Cross-listings, signalling and free cash flow: An examination of the Hong Kong and the Chinese stock markets' reaction to dividend announcements

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Abstract

The main purpose of this paper is to investigate the stock prices surrounding cash dividend announcements for Chinese firms cross-listed in the A-shares market and the Hong Kong stock exchange. The significant market reaction to cash dividend change announcements from 2009-2013 favours the signalling theory of cash dividends and the relatively greater market reaction to firms with less investment opportunities lends support to the free cash flow hypothesis. In particular, this paper tests the bonding hypothesis by comparing market reactions in the A-shares and the H-shares markets. The result suggests that the bonding effect is not significant in the H-share market. Additionally, the magnitude of cash dividend changes has a strong association with cumulative abnormal returns in both markets.

Executive Summary

In the relatively young Chinese stock market, many restrictions exist which causes several problems. Hong Kong, the Special Administrative Region of China, has a much more open market and a high-quality legal framework. Since the 1990's, foreign listings have been a popular way of Chinese firms to raise capital and SEHK becomes an appealing exchange for firms to meet the international standards. There are currently 171 Chinese firms listed in the SEHK main board with a total market capitalization of 4797.9 billion HK dollars.

Cross-listing shares in the SEHK and China A-shares market (SHSE and SZSE) has a great impact on corporate dividend policy. Cash dividend announcements provide important information to investors about firms' operation and corporate governance. Severe asymmetric information problems and the high proportion of non-tradable shares largely held by the government make China a good research target. Therefore, in this study, the sample consists of 381 cash divided change announcements during the period of 2009 to 2013 from 51 companies cross-listed in the A-shares market and the SEHK. To examine the information content of cash dividend and the relationship between dividend policy and the agency conflict as well as the potential impact of cross-listing on the market reactions, the event study methodology is applied and the adjusted market tool is used to generate abnormal returns.

In the investigation, cash dividends in these cross-listed companies do convey information about firms' prospects and the stock markets all respond efficiently to the cash dividend announcements. Using Tobin's Q to divide firms into two groups with different degrees of agency problems, this study reveals that for dividend change announcements from firms with larger free cash flow problems, the price changes are of greater magnitude but with a faster correcting attempt in the post-event days. This short-term behaviour of the prices provides consistent evidence of the free cash flow hypothesis although the potential long-term effect could be insignificant. In addition, the comparison of CARs (cumulative abnormal return) between the two stock markets does not generate a strong evidence to support the bonding

hypothesis. Although there is larger proportion of institutional investors and foreign investors in the H-shares market, the market reaction to cash dividend change announcements is not dissimilar in the two markets. The proposed enhanced corporate governance by cross-listings appears to have no impact on the investment behaviour of investors in the H-shares market.

The results presented in this paper offer several suggestions for different market participants. Investors especially QFIIs who can invest in A shares can take advantage of significant abnormal returns surrounding dividend announcement dates but on the other hand, short selling is completely restricted in China thus making wise investment strategies is highly important. Also, because dividends can serve as a constraint mechanism of agency costs in both China and Hong Kong markets, firms should strike a balance between paying cash to shareholders and retaining resources and improve corporate governance to reduce agency costs arising from the more decision-making autonomy managers enjoy after the SOE reform. Furthermore, the outcomes of this study have practical implication for the regulators to implement further economic reforms and make decisions of provisions for cash dividends to protect the interests of shareholders.

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Introduction

Corporate dividend policy is among the most important financial management decisions of listed companies. Paying cash dividends is a useful way to avoid overinvestment in low NPV projects and misuse of excess cash by managers for their own benefits (Jensen, 1986). Growth opportunities influence dividend policy in a different way as companies with greater growth opportunities tend to pay lower or no dividends because the funds are retained by companies to be used in profitable projects (Mitton, 2004). For firms with less growth opportunities, paying low or no dividends is associated with more severe agency conflicts since managers use free cash flows to overinvest in poor projects instead of distributing them to shareholders, which is more value-maximizing.

In a perfect capital market, dividend policy does not affect firm's value (Modigliani, Miller, 1961). However, An ideal market hardly exists in reality and market frictions are normal. Due to asymmetric information and imperfect market, dividend announcements become an effective tool to signal internal information of listed firms (Miller and Rock, 1985). Unexpected changes in dividends are tied to share price changes in the corresponding directions because they contain information about alterations in management's anticipation of a firm's earnings prospects while the investors do not possess the knowledge about firm's future earnings (Bhattacharya, 1979).

Cross listing is a corporate strategic decision to list a firm's common shares on a stock exchange, which is different from its primary stock exchange. There is an increasing amount of researches showing that cross listing shares in a stock market applying more stringent governance-related and disclosure requirements can help firms to improve the investor protection environment and corporate governance (La Porta et al., 1998). Consequently, cross listing has become one of the means of mitigating potential agency conflicts because it makes firms subject themselves to greater scrutiny by foreign shareholders and regulators. This potential for cross-listing to enhance manager's shareholder focus is termed "bonding" (Stulz,

1999; Coffee, 1999, 2002).

The dividend-signalling hypothesis has been tested and supported by several researches (e.g., Aharony J, and I. Swart, 1980). Nonetheless, most of the research results are obtained from developed countries, especially the US and European markets, which have the semi-strong form efficiency, but the capital markets in China exhibit different regulations and shareholder structures. Additionally, Chinese firms are less inclined to pay out and cash dividends are not stable. Therefore, the signalling theory may not apply to the China stock market. On the other hand, because Chinese firms tend to disclose only partial or even prejudiced information, asymmetric information is an exceptionally serious problem in China and the exchange share manipulation and insider trading are prevalent (Paresh K and Zheng, 2011), which then provides an opportunity to investigate whether the market reacts correspondingly different to cash dividend changes.

The majority of shares in publicly traded firms are state-owned controlling shares in China, thus government agencies take decisions regarding governance intervention (Branstetter, 2007). After the enterprise reforms started in the early 1980s, state-owned enterprises managers have been delegated more decision-making rights. This gave them more real authority and, as a result, the managers have stronger incentives to use their newly acquired power in their private interests (Xu et al., 2005). Under such circumstances, it can be predicted that the free cash flow hypothesis has the potential to explain the stock market reaction regarding dividend changes announcements in China.

Firm-level corporate governance has a significant impact on firms' performance and valuation in countries with weaker shareholder protection and less efficient judiciary (Klapper et al. 2002). It is known that investor protection in China is weaker than that in other markets. When investor protection is weak in the home (i.e., Chinese) market, cross-listing of shares may be of greater benefit to shareholders (Zhou et al., 2011). Through cross-listing of shares, there is an enhanced chance that managers will better serve shareholder's interests due to the enhanced scrutiny by shareholders and regulatory bodies. Therefore, the phenomenon of the

foreign market responding more to dividend change announcements than the home market would do is expected.

Most of the researches on corporate dividend policy and cross-listing focus on the respective effects of these two corporate decisions on corporate governance. Very few studies have looked into the relationship between the role of dividends, a tool to signal firms' prospects and reduce the free cash flow problem, and possible enhanced corporate governance due to cross-listed shares outside the local market. Therefore, using a sample of Chinese companies listed both in A share market and H share market, this study assesses the potential effect of cross-listing on the signalling role of dividends and the relationship between free cash flow and corporate dividend policy. More specifically, this study seeks to answer the following related questions.

First, do the China stock market and Hong Kong market display the same features as developed markets and does an announcement effect on cash dividend changes exist?

Second, do the two markets react more to cash dividend changes announcements for firms with less growth opportunities than for those with more growth opportunities?

Third, does cross listing shares in H share market improve firm's corporate governance in a way of reducing overinvestments in poor projects and the market recognizes this improvement by taking corresponding trading actions around and on the dividend announcement dates?

