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Are related-party transactions beneficial or detrimental in emerging markets? New evidence of financial services agreements from China

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ABSTRACT

This paper examines a new and underexplored form of related-party transactions in which Chinese listed companies sign financial services agreements with affiliated finance companies within the same business group. With FSAs, listed companies can readily finance through internal capital markets. However, some concerns controlling shareholders can use FSAs to embezzle funds of listed companies legitimately, thereby expropriating the wealth of minority shareholders. Using a staggered difference-in-differences model with fixed effects, we empirically examine the economic consequences of FSAs. We document that FSAs are detrimental to listed companies' market valuation and operating performance. This phenomenon mainly concentrates on companies without financial constraints and those with lower bankruptcy risks. Further analysis shows that sound corporate governance could inhibit the signing of FSAs ex-ante. This paper contributes to the literature on the economic consequences of related-party transactions in emerging markets. It also provides empirical support that the internal capital market of business groups in China is inefficient and offers controlling shareholders opportunities for tunneling.

1. Introduction

Related party transactions mean transferring resources, services, or obligations between a reporting entity and a related party (SFAS 57; IAS 24). Some argue that related party transactions can be beneficial to companies by reducing transaction costs, improving operating efficiency, and sharing resources; however, in most cases, agency problems are created by providing insiders opportunities to expropriate minority shareholders (Hope, & H., Lu., 2020). Such debate has never ended, and no conclusion has been reached.

This study investigates a relatively new and underexplored form of related-party transactions that controlling shareholders could have been using since 2006 to occupy public firms' funds potentially.[2] Specifically, listed companies sign financial services agreements (hereafter FSAs) with its affiliated finance companies to attain banking services. After signing FSAs, it is easier for public companies to get access to internal funds, while they are also obliged to deposit a certain amount of cash in affiliated finance companies, which we call "related deposits." The ownership of "related deposits" belongs to public companies, but it suffers from the financial risk of finance companies. According to anecdote cases,[3] it is possible that listed companies cannot get their cash back when needed, and, in extreme cases, the affiliated finance

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[2] Before 2006, controlling shareholders generally used intercorporate loans to occupy funds of public firms, which caused negative economic consequences (Jiang et al., 2010). Therefore, CSRC issued a series of regulations to eradicate this specific form of corporate abuse (Jiang et al., 2015). In other words, fund occupancy via intercorporate loans have been prohibited since 2006.

[3] In the year 2019, Tunghsu Optoelectronic Technology (stock id: 000413) defaulted on bonds and mid-term notes, with total amounts of 5.15 billion RMB. However, in the financial statement of 2019, Tunghsu reported 11.60 billion of cash, among which 7.93 billion was deposited in the affiliated finance company. In other word, Tunghsu cannot obtain the related deposit to pay debt on due.

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companies may go bankrupt.[4] In addition, the interest obtained from related deposits is usually not more than the benefits obtained from bank deposits or other short-term investments, which deteriorates the firm's fund-use efficiency. Overall, this related-party transaction can be beneficial to listed companies, but at the same time, it is also risky and costly.

For business groups, the FSA is an essential step in constructing an internal capital market. For listed companies in need they can obtain related loans from the finance companies more conveniently and at a lower cost. However, FSA can also be a potential tool used by controlling shareholders to embezzle funds in the form of related deposits. This inevitable conflict of interest requires our investigation into the overall economic consequences of FSAs. Specifically, in this paper, we address one research question: is this specific related-party transaction beneficial or detrimental to listed companies?

The Chinese stock market is suited for conducting this study for three reasons. First, many business groups in China have carved out their most profitable segments to get listed on stock exchanges.[5] Thus, many listed companies have concentrated ownership, suggesting a prevalence of agency problems between majority and minority investors. FSAs and associated "related deposits" are a particular type of related-party transactions and can be used by controlling shareholders for minority-investor expropriation.

Second, China is characterized by a weaker legal system and investor protection than other major emerging countries (Allen, Qian, & Qian, 2005), which encourages blockholders' tunneling behaviors. Moreover, the authority of security market regulators is also limited, which hampers the effects of public enforcement (Jiang, Lee, & Yue, 2010). Therefore, the tunneling problem, such as fund occupancy, has stubborn roots in the Chinese stock market.

Third, Chinese firms rely heavily on creditors to finance their capital demand, but creditor rights protection and contract enforceability in China are not strong enough (Chen, Lobo, Wang, & Yu, 2013; Qian & Strahan, 2007). However, with underdeveloped financial institutions, business groups in China can act as an effective remedy and help alleviate the financial constraints of weak group members, including listed companies in financial distress (Jia, Shi, & Wang, 2013; Khanna & Yafeh, 2007; Stein, 1997).

