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Internal Capital Market Mergers in Weak External Market Environment: An Emerging Market Evidence

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Using Chinese Split-Share Structure Reform as backdrop, we study the alternative theories explaining the change in objectives of internal capital markets (ICMs) after regulatory intervention. Focusing on related-party merger and acquisitions, as the primary form of ICM transactions in China, we document significantly positive performance improvement among the acquiring firms around related-party than non-related-party merger and acquisitions in the period following the split-share structure reform. This evidence is particularly stronger among acquirers with lower institutional shareholding. Our findings are invariant to the length of performance evaluation window, matched samples, model specifications, acquirers' ownership structure and business group affiliations. After controlling for alternative channels of tunnelling and propping, contrary to the popular belief, our findings support the bright-side view of ICMs post-regulatory intervention in an emerging market setup.

JEL Classifications: G3, M4

Keywords**:** internal capital market; M&A; related-party; tunnelling; China

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1. Introduction

For the last two decades, corporate governance has been on the forefront of policy debates (OECD, 2015). Essentially, it relates to the mechanisms, processes, and relations by which corporations are controlled and directed. Corporate governance not only encompasses the relationships and ensuing patterns of behaviour between different agents in a limited liability corporation, but also requires the assistance of public policy in the form of periodic regulatory intervention; since ultimately all corporate strategies have to be formulated within a legal and regulatory framework.

In their seminal study, Shleifer and Vishny (1997) argue that – "*understanding the subject of corporate governance improvements is of enormous practical value in transition economies, which will stimulate governance reform for better economy*". In this paper, we re-evaluate the competing views of internal capital markets (ICMs) in an emerging economy. We use a major corporate governance reform in China as an exogenous shock to examine its impact on changes in merger-related value creation for ICMs among Chinese listed firms. In particular, Allen et al. (2005) show that Chinese laws for investor protection, financial system and corporate governance mechanism are significantly inferior to most developed countries. Traditionally, besides tradable shares (mainly classified as A-shares), firm ownership structure in China was comprised of non-tradable shares classified as state shares and/or legal person shares. Until the beginning of 2005, around two-third of the outstanding shares were non-tradable in China. Moreover, the majority of listed firms in China are carve-outs from large State-Owned Enterprises (SOEs) under the control of the Chinese government or its agencies at central and local/provincial level (Li et al., 2011; Liao et al., 2014). On Sept. 4th, 2005, China Securities Regulatory Commission (CSRC) announced a market wide non-tradable share reform plan after successfully piloting a first batch of three companies on May 9th, 2005 and a second batch of 42 companies on June 20th, 2005. This Split-Share Structure Reform granted legitimate trading rights to the state-owned shares of listed SOEs with a compensation paid by non-tradable shareholders to tradable shareholders, thereby opening up the gate to China's secondary privatization (Firth et al., 2010, Li et al., 2011; Liao et al., 2014). Overtime, the reform has been well justified as an exogenous shock which led to risk sharing between minority and controlling shareholders (Li et al., 2011), performance improvement

(Campello et al., 2014； Liao et al., 2014; Hou et al., 2015),[1] reduced tunneling activities (Liu and Tian, 2012), changes in earnings management and tax avoidance activities (Hou et al., 2015).

The above literature generally examines the impact of the Split-Share Structure Reform on firms, and in comparison, very limited attention has been paid to its consequences on business transactions. Business groups and related-party networks in China not only internalize goods and service transactions, but also capital transactions. Therefore, M&A decisions can be a vital capital resource allocation mechanism within ICMs (Chen et al., 2007). In light of extensive evidence documented in the prior literature on corporate governance and takeover outcome, we believe that M&As are ideally suited in the context of our study on value gains from ICMs following a major regulatory reform. As per the basic statistics from our data for the Chinese M&A market, related-party M&A deals account for almost 45% of total deal volumes, simultaneously accounting for over one-third of the total transaction value even in the post-Split-Share Structure Reform period.[2] However, so far no prior work has paid sufficient attention to the shareholder value implications of the ICMs or equivalently stock price stability around these important transactions, particularly with respect to M&A investment decisions within ICMs after the completion of a major government initiated regulatory intervention *i.e.* Split-Share Structure Reform. In this study, we try to bridge this vital gap.

We conduct a battery of difference-in-differences tests, and document two important findings. First, bidders' short-term excess return around deal announcement increased principally in the post-split-share structure period compared to pre-split-share structure reform period, and the performance improvement was significantly larger for related-party than non-related-party M&A. Second, these effects are particularly strong among the sub-sample of low mutual fund shareholding acquirers compared to the high mutual fund shareholding acquirers. Our evidence is consistent with Berkman et al. (2011) and Campello et al. (2014) on heterogeneous effect of major corporate governance reform, wherein weakly governed firms benefited substantially more from the government initiated regulatory reform in China. These results remain robust for group-affiliated and non-affiliated acquirers.

[1] Chen et al. (2008) find a significant positive impact on corporate profitability and efficiency when firm controlling ownership is transferred from the state to a private entity rather than another branch of state.

[2] See section 3 for the definition of related-parties in China.

Abusive related-party transactions – where a party in control of a company enters into a transaction leading into the value destruction for the non-controlling shareholders – are one of the main attributes to stock market instability and the biggest corporate governance challenge facing the Asian business landscape (OECD, 2015). In this paper, we present new findings which are contradictory to a negative view of related-party transactions (Bae et al., 2002; Cheung et al., 2006; Jiang et al., 2010; Jian and Wong, 2010; Peng et al., 2011; Liao et al., 2014; *etc.*). In particular, we extend Bae et al. (2002)'s study which examines tunneling through value-destroying acquisitions by Korean business group-affiliated (*Chaebol*-affiliated) bidders, or Peng et al. (2011) wherein financial conditions play an important role in affecting tunneling- or propping-based related-party transactions in China. Contrary to these prior studies, our empirical evidence is in line with the bright-side view of ICMs (Gertner et al., 1994; Stein, 1997), and offers new insight to ICMs theoretical framework, *i.e.* corporate governance improvement through regulatory intervention within a country can determine the trade-off between advantages and disadvantages of ICMs. This study hence provides Chinese experience which governments in Asia may compare while seeking answers to common problems in fighting abusive related-party transactions.

On another front, privatization continued in post-2000 period, but the pattern of global privatization shifted from secondary-share public offering in Western Europe to a wide variety of divestment methods in emerging markets, which calls for further policy evaluations, especially in China where it significantly accelerated in post-split-share structure reform period (Megginson, 2017). In 2000 China's GDP at market prices was US$1.21 trillion, and represented only about 3.6% of global GDP; by 2015 these values had reached US$11.06 trillion and 17.52%, respectively. Over this short period, China became the world's leading manufacturer, exporter, and based on GDP measured at purchasing power parity, the largest economy internationally (Megginson, 2017). Such unprecedented growth in less than two decades by Chinese firms cannot be achieved without consistent improvement of its corporate governance environment, particularly its legal system, accounting standard, and capital market enforcement mechanisms (Firth et al., 2010; 2016). These dynamic changes provide us with an ideal transforming corporate environment to test shifting roles of ICMs.

In terms of policy implications, we believe that by holding non-tradable shares, state / legal person was deprived from the wealth (or capital) gains through successful investment decisions,

and thus had limited incentives to monitor managers or ensure firm value maximization. Hence, we provide empirical evidence that the 2005-split-share structure reform has been beneficial to minority investors and firms alike, especially when the Chinese firms were opening doors for both international investments in China and acquisitions by Chinese firms abroad. Overtime, this long-term commitment has benefitted the capital markets in China in the form of constant attention to the quality of governance, presence of self-regulatory set-up to control managerial collusion with dominant shareholders, and most importantly enhanced cooperation of international institutions with firms in China.

The remainder of this paper is organized as follows. Section 2 discusses the theoretical background of ICMs and split-share structure reform along with our main hypotheses. Section 3 describes the data source, sample selection process, and methodology. Section 4 discusses the empirical results, and we conclude the paper in section 5.

2. Institutional background in China and hypothesis development

Business groups are the dominant organisational form of large firms outside the United States, especially in emerging markets (Khanna and Palepu, 2000; OECD, 2015). Network of firms which are often legally independent, but engage in capital transactions among them creates ICMs. Stein (1997) suggests that ICMs are an important source of capital in emerging economies due to underdeveloped external financial markets. Corporations in emerging markets are often under the control of a dominant shareholder (Gopalan et al., 2007). Concentrated ownership within firms can lead to principal–principal conflict of interest between controlling and minority shareholders (Shleifer and Vishny, 1986, 1997), wherein former are motivated to expropriate the later by *tunnelling* private wealth from the listed firms (Johnson et al., 2000). In brief, tunnelling is a common mechanism through which controlling shareholders extract private rent from ICMs, and is particularly prevalent in emerging markets (*e.g.*: Shin and Stulz, 1998; Allen et al., 2005; Baek, et al., 2006; Jiang et al., 2010; *etc.*).