Fourth, among the factors (percentage of dividend changes, firm size, Tobin's Q, profitability, and leverage) affecting investors' reactions to cash dividends changes, which factor has a larger effect in the H-share market compared to the A-share market?

The analysis to answer the above questions is conducted on a large sample of dividend announcements over the 2009-2013 period and is based on an event study and a regression

model. The paper is organized as follows. The relevant studies on the sigalling role of dividends, the free cash flow hypothesis and cross listing as well as the background of the Chinese stock markets and shareholder structure will be discussed in Chapter 2. Chapter 3 sketches out the data sources and the methodology employed in this study. The empirical results for each point discussed are presented in Chapter 4. Chapter 5 is the summary and limitation of this study and suggestions for future research directions.

2. Literature review

2.1 The bonding hypothesis

The earliest theoretical development of cross-listing were driven by asset pricing models. From global visions, globalization of securities allows companies to have a global shareholders base and leads to a lower cost of equity capital and higher equilibrium valuation (Stapleton and Subrahmanyam, 1977). There are many studies that show that firms tie themselves to a stronger governance regime by cross listing and thereby improving corporate governance practices. According to the bonding hypothesis (La Porta et al., 1998), listing in a better exchange decreases chance of managers using their control for self-interests, which sequentially lowers agency conflicts and the cost of capital.

Stulz and Coffee first proposed the bonding hypothesis, instead of the market segmentation hypothesis, Stulz (1999) explained international cross-listings by focusing on information problems and agency conflicts. The essential concept was that when a firm could reliably commit to a more effective monitoring and to a more constraining force on managers and block shareholders after a foreign listing, this strategic choice is beneficial for firms. Followed Stulz's commentary, Coffee (1999) justified the decision to cross-listed in the US. He accentuated that the U.S. regulatory and legal settings not only expose the listing firms to the enforcement of the Securities and Exchange Commission (SEC), but also directly seek to reduce agency costs and control opportunism.

Empirical studies gave evidences consistent with the bonding hypothesis. For example, Reese and Weisbach (2002) found that companies whose minority shareholders have poor legal protections were more likely to cross-list in the U.S. stock exchange. Doidge et al. (2004) offered other considerations that would guide the cross-listing decision. A firm with more investment opportunities for future growth and limited access to finance whose opportunities in the domestic capital market would be more likely to pursue the overseas market and, by doing so, there are costs of imposing restrictions on the firm's activities to exploit private

benefits of control.

Licht (2003) has however applied contradictory opinions on the bonding hypothesis. He argues that corporate governance self-improvement is not among the reasons why cross-listing is pursued by issuers, and most issuers may actually be avoiding better governance since corporate decisions including cross-listing are made by agents. More recently, Gozzi, Levine and Schmukler (2008) challenged the findings of Doidge et al. (2004) by pointing out that the higher firm value as measured by Tobin's Q for foreign firms cross-listing their shares in the U.S. compared to those for domestic firms do not persist further than one year after the cross-listing event.

In terms of cross listing phenomenon in China, Chinese researchers do not have a consensus on the reasons of cross-listing decisions. Zhou et al. (2011) found that for Chinese companies listed in the SEHK, the main motivation is to get financing and brand effects rather than gaining competitive advantage via improved corporate governance. Pan et al. (2013) Further argues that Chinese ADRs (American Depositary Receipts) displayed better operational performance and superior internal governance than domestic firms and suggests that that the degree of improvement in governance is linked with the firm characteristics and the incentives behind the foreign-listing decision.

2.2 Information asymmetry and dividend policy

Since Miller and Modigliani (1961) concluded that dividends do not affect firm value under an ideal economy, numerous researchers have been inspired to examine the effects of dividend distribution on firm value based on different market frictions. One of the most important market frictions is information asymmetry. Managers are presumed to know more than investors about the current and future financial condition of the firm. As a result, dividend change announcements can reflect management expectations about firm's future financial status and cash flows (Miller and Rock, 1985).

The above argument is one of the key basis of the so-called "dividend signalling hypothesis" first proposed by Linter (1956), which explains the observed unwillingness of managers to change dividends. More evidently, managers are declined to cut dividends to avoid a significant share price drop caused by adverse signals. After that, there are increasing amounts of literature that investigate the market reaction to dividend announcements by adopting Event Study Methodology (ESM). Petit (1972), demonstrated that positive (negative) abnormal returns are induced by positive (negative) changes in dividend payments. Aharony and Swart (1980) used a dividend expectation model to measure unexpected changes in dividends. Their findings confirmed that quarterly cash dividends provide useful information to the market. Brav et al. (2005) argues that it would be highly expensive for bad firms to stimulate good firms regarding dividend policy. Consequently, a good firm might be able to distinct itself from bad rivals by not cutting its dividends.

Most of the studies examined US data and there are more that looked into European market in recent years, such as Beer (1993) and Fairchild (2010). Empirical analysis of emerging markets, especially Chinese market has been given more attention lately. These studies find contradictory evidence on whether there is a signalling effect of dividend changes in China. Particularly, Chen et al. (2002) illustrates that the signalling role of cash dividends is weak in China because dividends in China vary significantly, which is consistent with the cash dividend irrelevance argument postulated by Modigliani and Miller. Chen et al. (2009) used

the ESM to examine the impact of dividend changes on stock prices and found that for both dividend increases and decreases, share prices go up. Liu (2009) used the same methodology and drew the same conclusion as Chen et al. (2009), which only supports half of the signalling theory.

2.3 Agency conflicts and dividend policy

Due to the separation of ownership and control, Jensen (1986) proposed the free cash flow hypothesis, demonstrating that the managers are motivated by compensation and other personal benefits and thus, overinvesting free cash flows even though there is a lack of lucrative growth opportunities. He also suggests that one mechanism to reduce the potential agency costs related to excess cash flows is to distribute the free cash flow to shareholders. Easterbrook (1984) also challenges the signaling role of dividends and offers the agency-cost explanation for dividend policy. Dividends may play a significant role in reducing the agency costs of management because dividend pay-outs compel companies to go to equity markets to raise extra capital. The capital markets provide an efficient external monitoring mechanism that reduces the agency problem.

Based on the free cash flow hypothesis, the observed market reaction following dividend changes is supposed to be accordance with a decrease in agency costs. Some empirical studies intend to distinguish between the cash flow information hypothesis and the free cash flow hypothesis by examining the cumulative abnormal returns around dividend announcements. Lang and Litzenberger (1989) divide firms into over-investors and value maximizers on the basis of Tobin's Q, and found that the average return for low Q firms is significantly larger than for high Q firms. This finding confirms that paying more dividends can help ease the overinvestment problem and increase firm value, while a decrease in the dividends brings about the opposite result. On the contrary, the study results of Denis et al., (1994) and Yoon and starks (1995) are consistent with the information hypothesis but do not support for the overinvestment hypothesis, which has not been proved as the predominant explanation for the incremental information content of dividend change announcements.

There are very few studies exploring the relationship between free cash flows and corporate dividend policy for the Chinese market. The researches mainly focus on the factors affecting overinvestment problems and the association between free cash flows and corporate investment policy. The empirical results of Zhong et al., (2013) indicate that state-owned

enterprises (SOE) tend to overinvest more than non-SOEs which shows that some Chinese firms' have an expropriation behavior of minority shareholders. Knignt et al., (2010) found that the free cash flow hypothesis can explain well the overinvestment problem in China especially for the private sector where the screening and monitoring of enterprises by banks is poor. These findings provide consistent support for the free cash flow hypothesis and a background to further examine dividend announcements effects in China.