Because of the information disclosure regulations in China, we are able to collect data about this new form of related party transactions and use this unique setting to investigate the tunneling behavior within business groups.[6] We collected relevant FSA information from the CNINFO[7] and firm annual reports. In our full regression sample, 7.44% of observations signed FSAs. In order to strengthen causal inferences, we employed the staggered difference-in-differences regression model to examine whether signing an FSA will impact firm performance. The evidence shows that having an FSA is negatively associated with public firms' market valuation, supporting our analyses and understanding of related deposits. We also find that firms' operating performance deteriorates with this agreement.

[4] There is anecdotal evidence that some finance companies finally dissolved during our sample period from year 2007 to 2018.

[5] According to our calculation, 70.4% of listed companies on the Chinese stock market are controlled by business groups.

[6] Jiang and Kim (2020) point that, although the behavior of direct fund occupancy by controlling shareholders has been strictly forbidden, tunneling by controlling shareholders still persists through other means, such as related party transactions. Under such circumstances, CRSC makes a lot of efforts to protect minority shareholders, and the information disclosure requirements on related party transaction is the one. Apart from signing the FSAs, there are some specific rules about the FSAs that the controlling shareholders should obey, which is helpful to constrain the controlling shareholders from abusing their rights.

[7] CNINFO is the CSRC-authorized website (www.cninfo.com.cn) for listed companies to disclose financial statements, company notices and other important information to the public.

Furthermore, we find that the negative consequences of FSAs focus primarily on firms without financial constraints and those of lower bankruptcy risk. Our main results still hold after we control for endogeneity issues and are robust across different regression samples. In a restricted sample, we confirm that this related party transaction is less likely to occur when companies have better corporate governance mechanisms, either internal or external ones.

Our study contributes to both theory and practice in several ways. First, we introduce and thoroughly examine the economic consequence of a new and underexplored form of related-party transactions through which controlling shareholders could legitimately siphon funds from listed firms. With FSA, member companies within business groups should deposit a certain amount of cash in affiliated finance companies under the pressure of their controlling shareholders. It is different from other related-party transactions examined in the Chinese stock market, such as abnormal sales to affiliated companies (Jian & Wong, 2010). Moreover, FSAs also serve as an alternative tool for cash occupancy when unfair intercorporate loans have been prohibited by stock market regulators (Jiang, Rao, & Yue, 2015). It suggests that tunneling problems in China have stubborn roots and pose an ongoing challenge to the country's transition to a market-oriented economy.

Second, this paper contributes to the large body of literature on internal capital markets, as FSAs are an essential step in integrating listed companies into business groups' capital markets. One group of researchers has argued that internal capital markets can lower financing costs due to information asymmetry and alleviate member companies' financial constraints (Myers & Majluf, 1984; Williamson, 1975). Another strand of literature has shown that the operation of internal capital markets is inefficient because of the rent-seeking behavior of subsidiaries (Scharfstein & Stein, 2000) and unproductive cross-subsidization (Shin & Stulz, 1998). Fan, Jin, and Zheng (2008) argue that the internal capital market of business groups in China is inefficient and also provides large shareholders with tunneling opportunities. Our empirical results support this opinion by showing that FSAs deteriorate listed companies' operating performance and market valuation.

Finally, our study sheds new light on the effectiveness of internal and external corporate governance mechanisms to mitigate controlling shareholders' tunneling behaviors in emerging markets. Although, uncertainties exist regarding the effects of various corporate governance mechanisms on principal-principal conflicts of interest in Chinese-listed firms (Huyghebaert & Wang, 2012; Shan, 2013). We find that sound corporate governance can restrain this specific type of related party transaction (i.e., FSAs), which are detrimental to firm performance. As such, our empirical results have implications for both investors and regulators. Therefore, investors should be aware of companies' governance quality, and policymakers should work on ownership structure, board independence, and institutional environment to better protect minority shareholders.

The remainder of this paper proceeds as follows. Section 2 introduces the institutional background and reviews prior literature. Section 3 develops our hypotheses. Section 4 describes the research design, and Section 5 presents the main empirical results. Section 6 reports the results of further analyses, and the final section concludes.

2. Institutional background and literature review

2.1. Institutional background

Cash plays an essential role in the operation of companies as well as in business groups. In order to facilitate centralized management of cash

within a business group,[8] parent companies set up finance companies to achieve the goals of capital resource integration. The finance company acts as the business group's internal bank,[9] and provides loans for affiliated member companies in need of money for operations or investments. The finance companies also provide other banking services, such as accepting deposits, collection and payment of transaction amounts, settlements of internal fund transfers among member companies, and so on.