However, some studies suggest that ICMs, especially within a business-group setting can add value by reducing asymmetric information while making investment decisions, lowering transaction cost through intra-group related-party transactions, mitigating external capital market frictions, offering cheap financing to distressed group-affiliated firms, and sharing financial risk

among members (Khanna and Palepu, 2000; Almeida and Wolfenzon, 2006; Gopalan et al., 2007). In essence, ICMs can mimic important characteristics of market mechanism in advanced economies and offer an effective economic response to emerging market limitations – poor investor protection, weak contract enforcement, low information disclosure, and underdeveloped external capital markets (Khanna and Palepu, 2000; Amewu and Alagidede, 2018). Hence, prior literature has proposed two contradictory theories of ICMs – the *bright-side view* (advantages) and *dark-side view* (disadvantages) of ICMs. The bright-side view suggests that corporate headquarters with intensive monitoring power, strong control rights, and lower information asymmetry will adopt a *winner-picking* strategy by allocating internal resources to the subsidiaries with better investment opportunities (Gertner et al., 1994; Stein, 1997). The dark-side view states that ICMs are likely to suffer from managerial entrenchment *i.e.* rent-seeking, power-grabbing, empire-building, and tunneling behavior, leading to value-destroying investment decisions. The problem is exacerbated in emerging markets due to weak institutional set-up (Khanna and Palepu, 2000; Scharfstein and Stein, 2000).

Related-party transactions are commonly perceived as profit-shifting tools among group-affiliated companies to reduce taxes, prop-up earnings, and tunnel profits (Jian and Wong, 2010; Peng et al., 2011; Liu and Tian, 2012; Liao et al., 2014). Several recent studies have investigated stock market's reaction to the announcement of related-party transactions by listed firms as a direct evidence of either shareholder value- gains (propping) or losses (tunnelling). For instance, Bae et al. (2002) reports that M&As made by Korean-*Chaebol* firms experienced significant negative returns around their announcement, but these acquisitions increased the value of other firms within their affiliated group. Cheung et al. (2006) show that Chinese firms listed in Hong Kong earn significant negative excess return and lower CAR after announcing connected transactions than arm's length transactions. Peng et al. (2011), based on a pre-split-share structure sample find that financially healthy Chinese listed firms announcing related-party asset acquisitions experienced significant negative returns, but earned positive abnormal returns when they were classified as distressed by either of the two stock exchanges in China. Unlike Bae et al. (2002) which analyses both acquirers and target firms in Korea, we follow Peng et al. (2011) and only analyse listed Chinese acquirers, due to the lack of information on target firms and trading party in related-party transactions since they are virtually all private firms in China.

In the context of our study, due to the organizational structure of Chinese listed firms and their reliance on financial resources from corporate groups, ICMs play an important role for Chinese bidders. In early research on the efficiency of ICMs, Gertner et al. (1994) and Stein (1997) suggest that ICMs have several important advantages; including increased monitoring power, strong control rights, and superior information flow enjoyed by group headquarters to ensure internal funds are allocated efficiently to subsidiary firms with best investment opportunities. Khanna and Palepu (2000) argue that ICMs in developing countries can mimic the effective market mechanism in advanced economies, thus better facilitating efficient allocation of financial and managerial resources. Almeida and Wolfenzon (2006) find that pyramid ownership structure of family business groups provides an economic advantage in setting up new companies when external funding is limited. Gopalan et al. (2007) reports that business groups in India provide intragroup loans to weak member firms to avoid bankruptcy. He et al. (2013) investigates Chinese business groups, and find that ICMs add value by sharing risk among member firms and provide alternative; often cheaper financial channels for group-affiliated firms.

The primary objective of the 2005-split-share structure reform in China was to align the interests of minority and controlling shareholders (Firth et al., 2010; Li et al., 2011; Chen et al., 2012; Liu and Tian, 2012; Liao et al., 2014; Hou et al., 2015). In light of the benefits of the 2005-split-share structure reform on firm performance and governance documented in literature, we expect ICMs to play a stronger role in facilitating value-enhancing related-party M&As for Chinese acquirers after the reform. First, the successful completion of split-share structure reform is likely to reduce controlling shareholders tunnelling in the form of related-party transactions in China (Liu and Tian, 2012; Liao et al., 2014). Second, due to the vested financial interest in the form of stock-based compensation and the fear of job termination in case of poor stock performance post-acquisition, managers are better incentivised to grant internal financial resources to profit maximizing investment decisions in the post-reform period (Campello et al., 2014). Additionally, compared to the bidders announcing non-related-party M&A deals, related-party M&A bidders can obtain a better flow of information on operational and financial performance of related targets due to decreased information asymmetry between the two parties. Therefore, within the ICM setting; we believe that related-party M&A deals undertaken by Chinese bidders in the post-split-share structure reform period generated higher shareholder wealth compared to non-related-party M&As. By employing M&A event study methodology and using difference-in-

differences tests, we develop our first hypothesis that related-party M&As can generate larger positive excess return in the post-split-share structure reform period. First hypothesis is given as:

H1: Based on deal announcement CARs, merger performance improved following the split-share structure reform, and related-party M&As experienced larger post-split-share structure reform performance improvements than non- related-party M&As.

With respect to our second hypothesis, we study the effects of institutional shareholders, specifically mutual funds on the market valuation of firms announcing related-party M&As before and after the split-share structure reform. The Chinese emerging stock market is dominated by the retail investors (Li and Wang, 2010). To strengthen corporate governance and reduce speculative behaviour in the stock market, the Chinese government made the strategic decision in 2000 to develop mutual funds as institutional investors (Firth et al., 2010; 2016; Wang et al., 2019). Institutional ownership is an important governance mechanism which plays a crucial role in monitoring managerial decision-making and firm performance. In Chinese reference, supervisory role of the institutional investors is particularly important since the protection of minority shareholder rights is weak and the level of corporate governance quality is relatively low (Allen et al., 2005; Firth et al., 2010; 2016; Wang et al., 2019). Besides better-informed institutional traders help to lower the stock price volatility in China (Li and Wang, 2010). Although institutional investors may not be directly involved in M&A activity, they have a fiduciary obligation to monitor firm management in order to maximize their own investment value. Hence, the presence of institutional investors may be associated with value-enhancing acquisitions because they can administer their right either directly by the voice of proxy vote or indirectly through voting with their feet (Shleifer and Vishny, 1986). Therefore, the involvement of institutional investors in shareholder activism can resolve the principal-agent conflicts and benefit shareholders in the long-run (Jensen and Meckling, 1976; Shleifer and Vishny, 1986, 1997; Chen et al., 2007).

Some researchers suggest that the presence of institutional investors, particularly large shareholding of institutions with long-term investment horizon can facilitate merger bids through informational advantage gathered by the financial analysts, which bridges the gap of information asymmetry between bidders and targets (Chen et al., 2007; Ferreira et al., 2009). High institutional ownership among bidders is positively associated with successful execution of takeover, and these bidders are less likely to pursue value-destroying acquisitions (Ferreira et al., 2009). More recently,

Firth et al. (2010; 2016) and Wang et al. (2019) have emphasize on the rapid growth of institutional shareholders in listed firms, primarily driven by mutual funds since early 2000s. Chen et al. (2007) also emphasize that only mutual funds with large shareholding and long-run investment horizon have the power and incentives to monitor M&A decisions. Therefore, bidders with no or low mutual fund ownership are subject to poorer quality of external corporate governance compared to their peers. Consistent with Berkman et al. (2011) and Campello et al. (2014) that weakly governed firms benefited more from regulatory governance reform in China, we predict that bidders with no or limited mutual fund ownership will benefit more from related-party M&As in an ICM setting under the improved governance system following the split-share structure reform. So, our second hypothesis is as follows:

H2: The difference in post-split-share structure reform performance improvements (between related-party and non- related-party M&As) is larger within deals made by lower mutual fund shareholding acquirers than acquirers with higher mutual fund shareholding.

3. Data description and methodology

We collect M&A data from China Stock Market and Accounting Research (CSMAR) database (*e.g.*: Jian and Wong, 2010; Liao et al., 2014; Bi and Wang, 2018; *etc.*). We apply following set of criteria for M&A deals made by firms listed on Shanghai and Shenzhen Stock Exchanges from Jan. 1st, 2000 to Dec. 31st, 2014: 1) The merger deal must be successful. 2) The deal value is at least 10 million Chinese Yuan or more. 3) Neither the bidder nor the target is in financial or utility sector. 4) Multiple deals announced by the same bidder on the same date and within 21-day event window (-10 days to +10 days) surrounding the announcement, and the deals announced on non-trading days are excluded. 5) Acquirer's stock prices must be available for 250 trading days prior to deal announcement and available for each day within the 21-day event window (-10 days to +10 days around the deal announcement). 6) The year-end financial and accounting data for the bidder prior to the announcement-year should be available. 7) Outliers with obviously flawed accounting ratios, including negative book values are dropped. Our final sample contains 2,220 successful M&A deals from 1,438 Chinese listed acquiring firms over a fifteen-year sample period. 687 deals took place before the acquiring firms successfully completed split-share structure reform and 1,533 deals were announced after they completed the reform.

We follow classification of related-party M&A and Non-related-party M&A deals according to deal type information compiled by CSMAR[3]. This divides our data into two groups of 898 related-party M&A and 1,322 non-related-party M&A deals. Bidder-level data on corporate governance (including firm ownership and controlling shareholder type), accounting, and stock prices is also collected from CSMAR. Furthermore, following He et al. (2013), we classify bidders as group-affiliated bidders if their ultimate controlling shareholders have at least two independent firms. All other bidders for related-party M&As are classified as non-group-affiliated bidders. We manually collect this information for all sample firms from their official websites and financial reports. Table 1 summarizes the deal information by merger announcement year in panel A and by industry in panel B. In panel A, we observe that around 72% (1,595) of the total deals were undertaken by acquirers affiliated with business groups. Approximately 90% (1,995) of the deals were paid by pure cash, and remaining 5.3% (120) by cash and stocks mixed. As over half of listed companies in China are in the manufacturing sector, panel B shows that *circa* 60% (1,306) acquisitions in China were concentrated in this sector.