2.4 "Bonding" and dividend policy

Taking the bonding hypothesis as the basis, La Porta et al., (2000) presented two agency hypothesis of dividends. First, the outcome hypothesis claims that minority shareholders are able to force companies to disgorge cash under a strong legal protection. Consequently, dividend payout ratios are expected to be higher in countries with better shareholder protection. The outcome hypothesis is also supported by Abdallah and Goergen (2008). Second, dividends are regarded as a substitute for effective legal protection. Therefore, in countries with weaker legal protection of shareholders, dividends payout ratios should be higher because companies try to establish the reputations for good treatment of shareholders through dividend distribution.

However, cross listings in China receive sparse attention as studies on cross-listing and dividend policy are conducted mostly on the developed markets. Chowdhury et al., (2010) states that Chinese cross-listed firms are not only more likely to pay dividends but also perform better governance because foreign markets are comparably more informative and confined than the Chinese markets. This evidence confirms the role of dividends in reducing agency conflicts between managers and shareholders. Cheng et al., (2014) further provided evidence from Chinese markets for the bonding hypothesis. Their result shows that cross-listed companies are less likely to overinvest or misuse free cash flow as they pay more of the free cash flow out as dividends than local-only companies, which suggests that companies that cross-list their shares may have better corporate governance and enhanced shareholder wealth.

2.5 Research background

The stock markets

Having some basic knowledge of the Chinese stock markets and the shareholder structure is useful for a better understanding of the motives and aims of this research. Shanghai Stock Exchange and the Shenzhen Stock Exchange, the two Chinese stock exchanges, were established back in the 1990s. Similarly to other emerging economies, Chinese companies trading in any of the two exchanges offer various share classes, one available for foreign investors and one for domestic ones. The two types available are classified under A-Shares and B-Shares, with the release of the B-share market in 1992, 2 years after the opening of the A market in 1990. Initially these different types restricted foreign investors to purchase A-shares, while Chinese investors were forbidden from buying B-shares.

This policy changed in 2001, were the limitation was waived, but B shares started trading in a different currency from A shares. B shares in the Shanghai Stock Exchange started to be traded in USD, whereas those trading on the Shenzhen Stock Exchange did it in Hong Kong Dollars (HKD). In late 2002, the government allowed certain foreign institutional investors to trade A shares, known as Qualified Foreign Institutional Investors (QFII), with the purpose of stimulating the stock markets. These companies' investments totalled $742bn by 2006. Other measures taken by the government include the reduction of the government stake on the companies in 2001 with the purpose of developing the capital markets and promoting further investment into Chinese companies.

In 1993 the H shares were introduced in the Stock Exchange of Hong Kong, which were those issued by mainland China firms but listed on this stock exchange. These firms not only had to adopt the regulations sent on this exchange, but also the accounting principles. These shares cause a very positive reaction among investors, being the famous Tsingtao Brewery Group the first one to follow this step in July 1993.

Although B and H shares are both designed for foreign investors, B shares are traded in the

domestic market, whereas H shares are traded in Hong Kong. This move attracted substantial amounts of foreign capital, becoming a very attractive way for Chinese companies to further raise capital. Considering Hong Kong has a more developed stock market and international investor base but China has a less advanced equity market with several restrictions, the SEHK became and remains the prime listing destination from mainland. The types of listed stocks in Hong Kong from Chinese firms are H-share and ''Red Chips''. As a result, by the end of June 2014, there are 171 H-share companies on the main board with a total market capitalization of 4.80 trillion Hong Kong dollars.

Figure 1 Expansion of Hong Kong, Shanghai and Shenzhen stock exchanges, 2003-2013
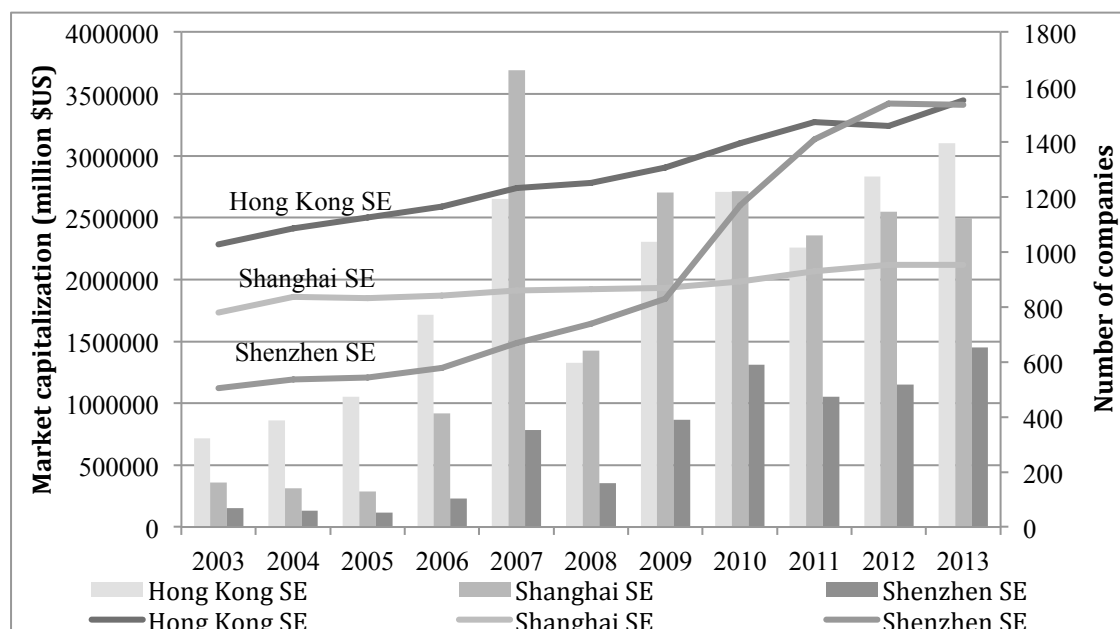
Note: This chart portrays the expansion of Hong Kong, Shanghai and Shenzhen stock exchanges. Left axis represents the market capitalization in thousands of US dollars and right axis is the amount of companies listed. (Source: World Federation of Exchanges, 2013)

US stock markets were also trying to attract Chinese firms, on the basis of their high-liquidity and the importance it could have for the reputation of the company. Although this process was more costly, the US, specially the NYSE, managed to convince many Chinese companies to IPO in their country, surpassing in 2004 Hong Kong on the average market capitalisation per issuance.

Recently, China became the second largest economy in the world, according to the World Bank, and even though the country has tried to improve their capital markets and promote foreign investment, the stock markets are still in a developing stage. The main measure for this is the market capitalisation to GDP. For China this figure is around 30%, while developed economies averaged 130%. Therefore, it is meaningful to investigate the announcement effect of cash dividend changes and relate it to agency problems and cross-listing issues.

The shareholder structure

To understand the influence of firms' dividend policy, gaining an insight into the share structure in Chinese listed firms is important. Chinese listed firms are well-known for their split share structure, which indicates that there are two parts of domestic A shares--tradable shares held by public investors and non-tradable shares owned by controlling shareholders such as the state, employees and legal-persons. The two categories are also called floating shares and non-floating shares. It is obvious that tradable shares can be traded in the domestic market while the latter cannot. As a result, these two types of shareholders have different sources of income by holding A shares. While tradable shareholders can generate income through capital gains and cash dividends, non-tradable shareholders can earn profits only from dividend distribution. Another interesting aspect of this share structure is that for non-tradable shareholders, the holding costs approximate the par value (RMB 1), whereas that of floating shareholders are much higher. Consequently, the median of the controlling shareholder's ownership was 42.61% though that of the second- (third-) largest shareholders was only 5% at the end of 2004 (Chen et al., 2009). The high ownership concentration in Chinese firms generates serious agency problems.

