. weekly market excess returns. $OWNC$ is ownership concentration in the last fiscal year, measured by the Herfindahl index, based on the ownership held by the ten largest shareholders in the firm. $CHOLD$ is equal to 1 for firms with CEO shareholdings above top 75th or below bottom 25th percentile of yearly cross-section, and 0 otherwise. $CDUAL$ is 1 for firms whose CEO also served as the board chairman in the last fiscal year, and 0 otherwise. $BINDP$ is 1 for firms whose proportion of independent directors in the last fiscal year was above the cross-sectional median, and 0 otherwise. $BMEET$ is 1 for firms that held more board meetings in the last fiscal year than the cross-sectional median, and 0 otherwise. $BSIZE$ is 1 for firms whose board in the last fiscal year was larger than the cross-sectional median, and 0 otherwise.

Table 5. Test of hypothesis H3: High vs low analyst following

	Panel A: Low analyst following		Panel B: High analyst following	
RNEWS	0.0019 (2.03) **		0.0002 (0.18)	
CNEWS		0.0018 (2.00) **		0.0002 (0.20)
ENEWS		-0.0080 (-0.95)		0.0005 (0.09)
SOE	0.0207 (2.75) ***	0.0204 (2.70) ***	0.0008 (0.07)	0.0008 (0.07)
REFORM	-0.1256 (-17.4) ***	-0.1255 (-17.39) ***	-0.0288 (-2.50) **	-0.0287 (-2.50) **
RMV	0.4680 (5.21) ***	0.4697 (5.23) ***	0.3768 (3.33) ***	0.3778 (3.33) ***
RTO	0.0925 (12.19) ***	0.0925 (12.17) ***	0.0132 (1.11)	0.0132 (1.11)
RRET	0.0000 (0.14)	0.0000 (0.14)	0.0003 (1.01)	0.0003 (1.01)
LEV	0.0312 (1.30)	0.0310 (1.30)	0.1125 (2.17) **	0.1121 (2.16) **
ΔSALE	0.0056 (4.29) ***	0.0056 (4.290) ***	0.0102 (2.56) **	0.0102 (2.56) **
IROA	-0.4046 (-4.04) ***	-0.4042 (-4.03) ***	-1.7318 (-5.57) ***	-1.7314 (-5.57) ***
TQ	-0.0117 (-1.37)	-0.0117 (-1.36)	0.0015 (0.07)	0.0015 (0.08)
BETA	-0.0004 (-0.06)	-0.0004 (-0.06)	0.0443 (4.37) ***	0.0442 (4.36) ***
ΔPI	0.0000 (0.03)	0.0001 (0.06)	0.0022 (1.63)	0.0022 (1.63)
OWNC	0.1486 (3.99) ***	0.1486 (3.99) ***	0.1263 (2.00) **	0.1258 (1.99) **
CHOLD	0.0163 (1.74) *	0.0164 (1.75) *	-0.0172 (-1.58)	-0.0172 (-1.58)
CDUAL	-0.0602 (-2.07) **	-0.0600 (-2.06) **	0.0129 (0.98)	0.0129 (0.98)
BINDP	0.0016 (0.21)	0.0017 (0.21)	0.0734 (4.95) ***	0.0733 (4.93) ***
BMEET	-0.0008 (-0.18)	-0.0009 (-0.18)	-0.0281 (-4.99) ***	-0.0281 (-4.99) ***
BSIZE	-0.0111 (-1.57)	-0.0109 (-1.54)	-0.0874 (-8.63) ***	-0.0873 (-8.61) ***
Constant	-0.1557 (-1.52)	-0.1570 (-1.53)	0.0114 (0.09)	-0.0889 (-0.72)
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
Region effect	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes
R^2	0.02	0.0215	0.2172	0.2165
Obs.	2,489	2,489	1,729	1729

Note. This table presents the summary statistics of the variables used in our analyses. The sample period covers 2004-2008 and includes A- and B-share dual-listing stocks appearing in both the Shanghai and Shenzhen stock exchanges. We partition the sample by median value of analyst following, which is the number of analysts issuing reports for the firm. $FSD_{i,t}$ is the monthly foreign share discount, calculated as the A-share price minus the B-share price, divided by the A-share price. $RNEWS_{i,t}$ is the natural logarithm of the ratio of monthly Chinese language news number to the English language news number. $CNEWS_{i,t}$ and $ENEWS_{i,t}$ are the monthly number of Chinese language news reports and the number of English news reports respectively. SOE is 1 for state-controlled firms and 0 otherwise. $REFORM_1$ is 1 from the years in which the firm begins the process of the Split Share Structure Reform and all years afterward, and 0 for the years before this. RMV is the ratio of the market capitalization of A- to B-shares at the end of the previous month. RTO is the ratio of the turnover of A- to B-shares at the end of the previous month. RRET is the ratio of the stock returns of A- to B-shares at the end of the previous month. LEV is the debt-to-equity ratio of the last fiscal year. ΔSALE is the percentage change in sales growth over the last fiscal year. IROA is the industry median adjusted return on assets in the last fiscal year, calculated as operating income divided by total assets. TQ is the Tobin's Q for the last fiscal year, calculated as the sum of market value and debt, divided by total equity. BETA is the CAPM beta up to the end of the last year, estimated from time-series regressions of firm-specific daily excess returns on daily market excess returns over the past one-year period. ΔPI is the percentage change in share price informativeness over the last year, calculated as the log of $[(1–R^2)/R^2]$ where R^2 is based on a time-series regression of firm-specific weekly excess returns on both Chinese domestic and U.S. weekly market excess returns. OWNC is ownership concentration in the last fiscal year, measured by the Herfindahl index, based on the ownership held by the ten largest shareholders in the firm. CHOLD is equal to 1 for firms with CEO shareholdings above top 75th or below bottom 25th percentile of yearly cross-section, and 0 otherwise. CDUAL is 1 for firms whose CEO also served as the board chairman in the last fiscal year, and 0 otherwise. BINDP is 1 for firms whose proportion of independent directors in the last fiscal year was above the cross-sectional median, and 0 otherwise. BMEET is 1 for firms that held more board meetings in the last fiscal year than the cross-sectional median, and 0 otherwise. BSIZE is 1 for firms whose board in the last fiscal year was larger than the cross-sectional median, and 0 otherwise.