[Please insert Table 1 about here]

To examine gains and losses in equity value, we use standard event study methodology to compute CARs of the bidders based on market model over a 3-day event window (-1, +1) and a 5-day event window (-2, +2) around the deal announcement dates using the following steps:

First, daily abnormal returns for stock *i* on day *t*, denoted as AR_{it}, is calculated as:

$$AR_{it} = R_{it} - E(R_{it})$$

Where R_{it} and $E(R_{it})$ are the corresponding actual stock return and the expected stock return respectively. The expect stock return $E(R_{it})$ is computed from the market model:

$$E(R_{it}) = \alpha_i + \beta_i * R_{Mt}$$

The parameters α_i and β_i are estimated using the actual stock returns and market index returns over the estimation period from 250 to 10 trading days prior to the merger announcement date. Using α_i and β_i obtained for each event-firm, as well as Shanghai or Shenzhen value-

[3] See Huang (2016) for definitions of related-parties as per Chinese GAAP.

weighted market index return on day *t* (depending on the firm's listing location), namely R_{Mt}, the expected return on stock i for day t is then computed again using the above market model.

Second, we calculate 3-day CARs and 5-day CARs as the sum of the daily abnormal returns through the announcement event window (-1, +1) and (-2, +2) respectively as follows:

$$CAR(-1,+1)_i = \sum_{t=-1}^{1} AR_{it};\ CAR(-2,+2)_i = \sum_{t=-2}^{2} AR_{it}.$$

To test hypothesis H1, we adopt the following difference-in-differences model:

$$CAR_i = \alpha_0 + \beta_1 RPMA_i + \beta_2 SSSR_i + \beta_3 RPMA_i * SSSR_i + \gamma Controls_i + \delta IND_i + \tau YEAR_i + \varepsilon_i$$

------ (1)

Dependent variable in the equation is 3-day or 5-day CARs. $RPMA_i$ is a dummy which equals to 1 if the acquirer and the target firms are related-parties, or otherwise 0. $SSSR_i$ is also a dummy which equals to 1 if the acquiring firm has successfully completed split-share structure reform in financial years prior to the M&A deal announcement, or otherwise 0. Coefficient β_3 on the interaction variable $RPMA_i * SSSR_i$ shows the difference in post-split-share structure performance improvements between related-party and non-related-party M&As. Coefficient β_1 shows the marginal effect of related-party M&A deals on CARs compared to non-related-party M&As deals prior to split-share structure reform. Coefficient β_2 shows the effect of split-share structure on non-related-party M&A CARs. α_0 is the regression intercept and ε_i is the error term.

$Controls_i$ represents a number of control variables. First, in line with recent M&A literature (Ferreira et al., 2009; Liu et al., 2017; Amewu and Alagidede, 2018; Bi and Wang, 2018), we include basic deal characteristics. LOGRS is the log of relative deal size. CASHPAY (STOCKPAY) is a dummy which equals to 1 if payment method is pure cash only (stocks only), and 0 if otherwise. SOE is a dummy if the acquirer firm's controlling shareholder is the government or a government agency. TARGETLIST is a dummy which equals to 1 if target firm is listed on stock exchanges, and 0 if not. Additionally, aspects of corporate governance are also considered. These are the controlling shareholders' excess control rights (EXCON), percentage shareholding by the largest shareholder (NO1SH), CEO duality (CEOD), log of total number of directors on board (BSIZE), and percentage of independent directors on the board (BIND). We

also control for mutual fund percentage ownership (FUNDSH) as of the financial year-end before the deal announcement due to their monitoring role on firm governance (Firth et al. 2010; 2016). We also control for basic acquirer firm characteristics as of the fiscal year-end prior to deal announcements – firm size (LOGMC), market-to-book ratio (M/B ratio), net operating free cash flow scaled by total sales (NOPCF/SALES), and industry median-adjusted financial leverage (EXLEV) (Liu and Tian, 2012). Following Bouwman et al. (2009), we control for industry and year fixed effects by including industry dummies IND_i and year dummies $YEAR_i$ in the model.

In order to test hypotheses H2, we adopt a revised version of the model described for H1 above, namely difference-in-difference-in-differences model, as follows:

$$CAR_i = \alpha_0 + \beta_1 RPMA_i + \beta_2 SSSR_i + \beta_3 RPMA_i * SSSR_i + \beta_4 RPMA_i * SSSR_i * HFUND_i + \beta_5 HFUND_i + \beta_6 RPMA_i * HFUND_i + \beta_7 SSSR_i * HFUND_i + \gamma Controls_i + \delta IND_i + \tau YEAR_i + \varepsilon_i$$

----- (2)

In equation (2), $HFUND_i$ is a dummy which equals to 1 if the mutual fund percentage shareholding (FUNDSH) in the acquirer prior to deal announcement is above its industry-mean value and 0 if it is below the industry-mean value. This triple difference-in-differences model assumes that the difference in post-split-share structure reform performance improvements (between related-party and non-related-party M&As) depends on the mutual funds proportion of shareholding in the acquiring firm. In particular, β_3 now gives the difference in post-split-share structure performance improvements (between related-party and non-related-party M&As) within deals made by the low or no fund shareholding acquirers (when the dummy variable HFUND takes the value of 0). β_4 further shows the additional difference in post-split-share structure performance improvements (between related-party and non- related-party M&As) within deals made by the high fund shareholding acquirers (compared to deals made by the low or no fund shareholding acquirers), and tests hypothesis H2.[4] Interaction $RPMA_i * HFUND_i$ and $SSSR_i * HFUND_i$ are added to the model to ensure proper model specification.[5] A detailed description of all the variables

[4] Hence the difference in post-split-share structure reform performance improvements (between related-party and non-related-party M&As) among deals made by the high mutual fund shareholding acquirers is $\beta_3 + \beta_4$.

[5] Results on the triple interaction are not affected in models without these two additional interactions.

is provided in Appendix A1. Appendix A2 reports the summary statistics for these variables.[6] To account for outliers, we winsorize all non-dummy variables at upper and lower 1% level.[7]

Figure 1 compares the difference in CAARs over 21-day event window (10 days prior to and 10 days after) between M&A deals before the completion of split-share structure reform and those undertaken after the reform. It shows that CAARs for all the M&A deals post-split-share structure reform strongly outperform CAARs pre-split-share structure reform. Figure 2 displays the difference of CAARs between related-party M&As deals made before the completion of split-share structure reform and related-party M&As deals undertaken after the reform. We notice that the overall trend of related-party M&A CAARs in figure 2 is similar to that of the full sample M&A CAARs in figure 1. After the split-share structure, related-party M&A deals experienced excess CAARs of 4% on average compared to the related-party M&A deals before the split-share structure after deal announcement. Finally, figure 3 compares the difference in CAARs between non-related-party M&A deals before and after successful completion of split-share structure reform by the acquiring firm. Here too we observe a significant increase in CAARs for non-related-party M&A deals post-split-share structure reform compared to non-related-party M&A deals pre-split-share structure reform. We further notice that the average CAAR for the non-related-party M&A deals post-split-share structure reform in figure 3 is relatively lower by about 3% compared to the related-party M&A deals announced over the same period in figure 2. Overall findings in these graphs are in line with our expectations discussed in section 2 on hypotheses development.

[Please insert Figures 1, 2 and 3 about here]

4. Empirical results

4.1 Univariate analysis

To examine the validity of our hypotheses, we start with the basic mean difference tests on acquirers' 3-day and 5-day CARs around M&A announcements in tables 2 and 3. In table 2, we conduct mean difference tests on bidder announcement CARs for firms that completed the split-share structure reform for the full M&A sample. Panel A shows that 3-day and 5-day CARs are

[6] We note that only 1% of the target firms are listed. Information on target firms for Chinese M&A deals is limited. Neither target firm industry classification nor ownership type appears available from CSMAR.

[7] Variables with a zero lower bound are winsorized at upper 1% only.

significant and positive over the 15-year sample period. Notably, M&As post-split-share structure reform significantly outperformed M&As pre-split-share structure reform. Mean difference for 3-day (and 5-day) CARs before and after the reform is significant and positive 1.25% (and 1.68%). We then test this difference among related-party M&As in panel B, where both 3-day CARs (1.96%) and 5-day CARs (2.91%) are statistically significant during the post reform period. Similar to the mean differences reported in panel A, the mean differences in 3-day and 5-day CARs between related-party M&As post-split-share structure and pre-split-share structure are positive and significant. However, when we repeat our tests using non-related-party M&As in panel C, the mean difference between non-related-party M&As post-split-share structure reform and pre-split-share structure appears to be significant and positive for 3-day CARs and insignificant for 5-day CARs. In Panel D, we perform two simple univariates difference-in-differences tests. We show that pre-split-share structure, related-party M&As significantly underperformed compared to non-related-party M&As, for *e.g.*, significant difference on 5-day CARs is -1.22%. However, post-split-share structure reform, related-party M&As outperformed non-related-party M&As (for e.g., difference for 5-day CARs is significant 1.31%). The significant difference-in-differences of [1.31%-(-1.22%)]=2.53% indicate value gains, where the response to the split-share structure reform is larger for related-party M&A than non-related-party M&As, *i.e.* a positive difference in the performance improvements.