Because of the large proportion of non-tradable shares owned by the state, the principal-agent problem for Chinese listed firms is the expropriation of minority shareholders by controlling shareholders. Controlling shareholders have the incentives to distribute cash dividend to themselves for the following reasons. First, as mentioned above, non-tradable shareholders can only realize income through cash dividend payments. Second, non-tradable shareholders have a much higher cash dividend yield because of their comparatively lower holding costs. In other words, non-tradable shareholders are likely to make dividend distribution decisions that will damage interests of tradable shareholders (the public). In addition, firms listed in emerging markets such as China are mostly equity carve-outs, dividends are used by controlling shareholders to divert cash from the firms, which is the so-called tunnelling effect (Lee, J. and Xiao, X, 2004). This conflicts of interests among the two types of shareholders and the different treatment in taxation are the reasons why floating shareholders prefer capital gains to dividends, as demonstrated by empirical studies. For example, Cheng et al. (2009)

found that the market did not favour announcements of cash dividends by reacting negatively.

Figure 2 Structure of investors-a comparison between China and US/Europe (2010)
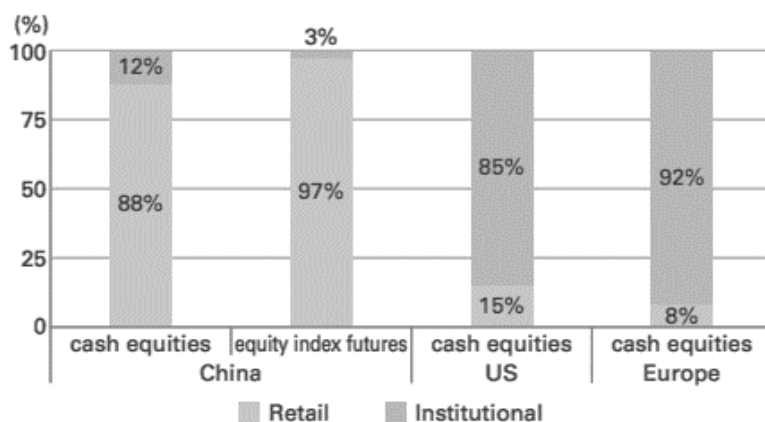
Note: This figure describes the proportion of institutional investors and retail investors in the A-share market. (Source: page 2, Huo, 2011, Nomura Research Institute)

In April 2005, the China Securities Regulatory Commission (CSRC) announced the new pilot reform to eliminate the potential sources of expropriation problems by floating the non-floating shares and balancing the interests of shareholders. In this reform, floating shareholders got about three shares per ten shares while the B-share and H-share were not in the A-share reform. For non-floating shares, state ownership decreased from 40.8% in 2001 to 28.8% in 2006. By the end of 2007, there were over 97% of total Chinese A-share listed firms completed the reform. Through the pilot projects, China also tried to find approaches to form the market-oriented pricing of stocks and retain a stable market. With the decrease of ownership concentration, cash dividend payments decreased significantly after the reform (Liu et al., 2011). The split-share structure reform has effectively curbed value expropriation from large shareholders through dividends pay-outs.

However, although this reform reduces political costs, the ability of Chinese managers to make decisions autonomously has been improved after this split-share structure reform, moreover, other mechanisms usually used to counter managers' tendency to act less prudently are weak or not in place. The consequence is the probable increase in agency costs (Lixin Colin Xu, Tian Zhu and Yi-min, 2005).

In terms of raising funds, due to the high percentage of the trading firms that are owned by non-floating shareholders, many high profit firms try to access instead foreign exchanges to raise funds. By cross listing shares in the H-share market, firms gained the ability to raise capital outside China, resulting in reduced tunnelling activities by major shareholders. Empirical studies also show that cross-listed firms are less likely to distribute cash dividends (e.g., C.K. Lam et al., 2011).

3. Data and methodology

3.1 Data

The sample used in this study contains 53 Chinese firms cross-listed on the A-shares Shanghai and Shenzhen stock exchanges and the Hong Kong Stock Exchange (SEHK). The distribution related to industry of the sample companies is presented in figure 1. The sample period was between January 2009 and December 2013. The sample leads to 207 firm year observations in the A-shares exchanges and 202 in the SEHK. There are observations representing zero cash dividends, which is the case when firms did not pay cash dividends in the previous year and no dividends in the current year. This type of "no change in dividend" is different from the case where firms pay the same cash dividends as in the prior year. Therefore, these observations are excluded. The consequential observations in the sample covered 382 announcements of cash dividend changes, in which there are 138 cash dividend decreases and 243 cash dividend increases.

Figure 3 Distribution of sample firms by industry
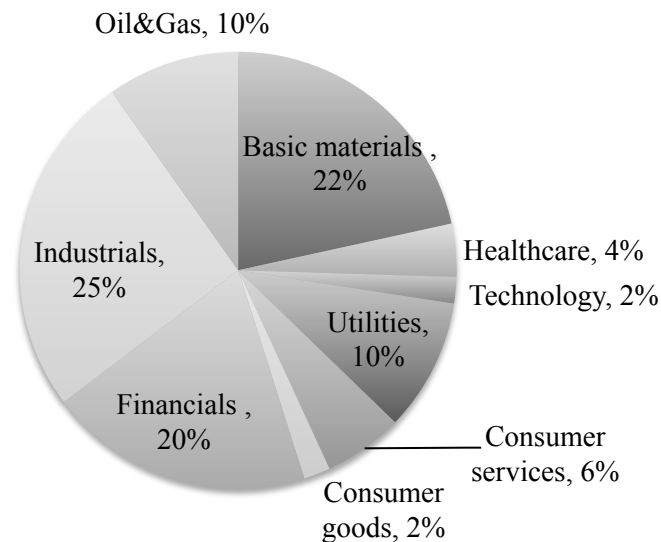
Daily closing share prices were obtained from Thompson Financial Datastream database for these 53 cross-listed firms between January 2009 and December 2013. The prices ten days before and after the dividend announcement dates (−10, +10) were then extracted from the prices lists. All prices have been dominated in Renminbi or converted to Renminbi to avoid

inconsistent data.

To test the hypothesis, the full sample satisfies the requirement that the Tobin's Q ratio can be calculated. The normal formula for calculating Tobin's Q is the market value divided by the replacement costs of the assets. In this study, the method of a simple approximation of Tobin's Q reported in Chung and Pruitt (1994) is used. The data used to calculate Q was obtained from Bloomberg terminal and then used the following formula to get the estimates of Tobin's Q ratios.

The Approximation Q=(Market Capitalization + Liabilities + Preferred Equity + Minority Interest) / Total Assets

The method in Lang and Litzenberger (1989) is used to set a Q equal to one as the threshold in separating firms into value-maximizing and over-investing categories. In the sample, there are 26 firms that have Q's greater than or equal to one and 27 firms with Q's less than one. The median Q of the sample is 1 and the mean Q is 1.09. The numbers of dividends events for these two categories of firms are summarized below:

Table 1 Summary of the number of the two types of dividend change events

Market	Category	Decrease dividends	Increase dividends	Total
	Q<1	43	58	101
A-shares market	Q≥1	32	62	94
	Total	75	120	195
	Q<1	36	51	87
H-shares market	Q≥1	27	72	99
	Total	63	123	186

3.2 Methodology

An event study is employed to investigate the different signalling effects of cash dividend changes on stock prices. Event study measures the impact of a certain event on the firm value. After the first published study by James Dolley (1933), the sophistication of event study has been further developed. In this research, following the standard event study methodology (e.g., Binder, 1998) and the event-study methodology in Brown and Warner (1985), a framework using the adjusted market model as the normal performance return model was adopted.

Returns will be indexed in event time using T. Defining event time T=0 as the public declaration day of the cash dividends. Daily stock actual price returns for the 21-day event period are calculated as:

$$R_{i,t} = ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right)$$

To estimate the values of abnormal returns, expected returns were proxied by $R_{m,t}$, the returns on the market portfolio on day t proxied by Shanghai Stock Exchange Composite Index (SHCOMP) for A share securities and the Hang Seng Index (HSI) for H share securities.