Table 6. Test of hypothesis H4: High vs low institutional ownership

	Panel A: Low institutional ownership						Panel B: High institutional ownership					
RNEWS	0.0019	(2.29)	**				0.0010	(0.85)				
CNEWS				0.0019	(2.26)	**				0.0010	(0.89)	
ENEWS				-0.0088	(-1.03)					0.0015	(0.26)	
SOE	0.0171	(2.16)	**	0.0169	(2.13)	**	0.0142	(1.26)		0.0143	(1.27)	
REFORM	-0.1281	(-18.19)	***	-0.1281	(-18.18)	***	-0.0602	(-5.5)	***	-0.0601	(-5.5)	***
RMV	0.6205	(7.03)	***	0.6226	(7.05)	***	0.4009	(3.67)	***	0.4048	(3.69)	***
RTO	0.0929	(11.57)	***	0.0927	(11.54)	***	0.0168	(1.79)	*	0.0168	(1.79)	*
RRET	-0.0001	(-0.55)		-0.0001	(-0.55)		0.0004	(1.41)		0.0004	(1.42)	
LEV	0.0586	(2.52)	**	0.0584	(2.51)	**	0.1044	(2.14)	**	0.1030	(2.11)	**
ΔSALE	0.0065	(5.05)	***	0.0065	(5.04)	***	0.0012	(0.29)		0.0011	(0.28)	
IROA	-0.4824	(-4.28)	***	-0.4815	(-4.27)	***	-1.3188	(-6.18)	***	-1.3174	(-6.17)	***
TQ	-0.0085	(-1.04)		-0.0084	(-1.03)		-0.0553	(-2.59)	**	-0.0551	(-2.58)	**
BETA	-0.0199	(-3.22)	***	-0.0198	(-3.22)	***	0.0240	(2.32)	**	0.0239	(2.31)	**
ΔPI	-0.0014	(-1)		-0.0014	(-0.99)		0.0007	(0.72)		0.0007	(0.7)	
OWNC	0.0526	(1.22)		0.0525	(1.22)		-0.0408	(-0.74)		-0.0417	(-0.76)	
CHOLD	0.0360	(3.52)	***	0.0360	(3.52)	***	0.0070	(0.7)		0.0070	(0. 7)	
CDUAL	-0.0745	(-2.56)	**	-0.0741	(-2.55)	**	-0.0002	(-0.01)		-0.0001	(0)	
BINDP	0.0264	(3.19)	***	0.0264	(3.19)	***	0.0149	(1.41)		0.0149	(1.4)	
BMEET	-0.0044	(-0.98)		-0.0045	(-0.99)		-0.0099	(-1.81)	*	-0.0101	(-1.83)	*
BSIZE	-0.0373	(-4.85)	***	-0.0371	(-4.81)	***	-0.0391	(-4.55)	***	-0.0390	(-4.55)	***
Constant	-0.2226	(-2.15)	**	-0.2267	(-2.2)	**	-0.0233	(-0.19)		-0.0275	(-0.23)	
Industry effect		Yes			Yes			Yes			Yes	
Year effect		Yes			Yes			Yes			Yes	
Region effect		Yes			Yes			Yes			Yes	
Firm fixed effect		Yes			Yes			Yes			Yes	
R^2		0.0509			0.0493			0.087			0.0842	
Obs.		2,468			2,468			1,750			1,750	