Mean difference tests in table 2 strongly support our hypothesis H1. The post-split-share structure performance improvement among related-party M&As, as measured by their CARs, is larger than that among non-related-party M&As. So, we can assume that ICMs began to play a better role in facilitating value-enhancing related-party M&As following governance improvement in the form of successful completion of split-share structure reform. It appears that market perceives successful completion of split-share structure reform at firm-level as a signal of reduced information asymmetry and principal-principal agency conflict. These results show that value of regulatory intervention is positive to firms in general, but changes in magnitude depending upon the level of connectedness of the firm, and nature of the deal.

[Please insert Table 2 about here]

In table 3, we then conduct mean difference tests by acquirers' 5-day CARs based on their mutual fund shareholding. We partition our sample into high and low mutual fund shareholding

acquirers by comparing their shareholdings by mutual funds prior to M&A announcements with their respective industry mean mutual fund shareholdings, *i.e*. the dummy variable HFUND. Panel A illustrates that among high-fund acquirers non-related-party M&As significantly outperformed related-party M&As by 1.15% whereas among low-fund acquirers non-related-party M&As weakly outperformed related-party M&As by 0.81%. The statistically significant difference in these differences is 1.96%=[0.81%-(-1.15%)]. Panel B repeats the above tests using deals that took place pre-split-share structure reform and find that for both high-fund and low-fund acquirers, non-related-party M&As significantly outperformed related-party M&As. The significant difference in these differences is of marginal -0.09%. Then in Panel C, we repeat these tests using deals that took place post-split-share structure reform. Results appear consistent and considerably stronger than those in panel A, indicating the full sample results are driven by post-split-share structure reform deals. Finally, we perform difference-in-differences tests in panel D similar to that of table 2. The first column in the panel again shows exactly the same findings as in table 2 that the difference in the differences of related-party CARs and non-related-party M&A CARs by the split-share structure reform is 2.53% and significant. Next, this difference-in-differences is 3.49% and significant among low-fund acquirers. The last column of panel D represents a triple difference-in-differences test, which test the difference between the two difference-in-differences in columns 2 and 3 of the panel D. This triple difference-in-differences is 3.32% and statistically significant.

All in all, table 3 tests show strong support for hypotheses H2 on the difference in the post-split-share structure reform performance improvement for deals by high-fund acquirers and low-fund acquirers. They indicate the benefit of split-share structure reform completion in enhancing value of related-party M&A deals among acquirers with lower mutual fund ownership, which were in general associated with weaker governance. Our results indicate that the state intervention has a positive post-event market reaction on firms' capital market decisions with limited mutual fund ownership, since they were considered viable candidate for managerial entrenchment, and controlling shareholder-manager collusion to expropriate minority shareholders by directly pursuing value-destroying acquisitions. Overall, our results suggest that firms with higher levels of expropriation (proxied by low mutual fund shareholding as an indicator of poor quality of external monitoring) benefited more from the regulations than firms with lower levels of expropriation.

[Please insert Table 3 about here]

4.2 Multivariate analysis

We now turn to our difference-in-differences multivariate regression tests as specified in equation (1) of section 3. Models 1-6 in table 4 depict that the estimated coefficients of the interaction term RPMA*SSSR are consistently positive and significant, thereby strongly supporting our hypothesis H1. These results are consistent with the univariate tests for CARs in table 2. For instance, model 6 reports that related-party M&A deals led to a significant 2.999% value loss during 5-day event window before the split-share structure reform but experienced larger post-split-share structure performance improvement (of 3.297%) compared to non-related-party M&As deals. These results are consistent with our expectation that ICMs began to play a vital role for the bidders in providing potential information, financing, or monitoring advantages to facilitate value-maximizing related-party M&As, especially due to a reduction in tunneling incentives of controlling shareholders and improvement of managerial efficiency once the firm has completed split-share structure reform.

Regarding the control variables in table 4, generally results are theoretically consistent. The relative size of deal value to the bidder's market value is positively related to both 3-day and 5-day CARs. Contrary to the studies on M&A payment methods in the U.S. and the U.K. which reported cash bidders significantly outperformed stock bidders (Bouwman et al., 2009), our results show that cash payment has a significant negative impact on CARs in models 2-3 and 5-6, and vice-versa for stock offers in models 2, 5, and 6. The coefficient for listing status of target firms is significant and positive; indicating lower information asymmetry and easier pricing of listed targets is rewarded by the market. According to Officer (2007), market discounts for acquisitions of unlisted targets relative to publicly listed targets due to "*the value of the provision of liquidity"*. We also note that this is different from prior evidence on M&A in the U.S. which shows that takeover of privately held targets generated higher abnormal returns relative to publicly listed targets (Chang, 1998). Market capitalization, growth opportunity, and cash flow liquidity are negatively correlated with the announcement effect suggesting that large bidders with sufficient cash flow and growth opportunities are more likely to make value-destroying acquisitions. This is in vein with Harford (1999), since market perceives merger deals to be value-destroying exercise for large, cash-rich acquirers who should first exploit the internal growth opportunities rather than

pursuing outside acquisitions. Regarding governance variables, neither excess leverage nor excess control rights seems to have a significant effect on CARs. The coefficient of board size is significant and negative for both 3-day and 5-day CARs indicating that smaller board is more effective in facilitating value-enhancing M&As.

[Please insert Table 4 about here]

In China, the type of controlling ownership has strong influence over business decisions (Chen et al., 2008; Bi and Wang, 2018; Wang et al., 2019). In table 5, We conduct an additional analysis by repeating table 4 regressions using sub-samples classified by the type of controlling shareholders, namely; Privately-Owned Enterprises – POEs and different types of State-Owned Enterprises – SOEs, central SOEs, and local/provincial SOEs. We note that the higher post-split-share structure performance improvement among related-party M&As (compared to non-related-party M&As) remains robust for POE/SOE/Local_SOE sub-samples whereas insignificant for Central_SOEs. The exception regarding Central SOEs may be partially due to small number of observations. Besides, provincial governments in China assist local firms in corporate restructuring activities like M&A by arranging, identifying and facilitating negotiations with potential target firms. It is also in line with prior evidence that local/provincial governments have stronger incentives to be involved with listed firms in their administrative regions (Chen et al., 2008).

[Please insert Table 5 about here]

In table 6, we perform triple difference-in-differences tests in line with equation (2) in section 3 to further investigate the heterogeneous post-split-share structure reform performance improvements among related-party M&As made by acquirer with varying levels of mutual fund shareholding prior to their M&A deal announcements. For robustness, we use three alternative measures of mutual fund ownership: (1) the percentage of mutual fund ownership (FUNDSH), (2) a dummy variable for bidders with high mutual fund ownership above industry mean level (HFUND), and (3) the relative size of mutual fund shareholding to that of the largest shareholder (FUNDSH/NO1).[8] Basically, we are interested in the estimated coefficients of triple interaction – RPMA*SSSR*FUNDSH, RPMA*SSSR*HFUND, and RPMA*SSSR*FUNDSH/NO1 which demonstrates the relevance of our hypothesis H2. Throughout all models, the triple interactions

[8] We also find similar results to model 3 when we replace FUNDSH/NO1 with FUNDSH/CONRIGHT.

are consistently negative and significant suggesting that related-party M&As after the reform generated significantly higher CARs for bidders with low or no mutual fund ownership compared to their counterparts. These findings directly support our hypothesis H2, *i.e.* positive improvement in short-run market valuations of related-party M&As after the split-share structure reform is more significant for bidders with lower institutional shareholding.[9]

Next, the sub-sample analysis in models 4&5 of table 6 also shows that regardless of the bidder-type (SOEs or POEs), RPMA*SSSR*FUNDSH remains statistically significant further confirming our argument for H2. Minority retail investor shareholdings in Chinese firms is often too defused to influence corporate decisions (Firth et al., 2010). When internal governance quality is weak, especially in SOEs, mutual funds are often likely to take a role of an important monitoring mechanism over firm managers and controlling shareholders in China (Chen et al., 2007; Firth et al., 2010), possibly through *voting with their feet* (Shleifer and Vishny, 1986). A positive effect of mutual fund ownership on firm-level corporate governance is generally expected. Henceforth, it is to be expected that the improvement of governance following the split-share structure reform is larger among firms with low or zero mutual fund shareholding (*i.e.* weakly governed firms) compared to their peers. These results are consistent with Campello et al. (2014) and Berkman et al. (2011) which document the heterogeneous effect of major governance reforms in China.