The abnormal return on day t of the security in the event window is calculated based on the market tool (Sharp, 1964; Linter, 1965):

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

The cross-sectional average abnormal returns for day t are specified as:

$$AAR_t = \frac{\sum_{I=1}^{N} AR_{i,t}}{N} \qquad t=-9,-8,...,10$$

Where N is the number of dividend change events in each category.

The cumulative abnormal returns CAR_T in the days on and around the dividend announcement dates, from day t_1 through day t_2, are:

$$CAR_T = \sum_{t=t1}^{t2} AAR_t$$

The obtained ARRs and CARs are then tested for hypothesis using standardized t test in Brown and Warner (1985). Specifically, tests over the (- 9, -2), (-1, +1) and (+2, +10) intervals are applied. The test statistic is the ratio of the CAR (β_1) with $\beta_0 = 0$ to its standard errors. Additionally, an independent two-sample *t*-test for difference in mean with unequal variances is used to test for the difference between firms with high Q and low Q and the difference between the A-shares market and the H-shares market.

Finally, cross-sectional regression analysis is conducted to more closely examine the effects of theoretically important factors. In this analysis, CARs are the dependent variable, the explanatory variables used are size, defined as LN (market capitalization), Return on Assets, Tobin's Q, leverage ratio, the percentage of dividend changes as well as dummy variables for years and industries.

4. Empirical Results

4.1 The signalling role of cash dividend changes

The signalling role of cash dividend changes was measured by collecting the stock prices movements for a sample of firms changing their dividends from 2009 to 2013. Table 2 reports a summary of the cumulative average abnormal returns on and around the dividend declaration date realized in both A-share market and H-share market (the SEHK). The sample data is separated into two subsets: (1) $\Delta DPS \geq 0$ refers to increase in dividends or no change in dividends, and (2) $\Delta DPS < 0$ represents decrease in dividends.

The results represented in table 2 examine both the signs of the dividend signals and the magnitude of the signals. For the dividend-decrease group (panel A), the cumulative average abnormal returns become significant after 2 days before the dividend announcements. The lowest abnormal return in the event window (-9, +10) is 0.42%, which occurs on the first day following the announcement date (AD). From the previous trading day of AD to the following first trading day of AD, the CAR has a significant inclination and this sharp drop is shown in figure 4. This negative drift is relatively recovered in the (+2, +10) period. Furthermore, looking at the CARs of the announcement period (-1 to +1 days) for both A-share and H-share markets, there are no sluggish market reactions. These results imply that the Chinese and Hong Kong stock markets respond efficiently to the dividend announcements, and the negative share price reaction is consistent with the perception that a dividend decrease sends negative information to the public resulting in stock price drop. The results do not follow the findings from Chen et al. (2002) but are consistent with those of Petit (1972) and Aharony and Swart (1980).

Table 2 Summary of announcement effects of cash dividend changes

1. Abnormal returns around dividend announcement days							
Panel A: ΔDPS<0 N=138				Panel B: ΔDPS≥0 N=243			
A-share		H-share		A-share		H-share	
Days	AAR (%)	t-Statistic	AAR (%)	t-Statistic	AAR (%)	t-Statistic	AAR (%)	t-Statistic

Days	AAR (%) A-share	t-Statistic	AAR (%) H-share	t-Statistic	AAR (%) A-share	t-Statistic	AAR (%) H-share	t-Statistic
-9	-0.248*	-1.83	-0.095	-0.38	-0.096	-0.79	-0.023	-0.15
-8	0.067	0.27	-0.397**	-2.05	0.157	1.19	-0.214*	-1.42
-7	0.050	0.18	0.044	0.20	0.074	0.52	0.043	0.30
-6	-0.015	-0.09	-0.249	-1.24	-0.051	-0.38	-0.146	-0.65
-5	0.157	0.84	0.247	1.07	-0.084	-0.63	0.124	0.78
-4	-0.241*	-1.58	-0.021	-0.09	0.115	0.82	-0.090	-0.53
-3	-0.184	-1.10	-0.296*	-1.60	-0.081	-0.64	0.000	0.00
-2	-0.037	-0.21	-0.105	-0.57	0.023	0.20	0.021	0.14
-1	-0.361**	-1.96	-0.542**	-2.34	0.037	0.27	0.233*	1.36
0	-0.399**	-2.05	-0.794***	-3.30	0.175	1.01	0.008	0.04
1	-0.422***	-2.48	-0.893***	-2.68	-0.058	-0.37	0.221	0.93
2	0.145	0.81	0.135	0.54	0.256**	1.80	0.381*	1.63
3	-0.106	-0.58	-0.626**	-2.23	0.306**	2.20	0.269*	1.52
4	-0.042	-0.23	-0.282	-1.01	0.149	1.06	-0.044	-0.31
5	0.144	0.90	-0.135	-0.60	0.139	1.27	0.362**	2.11
6	0.035	0.15	0.020	0.09	-0.161*	-1.40	-0.172*	-1.34
7	0.283	1.13	-0.224	-1.06	0.125	0.95	0.073	0.51
8	-0.186	-1.09	-0.245	-1.03	0.042	0.28	0.022	0.12
9	-0.034	-0.17	0.370*	1.43	-0.004	-0.03	-0.070	-0.62
10	-0.124	-0.67	-0.160	-0.66	0.304**	2.06	0.278**	1.75

2. Cumulative average abnormal returns surrounding dividend announcement dates							
Days	CAR(%)	t-Statistic	CAR(%)	t-Statistic	CAR(%)	t-Statistic	CAR(%)	t-Statistic
$CAR_{-9,-2}$	-0.450	-1.02	-0.873*	-1.55	0.058*	0.19	-0.284	-0.70
$CAR_{-1,+1}$	-1.182***	-4.00	-2.230***	-4.96	0.154	0.56	0.462*	1.30
$CAR_{+2,+1}$	0.116	0.25	-1.147**	-1.77	1.156	2.87	1.100***	2.47

Note: * denotes a significance (from zero) of 10%

** denotes a significance (from zero) of 5%

*** denotes a significance (from zero) of 1%

All are one-tailed tests. Standard errors are used to compute the t-statistics.

This notation applies to all the tables in this paper.

When firms increased or kept the cash dividends, the market responded positively to these announcements. Most of the abnormal returns of the ten days after the cash dividend announcements are positive, and three of them are significant at a 5% level. Although the

abnormal returns and the CARs are not significant in the (-1, +1) period, the absolute values of the CARs and the t values have a rising tendency in the event period. The share prices were inclined to perform better 3 days after AD and the CAR is a significantly positive 1.37% on the tenth day succeeding the announcements. The result reveals the same conclusion as the theories suggest that dividend increases signal management's confidence in firms' future cash flows and the market interpreted those as sustainable increases in dividends.