Note. This table presents the summary statistics of the variables used in our analyses. The sample period covers 2004-2008 and includes A- and B-share dual-listing stocks appearing in both the Shanghai and Shenzhen stock exchanges. We partition the sample by median value of institutional ownership, which is the proportion of shares owned by mutual fund. $FSD_{i,t}$ is the monthly foreign share discount, calculated as the A-share price minus the B-share price, divided by the A-share price. $RNEWS_{i,t}$ is the natural logarithm of the ratio of monthly Chinese language news number to the English language news number. $CNEWS_{i,t}$ and $ENEWS_{i,t}$ are the monthly number of Chinese language news reports and the number of English news reports respectively. SOE is 1 for state-controlled firms and 0 otherwise. $REFORM_1$ is 1 from the years in which the firm begins the process of the Split Share Structure Reform and all years afterward, and 0 for the years before this. RMV is the ratio of the market capitalization of A- to B-shares at the end of the previous month. RTO is the ratio of the turnover of A- to B-shares at the end of the previous month. RRET is the ratio of the stock returns of A- to B-shares at the end of the previous month. LEV is the debt-to-equity ratio of the last fiscal year. ΔSALE is the percentage change in sales growth over the last fiscal year. IROA is the industry median adjusted return on assets in the last fiscal year, calculated as operating income divided by total assets. TQ is the Tobin's Q for the last fiscal year, calculated as the sum of market value and debt, divided by total equity. BETA is the CAPM beta up to the end of the last year, estimated from time-series regressions of firm-specific daily excess returns on daily market excess returns over the past one-year period. ΔPI is the percentage change in share price informativeness over the last year, calculated as the log of $[(1–R^2)/R^2]$ where R^2 is based on a time-series regression of firm-specific weekly excess returns on both Chinese domestic and U.S. weekly market excess returns. OWNC is ownership concentration in the last fiscal year, measured by the Herfindahl index, based on the ownership held by the ten largest shareholders in the firm. CHOLD is equal to 1 for firms with CEO shareholdings above top 75th or below bottom 25th percentile of yearly cross-section, and 0 otherwise. CDUAL is 1 for firms whose CEO also served as the board chairman in the last fiscal year, and 0 otherwise. BINDP is 1 for firms whose proportion of independent directors in the last fiscal year was above the cross-sectional median, and 0 otherwise. BMEET is 1 for firms that held more board meetings in the last fiscal year than the cross-sectional median, and 0 otherwise. BSIZE is 1 for firms whose board in the last fiscal year was larger than the cross-sectional median, and 0 otherwise.

Acknowledgement

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[1] See details at http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a_84o9PPPGqk.

[2] In our study, the foreign share discount is measured at the last trading day of each months and the media coverage measure is based the number of news throughout the entire time period of the corresponding months. Thus, except for news released exactly at the last trading day of the month, our media coverage measure mainly captures news released before the day that the foreign share discount is measured.

[3] This influential newspaper was not started until late 2004. In untabulated robust checks, we obtain consistent results after excluding this newspaper from our sample or including this newspaper but postpone the sample starting period from 2004 to 2005.

[4] Hou and Lee (2012) document that the Split Share Structure Reform that began from 2005 onward in China has significant impact on the foreign share discount among state-controlled listed firms. This reform allows restricted shares to become tradable in the stock market and Chinese firm initiate the process in batches at different times as selected by the regulatory commission.

[5] Chinese domestic market returns are based on the Shanghai Composite Index. Chinese risk-free rates are based on the 7-day interbank rate. U.S. stock market returns are based on a NYSE, AMEX, and NASDAQ value-weighted portfolio. U.S. risk-free rates are based on the one-month Treasury bill. The data are respectively from CCER (China Centre for Economic Research) and Compustat listed in WRDS (Wharton Research Data Services)

[6] We also replicate our tests on a booming periods, i.e. 2005-2007 and acquired inferences consistent to our main findings.

[7] The China National Knowledge Infrastructure (CNKI) is a research database established by Tsinghua University of China and it contains articles academic journals, conference proceeds, newspaper articles. For more information please see http://eng.cnki.net/grid2008/index.htm

[8] Chakravarty et al. (1998) provide evidence the English media affects Chinese foreign share discount based on an earlier sample period of 1994 to 1998. The difference of their results from our findings in Table 5 is likely to be due to the difference in sample period. One possible reason for this is the significant growth of foreign institutional ownership in emerging economies (e.g. Stepanyan, 2011) such as China. Institutional investors are more sophisticated and less dependent on media for information than individual investors. Thus, as foreign institutional investors increase for Chinese firms through time, there would be a decrease in the effect of English media on foreign share discount.

[9] Using the full sample, we also carried out further regression analyses that include a low analyst following dummy variable (equivalent to 1 for firms with below median analyst following and 0 otherwise) as well as the interaction term of this dummy variable with *RNEWS* in Equation 1 or *CNEWS* and *ENEWS* in Equation 2. These results confirm that the relationships between foreign share discount and total news or Chinese news coverage are significantly more pronounced among the low analyst following group. For brevity we do not tabulate these findings.

[10] Using the full sample, we also carried out further regression analyses that include a low institutional ownership dummy variable (equivalent to 1 for firms with below median institutional ownership and 0 otherwise) as well as the interaction term of this dummy variable with *RNEWS* in Equation 1 or *CNEWS* and *ENEWS* in Equation 2. These results confirm that the relationships between foreign share discount and total news or Chinese news coverage are significantly more pronounced among the low institutional ownership group. For brevity we do not tabulate these findings.

[11] Of course, as Da et al (2012) argues, media coverage is considered as a passive attention measure in that it is not possible to guarantee that investors will read the articles that appear in newspapers.