[Please insert Table 6 about here]

Lastly, from the perspective of organizational structure, controlling shareholders have much lower, if any, incentives to prop-up firms not affiliated within their business groups. Therefore, in a further robustness test as reported in Appendix A3, by splitting our sample acquirers into group-affiliated and non-group-affiliated firms, we observe that irrespective of the group-affiliation status of the bidder firm, the coefficient of SSSR*RPMA is significant and positive. While, triple interaction term RPMA*SSSR*GROUP is significant and negative, indicating additional value gains following related-party M&As among non-group-affiliated acquirers that are unlikely to be subject to controlling shareholder propping.[10]

[9] We find qualitatively and quantitatively similar results when we replace mutual fund shareholding with the total institutional ownership in the Chinese acquiring firm. We would like to thank our referee for making this suggestion.
[10] In light of Cheung et al. (2006), Jian and Wong (2010), and Jiang et al. (2010), we also control for the changes in tunneling activity by adding other receivables scaled by total assets as a proxy for inter-corporate loans and related-

6. Conclusions

In summary, our study uses China's 2005-split-share structure reform as a natural experiment to examine the potential impact of governance quality changes on merger-related value gains from ICMs by public firms in China. Empirical results show that related-party M&As significantly underperformed compared to non-related-party M&As prior to split-share structure reform, whereas outperformed non-related-party M&As after successful completion of the reform. Furthermore, bidders with low or no mutual fund ownership which undertook related-party M&As after completing the reform earned sizeable excess abnormal returns than bidders with high mutual fund ownership. We also find a significant positive related-party M&A deal announcement effect by SOEs at local/provincial level, and those with significantly lower mutual fund shareholding post-split-share structure reform. Our findings remain robust for both group-affiliated and non-affiliated acquirers and after accounting for alternative channels of tunnelling and possible controlling shareholders propping.

Based on our empirical results, we argue that the positive market reaction to related-party M&As after the completion of split-share structure reform could be principally driven by the value added from ICMs in China. Therefore, unlike prior findings, which generally hold a negative view of related-party transactions, our paper contributes to the literature on corporate governance, M&A, and ICMs in general, arguing the *bright-side view* benefits of ICMs within an emerging market setting. This helps shed light on the role of regulatory reforms in facilitating overall improvement of ICMs and governance mechanism in emerging economies where external capital markets are underdeveloped.

party sales scaled by total assets, dummy variables for financial distress, negative return on equity, seasonal equity offering in the merger event year, and rights issue, respectively. Results remain consistent and are available from authors upon request.

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Figure 1: Acquirer CAARs by the completion of the split-share structure reform.

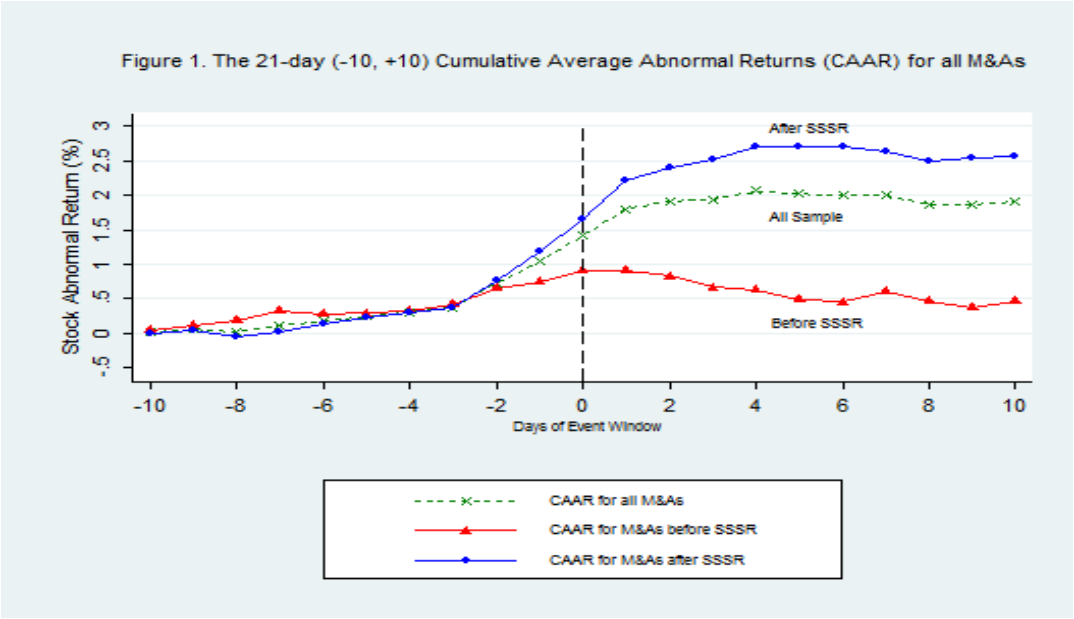


Figure 2: Related-party M&A (RPMA) acquirer CAARs by the completion of the split-share structure reform.

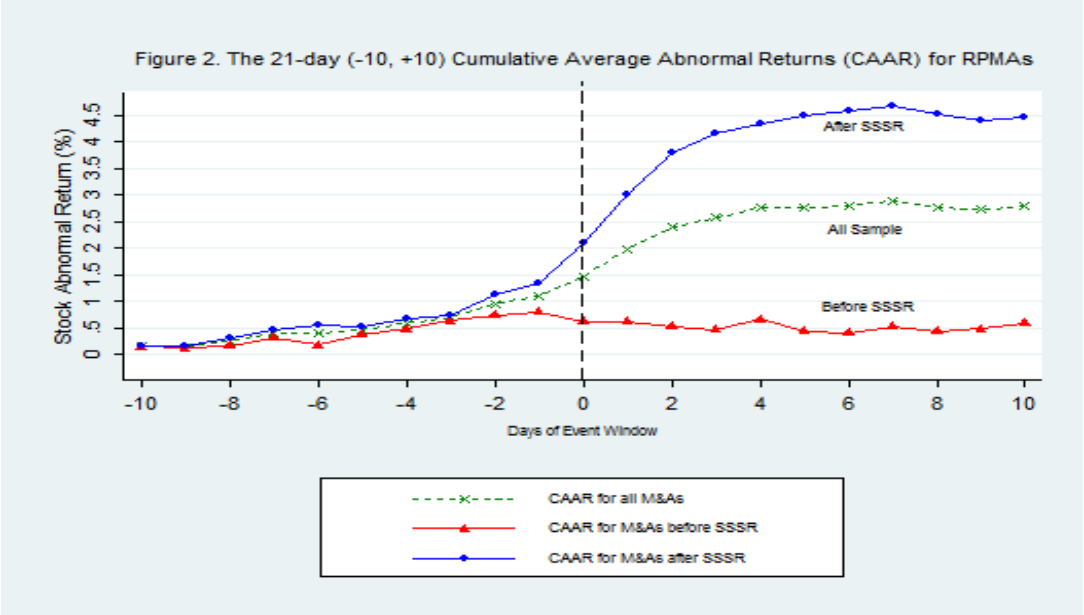


Figure 3: Non-Related-party M&A (Non-RPMA) acquirer CAARs by the completion of the split-share structure reform.

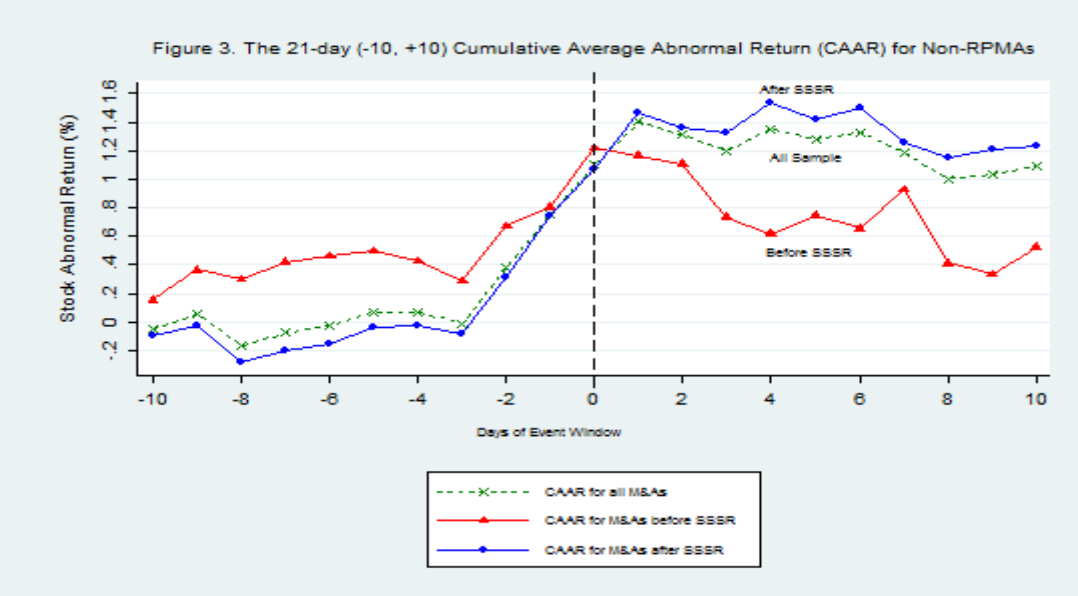


Table 1: Merger deal statistics.

This table summarizes the main characteristics of the merger deals in our sample. This sample consists of 2,220 successful merger deals in China from Jan. 1st, 2000 to Dec. 31st, 2014. All acquirers are listed firms, either on Shanghai Stock Exchange or Shenzhen Stock Exchange. In panel A, we characterize mergers by year of deal announcements. Deal values are reported in millions of RMB. We show the number of deals between related-party firms (RPMA) and between non-related-party firms (Non-RPMA). Then classify deals according to the nature of acquirer firms, *i.e.* state-owned enterprises (SOE) or privately-owned enterprises (POE). We also divide the deals based on payment methods used: 100% cash financed, 100% stock financed, or partly financed by both cash and stock. Panel B reports the number, proportion, and size characteristics of mergers across different industry classifications based on the tier-1 industry classifications by the CSRC.