Figure 4 Cumulative abnormal returns around the dividend announcement days
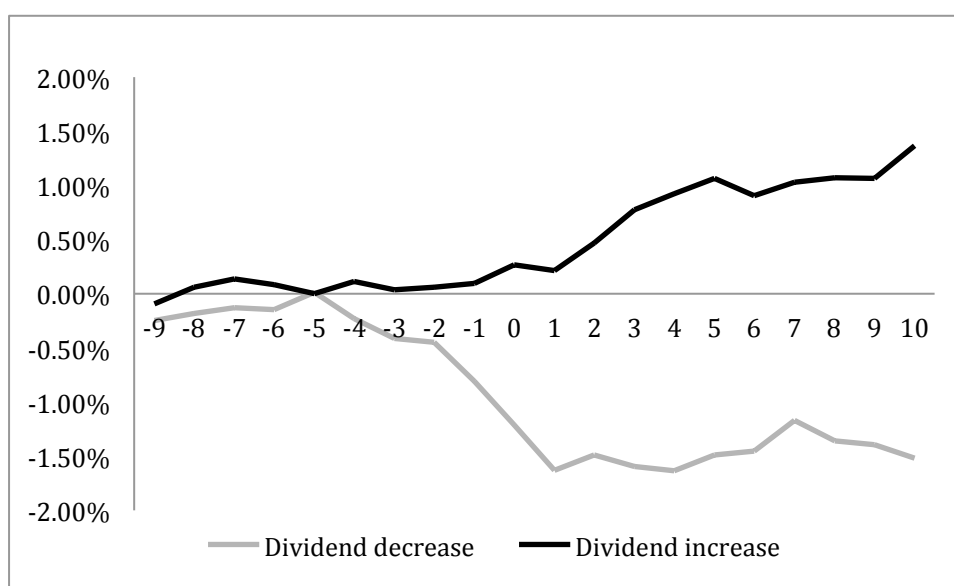
Nevertheless, no significant reaction was found from 10 to 2 days before announcements for both types of dividend changes, which indicates a comparably low level of information leakage for the sample companies. Although the information leakage phenomenon is prevalent in the Chinese market, cross-listed firms in the sample have reformed ownership structures and enhanced external governance, which could be part of the reasons for the decreased information leakage.

Table 3 Differences of CARs (cumulative abnormal returns) between dividend increase and dividend decrease

Category	A-shares		H-shares	
Days	CAR difference (%)	t-statistic	CAR difference (%)	t-statistic
CAR (-9, -2)	0.508	-0.95	0.588	-0.85
CAR (-1, +1)	1.337***	-3.32	2.692***	-4.69
CAR (+2, +10)	1.039*	-1.71	2.247**	-2.86

Notably, compared to dividend increases, the cumulative abnormal returns for dividend decrease announcements are of a much bigger magnitude. The greatest differences occur in the (-1, +1) window with CAR differences of 1.337% for the A-shares market and 2.692% for the H-shares market, both significant at a 5% level. These differences decline after 2 days succeeding announcements, which shows a quick price adjustment after the dividend announcement events.

4.2 Free cash flow hypothesis and share price reactions

The above mentioned subsets in chapter 4.1 are then divided into two groups respectively, with the aim of testing the free cash flow hypothesis: (a) sample firms with Q's greater than or equal to 1 (Q≥1), and (b) sample firms with Q's less than 1 (Q<1). The cumulative average abnormal returns together with t-statistics are presented for each of these groups.

Table 4 Performance measures of three event windows surrounding dividend announcement days

Market	A-shares			H-shares		
$CAR_{-9,-2}$(%)	ΔDPS≥0	ΔDPS<0	Difference	ΔDPS≥0	ΔDPS<0	Difference
Q≥1	0.295	-0.435	0.730	-0.638	-0.426	-0.212
	(-0.682)	(-0.705)	(-0.968)	(-1.215)	(-0.569)	(0.233)
Q<1	-0.189	-0.461	0.272	0.219	-1.199*	1.418*
	(-0.452)	(-0.743)	(0.363)	(-0.347)	(-1.475)	(-1.377)
(Q≥1)-(Q<1)	0.484	0.026		-0.857	0.773	
	(0.030)	(0.805)		(-1.043)	(0.701)	
$CAR_{-1,+1}$(%)	ΔDPS≥0	ΔDPS<0		ΔDPS≥0	ΔDPS<0	
Q≥1	-0.033	-1.064	1.031**	0.366	-2.020**	2.386**
	(-0.094)	(-0.819)	(-1.772)	(-0.976)	(-3.107)	(-3.179)
Q<1	0.349**	-1.267**	1.617**	0.599	-2.383***	2.982***
	(-2.283)	(-3.288)	(-2.813)	(-0.874)	(-3.827)	(-3.219)
(Q≥1)-(Q<1)	-0.382	0.203		-0.233	0.362	
	(-0.694)	(0.336)		(-0.299)	(0.403)	
$CAR_{+2,+10}$(%)	ΔDPS≥0	ΔDPS<0		ΔDPS≥0	ΔDPS<0	
Q≥1	1.411**	0.170	1.241*	1.571**	-1.143*	2.714**
	(-2.704)	(-0.255)	(-1.466)	(-2.962)	(-1.334)	(-2.693)
Q<1	0.889*	0.078	0.812	0.428	-1.149	1.577*
	(-1.438)	(-0.123)	(-0.919)	(-0.560)	(-1.222)	(-1.302)
(Q≥1)-(Q<1)	0.522	0.092		1.143	0.773	
	(0.645)	(0.101)		(1.228)	(0.005)	

As shown in table 4 and figure 5, from day -1 to +1, the CARs in both the stock markets are greater for Q<1 firms than those for Q≥1 firms. For dividend increase and decrease subsets, the CARs for Q<1 firms are significant at a 5% level while Q≥1 firms realized insignificant cumulative abnormal returns. When firms declared dividend decreases, the cumulative abnormal return is -1.267% and -2.383% for the A-shares and the H-share market respectively, with the later exhibiting high significance at a 1% level. Although the Hong Kong stock

market did not respond greatly for the dividend increase announcements, the CAR for Q<1 firms is still greater than it for Q≥1 firms (0.599% vs. 0.366%). In these cases, the comparably larger price impact for Q<1 firms is consistent with the predictions of the free cash flow hypothesis. If firms with less investment opportunities chose to decrease cash dividends, the markets regard this corporate decision as means used by managers to retain cash for private benefits or invest in projects that cannot create value for shareholders.