Panel A: By year of deal announcements

Year	No. of Deals	Total Deal Value	Mean Deal Value	Median Deal Value	RPMA	Non-RPMA	Group-affiliated	Non-Group affiliated	Cash Pay	Stock Pay	Mixed Pay
2000	108	19,500	181	48	49	59	88	20	103	0	5
2001	96	9,380	98	52	67	29	84	12	95	0	1
2002	83	9,640	116	41	46	37	71	12	78	1	4
2003	112	15,800	141	41	56	56	94	18	110	0	2
2004	108	13,100	121	57	62	46	96	12	104	1	3
2005	79	8,250	104	47	47	32	60	19	76	0	3
2006	101	15,700	155	51	54	47	81	20	98	2	1
2007	155	79,400	512	77	72	83	129	26	140	12	3
2008	127	106,000	837	54	48	79	103	24	115	9	3
2009	139	82,800	596	64	53	86	114	25	123	12	4
2010	146	55,100	377	70	44	102	110	36	133	7	6
2011	187	96,100	514	62	60	127	130	57	178	6	3
2012	235	92,300	393	80	77	158	149	86	216	14	5
2013	252	114,000	451	94	70	182	137	115	209	21	22
2014	292	182,000	622	132	93	199	148	108	217	20	55
Total	2,220	899,100	405	67	898	1,322	1595	625	1,995	105	120

Panel B: By CSRC industry classification

Industry Classification	No. of Deals	Deal Percent	Total Deal Value	Mean Deal Value	Median Deal Value
Real Estate	217	9.86%	82572	381	128
Manufacturing	1,306	59.36%	463087	355	55
Food and Hotel Services	20	0.91%	4580	229	104
Wholesale and Retail	189	8.59%	88506	468	85
Combined and Other Industries	31	1.41%	2376	77	47
Transportation, Warehouse and Postal Services	96	4.36%	110487	1151	140
Lending and Business Services	22	1.00%	5152	234	82
Construction Business	54	2.45%	8279	153	65
Environmental Engineering and Public Infrastructure Management	28	1.27%	10736	383	77
Culture, Sports and Entertainment	28	1.27%	9947	355	50
Mineral Mining	88	4.00%	49342	561	115
Telecommunication, Software and Information Technology	96	4.36%	47549	495	94
Agriculture and Fishing Industry	33	1.50%	7680	233	54
Scientific Research and Technological Services	9	0.41%	719	80	44
Health Care and Social Work	1	0.05%	10	10	10
Education	2	0.09%	611	306	103
Total	2,220	100.00%	899,100	405	67

Table 2: Mean difference tests on CARs by the Split-Share Structure Reform (SSSR).
This table reports the 3-day and 5-day CARs for all acquirers around M&A deal announcements before and after the acquiring firm successfully completed the split-share structure reform. Panel A reports the average acquirer CAR values for the full sample, panel B reports the average CAR values for the related-party mergers (RPMA) only, panel C reports the average CAR values for the non-related-party mergers (Non-RPMA) only, and panel D reports the difference-in-differences tests. Across all the four panels, we report the average 3-day and 5-day CARs around the deal announcement date for the full sample (Full Sample), before the acquirer successfully finished the split-share structure reform (Before the split-share structure reform), after the acquirer successfully finished the split-share structure reform (After the split-share structure reform) and the 'Difference' between the two samples. We report the two-sample mean-comparison test (T-statistics) in brackets. ***, **, * represents significance at 1%, 5%, and 10% level respectively.

Panel A: Full Sample				
	Full Sample	Before the SSSR	After the SSSR	Difference
CAR [-1, +1]	1.16%***	0.30%**	1.55%***	1.25%***
	[8.77]	[1.97]	[8.68]	[5.36]
Obs.	2220	687	1533	
CAR[-2, +2]	1.52%***	0.36%*	2.04%***	1.68%***
	[8.86]	[1.92]	[8.77]	[5.61]
Obs.	2220	687	1533	
Panel B: Related-Party M&As (RPMA)				
	Full Sample	Before the SSSR	After the SSSR	Difference
CAR [-1, +1]	1.10%***	-0.07%	1.96%***	2.03%***
	[4.91]	[-0.36]	[5.54]	[4.99]
Obs.	898	381	517	
CAR [-2, +2]	1.60%***	-0.18%	2.91%***	3.09%***
	[5.37]	[-0.70]	[6.15]	[5.73]
Obs.	898	381	517	
Panel C: Non-Related-Party M&As (Non-RPMA)				
	Full Sample	Before the SSSR	After the SSSR	Difference
CAR [-1, +1]	1.21%***	0.76%***	1.34%***	0.59%**
	[7.42]	[3.40]	[6.69]	[1.95]
Obs.	1322	306	1016	
CAR [-2, +2]	1.46%***	1.04%***	1.59%***	0.56%
	[7.15]	[3.85]	[6.28]	[1.51]
Obs.	1322	306	1016	
Panel D: Difference in CAR Between Related & Non-Related M&As (After minus Before)				
	Full Sample	Before the SSSR	After the SSSR	Difference
CAR [-1, +1]	-0.11%	-0.83%***	0.62%***	1.45%***
	[-0.39]	[-2.76]	[2.65]	[2.86]
CAR [-2, +2]	0.13%	-1.22%***	1.31%**	2.53%***
	[0.37]	[-3.26]	[2.45]	[3.87]

Table 3: Mean difference tests on 5-day CARs by mutual fund shareholdings.
This table reports the 5-day CARs for all acquirers around M&A deal announcements based on the level of mutual fund holding in the acquirers *ie.* if the acquirer has high mutual fund holding (High-fund) or low mutual fund holding (Low-fund). We measure High-fund (Low-fund) when acquirers' mutual fund shareholding is above (below) its respective industry-mean. Panel A reports the average acquirer 5-day CAR values for the full sample, panel B reports the average 5-day CAR values for the acquiring firms before they successfully finished the split-share structure reform, panel C reports the average 5-day CAR values for the acquiring firms after they successfully finished the split-share structure reform, and panel D reports the triple difference-in-differences tests. Across all the four panels, we report the average 5-day CARs around the deal announcement date for the full sample (Full Sample), acquirers with High and Low Mutual Fund holding, and the 'Difference' between the two samples. We also divide the High-fund and Low-fund bidder 5-day CAR values across RPMA and Non-RPMA deals. We report the two-sample mean-comparison test (T-statistics) in brackets. ***, **, * represents significance at 1%, 5%, and 10% level respectively.

Panel A: Full Sample				
	Full Sample	High-fund	Low-fund	Difference
Related-Party M&A	1.60%***	0.21%	2.34%***	2.14%***
	[5.37]	[0.49]	[5.91]	[3.73]
Obs.	898	314	584	
Non-Related-Party M&A	1.46%***	1.25%***	1.53%***	0.18%
	[7.15]	[4.82]	[5.42]	[0.44]
Obs.	1322	507	815	
Difference	0.13%	-1.15%**	0.81%*	1.96%***
	[0.37]	[-2.3]	[1.64]	[2.81]
Panel B: Before the SSSR				
	Full Sample	High-fund	Low-fund	Difference
Related-Party M&A	-0.18%	0.01%	-0.32%	-0.34%
	[-0.70]	[0.03]	[-1.06]	[-0.63]
Obs.	381	163	218	
Non-Related-Party M&A	1.04%***	1.18%***	0.93%***	-0.25%
	[3.85]	[2.7]	[2.73]	[-0.45]
Obs.	306	127	179	
Difference	-1.22%***	-1.17%*	-1.26%***	-0.09%***
	[-3.26]	[-1.87]	[-2.75]	[-2.73]
Panel C: After the SSSR				
	Full Sample	High-fund	Low-fund	Difference
Related-Party M&A	2.90%***	0.41%	3.93%***	3.52%***
	[6.15]	[0.58]	[6.65]	[3.80]
Obs.	517	151	366	
Non-Related-Party M&A	1.59%***	1.41%***	1.70%***	0.29%
	[6.28]	[4.08]	[4.87]	[0.59]
Obs.	1016	380	636	
Difference	1.31%**	-0.99%	2.23%***	3.23%***
	[2.45]	[-1.26]	[3.25]	[3.08]
Panel D: Difference in 5-day CAR Between Before and After the SSSR (After minus Before)				
	Full Sample	High-fund	Low-fund	Difference
Related-Party M&A	3.09%***	0.40%	4.26%***	3.84%***
	[5.73]	[0.47]	[6.4]	[3.6]
Non-Related-Party M&A	0.56%	0.23%	0.77%*	0.54%
	[1.51]	[0.41]	[1.58]	[0.73]
Difference	2.53%***	0.17%	3.49%***	3.32%***
	[3.87]	[0.17]	[4.23]	[2.65]

Table 4. The impact of related-party M&A (RPMA) and the Split-Share Structure Reform (SSSR) on Cumulative Abnormal Returns (CARs) of Chinese acquirers.

In this table, we use difference-in-differences OLS regressions to examine the influence of RPMA and split-share structure reform on 3-day and 5-day acquirers' CARs around deal announcements. The key independent variables are RPMA, split-share structure reform and the interaction term of RPMA*SSSR. Model 1 and 4 show the basic results of difference-in-differencestests without controlling for firm level merger-related and governance-specific factors. Model 2 and 5 include the merger-related variables such as the log of the relative size of deal, payment method, state-owned bidder, listed target firms, and acquirer-firm characteristics including market capitalisation, market-to-book ratio, and ratio of non-operating cash flows to total sales revenues. Model 3 and 6 further control for governance-specific variables including excess leverage, excess control rights, the largest shareholding, mutual fund ownership, CEO and chairman duality, board size and board independence. The industry and year effects are controlled in all models. The numbers in the parenthesis are the robust t-statistics for the regression coefficients with standard errors clustered at firm-level. The definition of the variables is in Appendix A1. ***, **, * represent statistical significance at the 1%, 5%, and 10% level respectively.

Dependent Variable →	Panel A: CAR [-1, +1]			Panel B: CAR [-2, +2]		
Independent Variables ↓	(1)	(2)	(3)	(4)	(5)	(6)
RPMA	-0.696***	-1.131**	-1.889***	-1.075***	-1.738***	-2.999***
	(-4.63)	(-2.56)	(-4.46)	(-6.15)	(-3.44)	(-5.03)
SSSR	0.798	1.082**	2.166**	1.276*	0.198	1.097
	(1.25)	(2.27)	(2.16)	(1.92)	(0.28)	(0.72)
RPMA*SSSR	1.261***	1.215**	1.952***	2.352***	2.008***	3.297***
	(5.34)	(2.54)	(3.20)	(6.74)	(3.68)	(4.08)
LOGRS		0.692***	0.760***		0.854***	0.917***
		(7.80)	(7.08)		(5.36)	(5.50)
CASHPAY		-4.492***	-5.057***		-6.037***	-7.019***
		(-3.51)	(-3.16)		(-4.75)	(-5.17)
STOCKPAY		1.641*	1.354		2.643**	1.889
		(1.80)	(1.15)		(2.60)	(1.70)
SOE		-0.037	-0.299		-0.105	-0.308
		(-0.15)	(-1.26)		(-0.31)	(-1.02)
TARGETLIST		3.208**	3.051*		4.158**	4.772**
		(2.51)	(1.89)		(2.37)	(2.32)
LOGMC		-0.205*	-0.200*		-0.400***	-0.478***
		(-1.92)	(-2.00)		(-4.44)	(-4.12)
M/B		-0.262***	-0.223***		-0.283**	-0.244***
		(-3.17)	(-4.38)		(-2.70)	(-4.01)
NOPCF/SALES		-0.011**	-0.008**		-0.011	-0.010*
		(-2.23)	(-2.60)		(-1.66)	(-1.79)
EXLEV			-0.001			-0.005
			(-0.09)			(-0.67)
EXCON			0.006			0.002
			(0.27)			(0.09)
NO1SH			0.025*			0.011
			(1.76)			(0.55)
FUNDSH			0.014			0.024
			(1.22)			(1.67)
CEOD			0.438*			0.415
			(1.99)			(1.36)
BSIZE			-1.037*			-1.871**
			(-1.85)			(-2.65)
BIND			-0.022			-0.037
			(-0.82)			(-1.07)
Constant	1.712***	8.783**	10.116**	1.922***	15.821***	22.350***
	(3.73)	(2.40)	(2.61)	(4.10)	(6.93)	(6.81)
Industry Dummies	YES	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES	YES
Observations	2,220	1,608	1,400	2,220	1,608	1,400
Adjusted R-squared	0.021	0.155	0.179	0.030	0.174	0.197

Table 5: Sub-sample tests on the impact of related-party M&A (RPMA) and the Split-Share Structure Reform (SSSR) on Cumulative Abnormal Returns (CARs) of Chinese acquirers.

In this table, we repeat the regression analysis in Table 4 (model 6) using sub-samples of private controlled firms (POEs) and state-controlled firms (SOEs). We further divide all state-owned acquiring firms into central government controlled SOE (Central_SOE) bidders and local/provincial government controlled SOE (Local_SOEs) bidders. The industry and year effects are controlled in all models. The numbers in the parenthesis are the robust t-statistics for the regression coefficients with standard errors clustered at firm-level. The definition of the variables is in Appendix A1. ***, **, * represent statistical significance at the 1%, 5%, and 10% level respectively.

Dependent Variable →	CAR [-2, +2]			
Sub-Sample Independent Variables ↓	(1) POE	(2) SOE	(3) Central SOE	(4) Local SOE
RPMA	-2.039*	-3.958***	-0.100	-5.640***
	(-1.88)	(-4.98)	(-0.05)	(-5.18)
SSSR	0.189	1.107	6.870***	0.449
	(0.23)	(0.59)	(5.04)	(0.21)
RPMA*SSSR	2.325**	4.183***	1.456	6.403***
	(2.00)	(4.78)	(0.81)	(4.49)
LOGRS	1.161***	0.577**	-0.298	0.719**
	(5.76)	(2.44)	(-1.17)	(2.28)
CASHPAY	-8.939***	-1.834	0.544	-1.996
	(-3.98)	(-1.14)	(0.41)	(-1.20)
STOCKPAY	-0.157	7.222***	14.589***	5.684**
	(-0.08)	(3.15)	(11.03)	(2.56)
TARGETLIST	6.375**	3.373	2.247	2.923
	(2.35)	(1.24)	(0.69)	(0.85)
LOGMC	-0.776***	-0.380	-1.396*	-0.315
	(-4.48)	(-1.73)	(-2.07)	(-0.61)
M/B	-0.360***	-0.138	-0.956	-0.165*
	(-4.00)	(-1.49)	(-0.97)	(-2.03)
NOPCF/SALES	-0.015***	-0.006	0.061***	-0.015
	(-3.20)	(-0.70)	(3.95)	(-1.52)
EXLEV	-0.012	-0.005	0.037	-0.022
	(-1.05)	(-0.42)	(0.81)	(-1.61)
EXCON	0.025	-0.049	-0.187***	-0.005
	(0.72)	(-1.50)	(-4.12)	(-0.10)
NO1SH	0.027	-0.002	0.059	-0.010
	(1.27)	(-0.08)	(0.78)	(-0.40)
FUNDSH	0.017	0.036**	0.027	0.044
	(1.05)	(2.35)	(0.77)	(1.74)
CEOD	0.185	0.932	3.860	-0.151
	(0.47)	(0.84)	(1.33)	(-0.17)
BSIZE	-1.925*	-2.489***	-3.175*	-2.261
	(-2.03)	(-3.02)	(-1.81)	(-1.73)
BIND	-0.085*	-0.010	0.023	-0.003
	(-2.07)	(-0.16)	(0.28)	(-0.04)
Constant	32.950***	15.774**	30.712**	15.151**
	(5.26)	(2.16)	(2.24)	(2.22)
Industry Dummies	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES
Observations	770	630	159	471
Adjusted R-squared	0.238	0.129	0.217	0.088

Table 6: The impact of acquirers' mutual fund ownership, Related-Party M&A (RPMA) and the Split-Share Structure Reform (SSSR) on 5-day Cumulative Abnormal Returns (CARs) of Chinese acquirers.

In this table, we employ difference-in-differences OLS regressions to examine the influence of the mutual fund ownership, RPMA, and the split-share structure reform on 5-day acquirers' CARs around deal announcements. For robustness, we use three different measures of mutual fund ownership: (1) mutual fund percentage ownership (FUNDSH), (2) a dummy variable for bidders with high mutual fund ownership above industry mean level (HFUND), and (3) the relative size of mutual fund shareholding to the shareholding of the largest shareholder in bidders (FUNDSH/NO1SH). We incorporate triple interactions RPMA*SSSR*FUNDSH in model 1, RPMA*SSSR*HFUND in model 2, and RPMA*SSSR*FUNDSH/NO1SH in model 3. In models 1 to 3, we run OLS regression of key independent variables on 5-day CARs by controlling for other merger-related variables such as the log of the relative size of deal, payment method, listed target firms, and firm characteristics including market capitalisation, market-to-book ratio, and ratio of non-operating cash flows to total sales revenues, and governance-specific variables such as excess control rights, excess leverage, largest shareholding, CEO and chairman duality, board size and board independence. Model 4 and model 5 repeat model 1 regressions setting using sub-samples of SOEs and POEs, respectively. The industry and year effects are controlled in all models. The numbers in the parenthesis are the robust t-statistics for the regression coefficients with standard errors clustered at firm-level. The definition of the variables is in Appendix A1. ***, **, * represent significance at the 1%, 5%, and 10% level respectively.

Dependent Variable	CAR [-2, +2]				
Independent Variables ↓	(1) Full Sample	(2) Full Sample	(3) Full Sample	(4) SOE	(5) POE
RPMA*SSSR*FUNDSH	-0.154***			-0.117***	-0.217**
	(-5.64)			(-3.28)	(-2.46)
RPMA*FUNDSH	0.077***			0.016	0.129
	(3.52)			(0.46)	(1.67)
SSSR*FUNDSH	0.024			0.050**	0.052
	(0.82)			(2.81)	(0.52)
FUNDSH	0.020			0.027	-0.019
	(1.00)			(1.25)	(-0.22)
RPMA*SSSR*HFUND		-3.846**			
		(-2.38)			
RPMA*HFUND		2.346**			
		(2.16)			
SSSR*HFUND		2.032*			
		(1.90)			
HFUND		0.024			
		(0.03)			
RPMA*SSSR*FUNDSH/NO1SH			-4.437***		
			(-4.14)		
RPMA*FUNDSH/NO1			3.002***		
			(4.38)		
SSSR*FUNDSH/NO1			1.013		
			(1.41)		
FUNDSH/NO1			0.163		
			(0.30)		
RPMA*SSSR	4.413***	4.986***	4.153***	5.149***	3.920***
	(5.38)	(7.61)	(4.78)	(5.72)	(3.14)
RPMA	-3.452***	-3.902***	-3.452***	-4.011***	-2.876**
	(-5.63)	(-5.70)	(-5.32)	(-4.41)	(-2.53)
SSSR	0.709	-0.012	0.796	0.752	-0.558
	(0.46)	(-0.01)	(0.55)	(0.37)	(-0.65)
Constant	22.334***	18.328***	23.218***	15.700**	32.704***
	(6.84)	(3.34)	(6.82)	(2.15)	(5.02)
Firm level controls	YES	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES
Observations	1,400	1,400	1,400	630	770
Adjusted R-squared	0.199	0.196	0.199	0.130	0.238

Appendix A1: Detailed description of variables used in the analysis.