Figure 5 Performance comparison for two groups of firms with different Tobin's Q in two stock markets
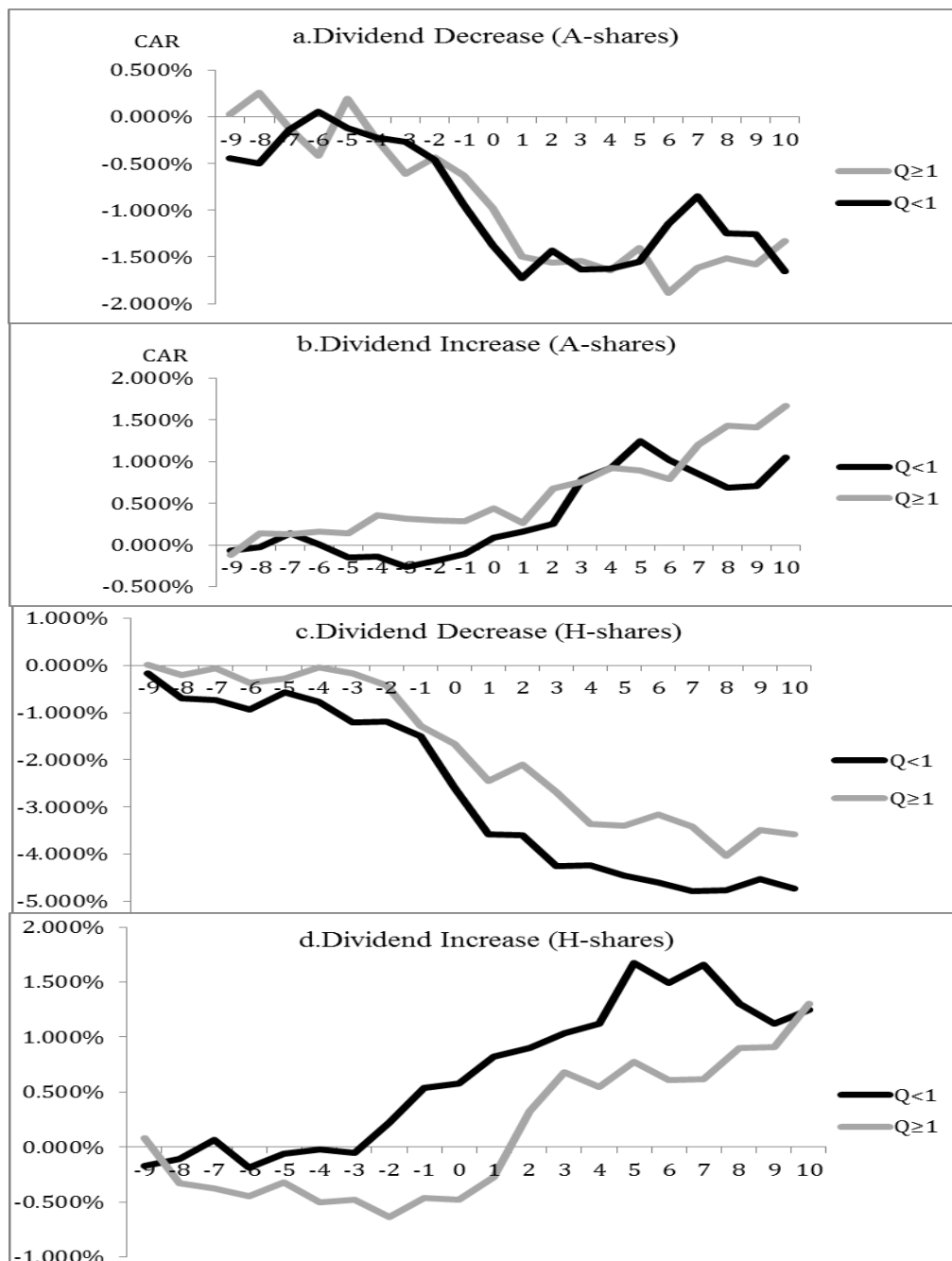
When firms increased or kept their dividends, it shows that in the event window (-1, +1) for the A-shares market, the CAR is 0.349% and significant at a 5% level for Q<1 group, while the CAR for Q≥1 group is insignificantly positive. The higher absolute value and significance of CAR for Q<1 group also provides evidence of free cash flow hypothesis, that is, cash dividends play the role of signalling firms' cash flows. The market welcome firms with less growth opportunities to distribute their excess cash to the shareholders because these firms have a propensity for overinvestment by accepting unprofitable projects. Therefore, a cash dividend increase signals less free cash flow used in poor projects and thus is in line with a reduction in agency costs.

Conversely, the markets seem to adjust the previous price movements faster for Q<1 firms. In the period 2 to 10 days post announcements, companies with Q's greater than 1 have an cumulative average abnormal return of 1.411% significant at a 5% level while those with Q's less than 1 realized a positive cumulative abnormal return of 0.889% significant at a 10% level. In other word, when the stock prices still show a strong rise with a 5% significance for Q≥1 firms, the CARs for Q<1 firms start to move towards the pre-event levels, resulting in the CARs are not only smaller but also less significant than those for Q>1 firms. Also, the differences between CARs of Q>1 firms and those of Q<1 firms are not significant in these three event windows, even in the (-1, +1) window, the absolute values of the differences are less than 5% and the largest difference, which is 1.143%, occurred when firms in the H-shares market announced dividend decreases in the 2 to 10 days after announcements. These evidences do not uphold the free cash flow hypothesis as the expected 10-day-after-event performance for Q<1 firms is more substantial than it for Q>1 firms and the hypothesized differences between CARs for these two groups of firms (Q>1 and Q<1) are significant especially in the (-1, +1) event window.

4.3 Cross-Listing and Announcement effects of Cash Dividend Changes

In the H-shares market, there are more active international investors than in the A-shares market. In this context, more transparency is required to enterprises listed in the Hong Kong exchange, mainly due to the higher requirements established by analysts. On the contrary, China A-shares market is restricted from the eyes of both foreign and local investors. Due to the difficulty of international investors to access the Chinese equity market and Chinese investors to invest in the foreign market, large problems associated with protection of minority shareholders and corporate governance emerged long time ago. Under this interesting framework, a great deal of academic research focuses on the abnormal returns surrounding the announcement days of cross-listings of companies (e.g., Foerster and Karolyi, 1999). This study follows the similar approach but gives more emphasis on the announcement effects of dividends and incorporates the previous two theories of dividends to investigate whether the perceived freer H-shares market responded favourably to the enhanced corporate governance of the H-share listed firms whose main markets are in China mainland.

Table 5 Differences of CARs (cumulative abnormal returns) between the A-shares market and the H-shares market

$CAR_{-9, -2}$(%)	$\Delta DPS \geq 0$ (A-H)	$\Delta DPS < 0$, (A-H)
	0.933	-0.009
$Q \geq 1$	(1.372)	(-0.010)
	-0.409	0.738
$Q < 1$	(-0.539)	(1.241)
$CAR_{-1, +1}$(%)	$\Delta DPS \geq 0$ (A-H)	$\Delta DPS < 0$, (A-H)
	-0.399	0.956
$Q \geq 1$	(-0.779)	(1.195)
	-0.250	1.115*
$Q < 1$	-(0.310)	(1.523)
$CAR_{+2, +10}$(%)	$\Delta DPS \geq 0$ (A-H)	$\Delta DPS < 0$, (A-H)
	-0.160	1.313
$Q \geq 1$	(-0.215)	(1.209)
	0.461	1.227
$Q < 1$	(0.469)	(1.083)

Note: The CAR difference is calculated as the CAR of the A-shares market minus the CAR of the H-shares market for different groups of firms, and the t-statistic is the result obtained from the t-test for difference in mean

with unequal variances for the CARs in the two stock markets.

If the more stringent external monitoring environment of the Hong Kong market strengthens the corporate governance of firms, the H-shares stock market would give more penalties for firms' decisions of decreasing cash dividends. It can be seen in table 3 that when firms announced cash dividend decreases, the magnitude of share price drop measured by the negative CAR in the H-shares market is larger than its counterpart in the A-shares market. As shown in table 5, in the (-1, +1) period, the difference is 0.956% for Q>1 firms and 1.115%, which is significant at a 10% level, for Q<1 firms. We can also see that for firms with lower Q's, the Hong Kong market investors punished the firms more heavily because of investors' anticipation for overinvestment problems in these mature firms. Even in the period of 2 to 10 days following the announcements, the H-shares market still showed more negative reaction towards this corporate decision even though the difference against the A-shares market is not significant enough to generate a strong comparison. It also could be noted that 10 to 2 days after the decision announcements, the share prices already started moving unfavorably which indicates an uncertain degree of information leakage, which is not expected for the H-shares market in particular.

However, when firms declared cash dividend increases, the Hong Kong stock market surprisingly underreacted to these announcements. Despite the fact that the cumulative average abnormal returns are marginally larger than those in the A-shares market in the (-1, +1) period, the high standard deviations arising from investors' diverge reactions towards different companies drives the low t-statistics for both Q>1 and Q<1 firms. This evidence seems cannot support the hypothesis that the Hong Kong market responds more positively to the cash dividend increase announcements from Chinese cross-listed companies. Regardless of this relatively softer effect, it can be inferred from the larger and more significant differences between the CARs of the increasing-cash-dividend group and those of the decreasing-cash-dividend group that share price changes around the announcement days in the H-shares market reinforced the informational role of cash dividends, in the context of signals of future cash flows and agent conflicts.

Chinese companies that decided to cross-list their shares in Hong Kong expose themselves to greater scrutiny from the Hong Kong regulators and international investors. Because it becomes more difficult for the managers to make corporate decisions based on their private benefits and the controlling shareholders to seize benefits from minority ones, improved company value is expected and the H-shares stock market is supposed to recognize this enhancement through more considerable share price reactions. Nonetheless, the above analysis only half supports the bonding theory.

4.4 Regression Results

To analyse the implications of the factors influencing the stock price response to cash dividend announcements, two cross-sectional regressions are performed for the A-shares market and the H-shares market. In this analysis, the cumulative average abnormal returns on the period encircling the event ($CAR_{-1, +1}$) are regressed against several independent variables such as percentage change in dividend (%ΔD), firm size (SIZE), profitability (ROA), long-term debt ratio (LEVERAGE), Tobin's Q ratio (Q) and year and industry dummy variables. The resulting model is the following:

$$CAR_{i, -1 +1} = \beta_0 + \beta_1 * \Delta DPS_i + \beta_2 * SIZE_i + \beta_3 * ROA_i + \beta_4 * LEVERAGE_i + \beta_5 * Q_i$$

$$+ a * YEARS_i + b * INDUSTRIES_i + \varepsilon_i$$

Where $CAR_{-1, +1}$ is the cumulative average abnormal returns of three days around cash dividend announcements. %ΔDPS is the year-on-year percentage change in the cash dividend and is calculated as LN (DPS_t /DPS_{t-1}). The firm-specific features variables are firm size, ROA, leverage and Tobin's Q. SIZE is represented by the logged market capitalisation of the company on the last day of every fiscal year. ROA is the actual value for Return on Assets for year ending. LEVERAGE represents the percentage of long-term debt in total capital. Tobin's Q is used as a proxy for growth opportunities. Dummy variables representing each year were added to incorporate the year effects in the model. Industry dummies are employed to investigate the industry effects and this study uses the UK standard industry classification 2007 (UK SIC 2007).

Table 6 Regression analysis of cumulative abnormal returns on dividend change announcements

	A-shares market		H-shares market	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic
Constant	-3.9283	-1.3269	-0.5813	-0.1926
ΔDPS	0.0094***	4.7708	0.0147***	6.3318
SIZE	0.3453*	1.8829	-0.0047	-0.0313
ROA	0.1042*	1.8356	0.0292	2.0189
LEVERAGE	0.022**	1.9996	0.1038**	1.6455
Tobin's Q	-1.0739	-1.5832	0.5423	0.8938
YEAR 2011	-0.7113	-1.367	0.0005	0.0007
YEAR 2012	-0.5977	-1.1652	-0.1577	-0.239
YEAR 2013	-0.6438	-1.2556	-0.7606	-1.1327
Basic materials	-2.0978*	-1.9232	-1.2829	-1.0247
Technology	-0.9934	-0.6249	-0.8789	-0.4498
Utilities	-3.3204***	-2.8708	-2.7403**	-2.0512
Consumer services	-1.1859	-0.8719	-1.9876	-1.1997
Consumer goods	1.8186	1.0284	-4.4719**	-2.2637
Financials	-1.9478	-1.4674	-0.7108	-0.5743
Industrials	-2.6384***	-2.6436	-2.2686*	-1.8767
Oil & Gas	-3.0356**	-2.2606	-2.5335*	-1.8784
Adjusted R2	0.18919		0.2107	
F-value	3.75634		4.0362	
Observations	N=195		N=186	

Table 6 displays the regression output for the sample containing both A-share and H-share listed firms. %ΔD has a strong explanatory power on cumulative abnormal returns in both markets (t=4.7708 and 6.3318), which indicates that the larger the difference between the cash dividends firms paid in year t and those they paid in year t-1, the larger the reaction from the investors. Moreover, the coefficient of SIZE and ROA reveal positive signs and are significant at 10% level in the A-shares market. This result lends support to the conception that the higher the profitability of firms, the higher abnormal returns they earned when they decided to distribute some of the earnings to investor. On the other hand, the "small size effect" (Fuller, 2003) has been challenged in the A-shares market because small firms did not gain higher abnormal returns than large firms when firms declared cash dividend increases. However, in the H-shares market, the negative sign of SIZE supports this effect to some degree. It appears that leverage explains relevant variations and it has similar degree of effect

on cumulative abnormal returns in both markets (ß_4 =0.022 versus 0.0292). This result is somehow unanticipated because of the perception that firms raised more debt partly used to pay out. The higher risk incurred should have led the market to less favor the cash dividends, but in this analysis, the market responded more favorably to the good news for firms with higher leverage. In addition, although the coefficient of Tobin's Q (ß_5=-1.0739) is not statistically significant, it's negative sign is consistent with the notation that the more growth opportunities firms have, the weaker the reaction the market showed towards their announcements of increases in cash dividends. It is relevant to highlight that in the Hong Kong market, the positive sign of Tobin's Q confirms the findings presented in the last chapter that the H-shares market gave heavier penalties on stock prices when firms decreased their cash dividends.

5. Summary and Conclusion

This paper investigates the stock price changes to dividend change announcements for a sample of firms cross-listed in the Shanghai Exchange/Shenzhen Exchange and Hong Kong exchange. This study attempts to investigate the signalling role of cash dividends in conjunction with the agency conflict model developed by Jensen. Different from previous studies that are based on a single market, this study looks into two types of stock markets in China (the A-shares and the H-shares markets) which aims at further exploring whether the markets response positively to the "bonding effects" of cross-listed firms.

Although the A-shares market in China only have two-decade development and the market-based economy is immature, cash dividends appear to incorporate information for the investors. Based on the results obtained, there is marginally significant association between cash dividends and stock returns in the A-shares and the H-shares markets. The market did response strongly to dividend increases and decreases especially in the (-1, +1) period. The evidence is consistent with findings from the USA and other developed markets meaning that the stock markets react to the announcements of corporate news with haste and accuracy.

Under the unique institutional framework in China, the major agency problem was the conflicts between the controlling shareholders who hold non-tradable stocks and minority investors who hold tradable shares. However, the result shows that, with the process of the SOE reform, the markets do not have the tendency to interpret cash dividends only as a tool for controlling shareholders to funnel cash from the listed companies to themselves in the recent years. Therefore, the main agency problem of Chinese listed firms may have transferred to the conflicts between the managers who can make decisions more autonomously after this ownership reform, and shareholders. In this context, the markets regard dividend increases as a committal for the reduction of agency problems. As shown in the results, cumulative abnormal returns are of larger magnitudes and significance for firms with less growth opportunities (Q<1) than for growing or stable firms (Q>1) although the

differences have limit significance in any event period.

More recently, Chinese firms have been using cross-listings in Hong Kong as a mean of raising capital. In a more stringent legal regime, enhanced corporate governance termed as "bonding" and increased investor base have been important to companies' dividend policy. In the analysis, the difference between cumulative abnormal returns in the A-shares and the H-shares markets shows that compared to the A-shares market, the H-shares market gave more negative responses to corporate decisions of reducing cash dividends but reacted less positively for dividend-increase announcements. The results go a step further to show that due to the lack of significance of the differences in any event period for both types of dividend changes, the evidence supporting the link between corporate governance in terms of investors' reactions to cash dividend changes and cross-listing is limited.

Overall, the investors in China paid more attention to the signalling role of cash dividends, whereas investors in Hong Kong valued dividends' role of reducing agency costs arising from free cash flows. The empirical findings in this study have practical implication for investors and regulators. Investors can obtain a comprehensive understanding of the different roles of cash dividends in these two prevailing stock markets in Asia and determine their investment strategies by taking the information content of cash dividends and corporate governance into account. This study also provides theoretical and empirical corroborations for the regulators for the protection of minority shareholders and their interests and provisions to be implemented for cash dividends.

Further research can be guided to the examination of long-term performance of these Chinese firms announcing dividend changes who cross-listed in Hong Kong or even in other developed markets such as the US and the Europe. Additionally, Chinese listed firms use stock dividends greatly and make joint announcements of cash and stock dividends every fiscal year. The absence of disentangling the impact of the two signals in this study may result in limited conclusions. Therefore, the separate impact of cash dividends and stock dividends is to be examined under the background of cross-listings and agency problems.

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