Variable names	Variable description
CAR (-1, +1)	Cumulative abnormal return calculated based on the market model within the 3-day event window (one day before and one day after the merger announcement date).
CAR (-2, +2)	Cumulative abnormal return calculated based on the market model within the 5-day event window (two days before and two days after the merger announcement date).
SSSR	A dummy variable equals to 1 once the acquiring firm completed split-share structure reform in the fiscal year prior to the merger deal announcement, otherwise 0.
RPMA	A dummy variable equals to 1 if the acquirer firm and the target firm are considered related-parties, otherwise 0 if not related.
SSSR*RPMA	Interaction item of the above two dummy variables, which equals to 1 for related-party mergers took place after the split-share structure reform, and 0 for all other cases.
LOGRS	It equals to the natural logarithm of the ratio of the merger deal transaction value to acquirer's market value in the fiscal year-end prior to the merger announcement.
CASHPAY	A dummy variable equal to 1 if the deal is paid by cash only, otherwise 0.
STOCKPAY	A dummy variable equal to 1 if the deal is paid by stocks only, otherwise 0.
SOE	A dummy variable equal to 1 if the acquirer firm's controlling shareholder is the Chinese government or a government agency, otherwise 0 if it is a private investor.
TARGETLIST	A dummy variable equal to 1 if the target firm is listed on the stock market, otherwise 0.
LOGMC	Natural logarithm of the bidder's market capitalization in the fiscal year-end prior to the merger announcement.
M/B	It is the ratio of market value of a bidder to its book value in the fiscal year-end prior to the merger announcement.
NOPCF/SALES	It is the ratio of bidder's net operating free cash flows scaled by its total sales revenue in the fiscal year-end prior to the merger announcement.
EXLEV	Excess leverage is the ratio of the industry median-adjusted financial leverage (book value of bidder's debt divided by its market capitalization) in the fiscal year-end prior to the merger announcement.
EXCON	Controlling shareholders' excess control rights which equals to the percentage control rights (CONRIGHT) minus their cash flow rights in the fiscal year-end prior to the merger announcement. Cash flow rights are measured by the sum of the products of the proportion of ownership along the control chains, and the control rights are measured by the minimum proportion of ownership along the control chains.
NO1SH	It is the percentage shareholding of the largest shareholder in the acquiring firm at the fiscal year-end prior to the merger announcement.
FUNDSH	It is the percentage of total mutual fund ownership in the acquiring firm in the financial year-end prior to the deal announcement.
HFUND	A dummy variable which equals to 1 if the percentage of mutual fund shareholding (FUNDSH) in the acquiring firm is above its respective industry mean value, otherwise 0.
CEOD	A dummy variable equal to 1 for the duality of CEO and Chairman in the acquiring firm, *ie*. if the CEO and the Chairman of the board is the same person, otherwise 0.
BSIZE	Board size is the natural logarithm of the total number of directors on board in the acquiring firm.
BIND	Board independence is the ratio of the number of independent directors to the total number of directors on the board in the acquiring firm.
ORECTA	It is balance of acquirer's "other receivables" scaled by its total assets (Jiang et al., 2010).
RPSTA	It is the total value of related-party sales scaled by total assets of the acquiring firm.
STPT	It is a dummy variable that equals to 1 if listed bidder's share is designated as a special treatment (ST), particular transfer (PT), or *ST around the M&A announcement or in the financial year-end prior to the deal announcement, otherwise 0.
LOSS	It is a dummy variable that equals to 1 if return on equity of acquiring firm is below 0 at the fiscal year-end prior to the merger announcement, otherwise 0.
SEO	It is a dummy variable that equals to 1 if the listed firm successfully announced seasonal equity offerings within the M&A announcement year or one year after the deal announcement, otherwise 0.
RI	It is a dummy variable that equals to 1 if the listed firm successfully announced rights issue within the M&A announcement year or one year after, otherwise 0.
GROUP	It is a dummy variable that equals to 1 if bidders' ultimate controlling shareholders have significant shareholding in no less than two other independent firms, otherwise 0.

Appendix A2: Descriptive statistics.

This table shows summary statistics of all variables. We report the number of observations, average, standard deviation, minimum and maximum values for all the variables used in this study. The detailed definition and description of the variables is in Appendix A1. All statistics are computed based on available data on the 2,220 M&A deals in our sample.

Variable	Obs.	Mean	Std. Dev.	Min	Max
CAR(-1, +1) (%)	2,220	1.16	6.24	-15.82	22.96
CAR(-2, +2) (%)	2,220	1.52	8.07	-20.66	33.36
SSSR	2,220	0.69	0.46	0	1
RPMA	2,220	0.4	0.49	0	1
LOGRS	2,220	0.85	1.46	-2.24	5.19
CASHPAY	2,220	0.9	0.3	0	1
STOCKPAY	2,220	0.05	0.21	0	1
SOE	2,216	0.54	0.49	0	1
TARGETLIST	2,220	0.01	0.11	0	1
LOGMC	2,220	22.01	1.08	19.06	26.99
M/B	2,220	1.78	1.45	0.52	40.2
NOPCF/SALES (%)	1,968	7.47	23.72	-110.44	85.5
EXLEV (%)	1,968	1.82	18.91	-32.3	51.41
EXCON (%)	1,681	5.93	8.26	0	29.92
NO1SH (%)	1,968	38.12	15.81	9.09	75
FUNDSH (%)	2,220	8.31	13.38	0	58.35
HFUND	2,220	0.37	0.48	0	1
FUNDSH/NO1SH (%)	1,968	0.28	0.55	0	6.42
CEOD	1,608	0.21	0.41	0	1
BSIZE	2,130	2.19	0.22	1.39	2.94
BIND (%)	2,129	31.24	12.82	0	66.67
ORECTA	2,058	0.03	0.05	0	0.28
RPSTA	2,058	0.02	0.06	0	0.39
STPT	2,219	0.04	0.21	0	1
LOSS	2,220	0.07	0.25	0	1
SEO	2,220	0.21	0.41	0	1
RI	2,220	0.04	0.19	0	1
GROUP	2,220	0.72	0.45	0	1

Appendix A3: Robustness tests on group-affiliated and non-affiliated acquirers.

Dependent Variable:	CAR [-2, +2]			CAR [-2, +2]		
	Panel A: without control for FUNDSH			Panel B: with control for FUNDSH		
	(1)	(2)	(3)	(4)	(5)	(6)
Independent Variables	Full Sample	Group Bidders	Non-Group Bidders	Full Sample	Group Bidders	Non-Group Bidders
RPMA*SSSR*GROUP	-5.760**			-5.122**		
	(-2.56)			(-2.21)		
RPMA*GROUP	3.827			3.242		
	(1.74)			(1.44)		
SSSR*GROUP	4.029**			3.884**		
	(2.26)			(2.19)		
GROUP	-3.220*			-3.100*		
	(-1.79)			(-1.73)		
RPMA*SSSR	8.295***	2.803***	12.021**	8.860***	3.815***	13.685**
	(2.94)	(3.40)	(2.29)	(2.97)	(4.14)	(2.23)
RPMA	-6.749**	-3.275***	-10.830*	-6.820**	-3.892***	-11.101
	(-2.57)	(-4.96)	(-1.91)	(-2.51)	(-6.06)	(-1.74)
SSSR	-2.520	0.644	0.268	-2.873*	0.175	-0.171
	(-1.69)	(0.47)	(0.19)	(-2.01)	(0.12)	(-0.12)
RPMA*SSSR*FUNDSH				-0.162***	-0.139***	0.152
				(-4.76)	(-3.23)	(0.19)
RPMA*FUNDSH				0.095***	0.093***	-0.430
				(3.80)	(3.56)	(-0.48)
SSSR*FUNDSH				0.027	0.031	0.349
				(0.90)	(1.08)	(1.71)
FUNDSH	0.024*	0.038***	0.020	0.014	0.021	-0.294
	(1.84)	(4.90)	(0.84)	(0.72)	(1.03)	(-1.51)
Constant	27.219***	19.828***	40.260***	27.370***	20.158***	41.246***
	(7.56)	(4.24)	(5.46)	(7.38)	(4.48)	(5.49)
Firm-Level Controls	YES	YES	YES	YES	YES	YES
Industry Dummies	YES	YES	YES	YES	YES	YES
Year Dummies	YES	YES	YES	YES	YES	YES
Observations	1,397	935	462	1,397	935	462
Adjusted R-squared	0.197	0.164	0.246	0.198	0.164	0.256

The definition of the variables is in Appendix A1.

***, **, * represent significance at the 1%, 5%, and 10% level respectively.