In order to enjoy the services provided by finance companies, public companies affiliated to the same business groups must agree to sign an FSA. When cash is needed, listed companies that have signed the FSA can directly borrow money from its "internal bank," which is more convenient than outside financing with lower cost. However, companies with FSAs are also obliged to deposit a certain amount of cash in affiliated finance companies, which we call "related deposits."

An FSA is a specific form of related-party transaction. As required by the CSRC and the stock exchanges, listed companies must disclose relevant information of related-party transactions to the public in specified media (e.g., the CNINFO) and audited annual reports. In practice, we find that there are some listed companies which fail to pass the FSAs.[10] The negative votes are from minority shareholders who have concerns that "related deposits" is similar to the intercorporate loans exploited by controlling shareholders for fund occupancy (Jiang et al., 2010). Fig. 1 shows the comparison of "related deposits" and intercorporate loans, which is typically reported as "other receivables" (OREC). The average balance of OREC in our sample is only 1.32% of total assets, much less than the amount reported by Jiang et al. (2010) during the 1996 to 2006 period, while the average balance of related deposits for companies that have signed FSAs is about 6% of total assets, suggesting the agreements' importance to shareholders' wealth.

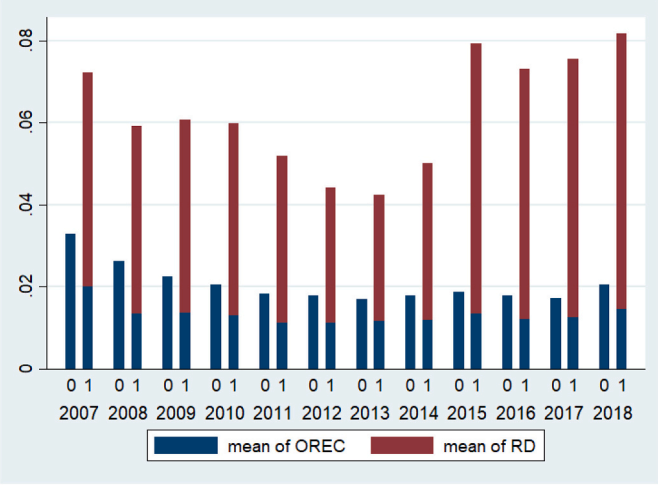

Fig. 1. OREC and related deposits.
This figure demonstrates the average balances (scaled by total assets) of OREC and related deposits (RD for short) during our sample period of 2007 to 2018, for listed companies that signed FSAs (*AGREEMENT* = 1) and those without such agreements (*AGREEMENT* = 0), separately.

The related deposits associated with agreements are risky and involve costs to listed companies that are affiliated with business groups. For operation of an internal capital market, the finance company will lend the related deposits to their parent or other member companies. In China, the government and central bank (i.e., The People's Bank of China [PBC]) secure all banks, especially state-owned banks, for the safety of funds. However, the possibility exists that listed companies may not regain their cash back when needed, if affiliated finance companies have cash flow troubles or even go bankrupt in extreme cases. In addition, the interest obtained from the related deposits is usually less than the benefits obtained from bank, even though the agreement usually states that interest rates should be comparable to market rates. In addition, this occupied cash could have been invested in other, more beneficial ways, such as wealth management products provided by banks (Hachem & Song, 2016). In other words, related deposits deteriorate firms' fund-use efficiency. In Appendix A, we use an example to illustrate the benefits, potential risk and costs associated with related deposits and FSAs.

In regards to the business groups, FSAs between finance companies and member companies, including public firms, is an essential step for centralized management of cash and the smooth operation of internal capital market. For listed companies, FSAs could be beneficial by providing loans of easy access and low cost. However, FSAs also provide controlling shareholders an opportunity to occupy funds of listed companies (i.e., related deposits) and therefore expropriate minority shareholders. As the CSRC has established strict listing requirements, such as accounting performance, a business group usually carves out one of its most profitable parts to list on stock exchanges. Generally, the controlling owners' stake in an unlisted group member is substantially higher than that in a listed firm. Hence, the controlling owners would benefit more from providing loans and thus saving the unlisted firms in distress. Therefore, a public company is more likely to deposit cash in, rather than borrow money from, an affiliated finance company.

From the previous analyses, we know inevitable conflicts of interest, together with benefits of internal financing, exist in terms of FSAs between business groups and their affiliated listed companies. Considering the risk of fund embezzlement, minority shareholders and board directors of listed companies have expressed their concerns, especially over the related deposits. As the type of intercorporate loans examined by Jiang et al. (2010) have been prohibited by the CSRC, an FSA provides an alternative way through which controlling shareholders can legitimately siphon funds from listed companies. Therefore, we need to examine the economic consequences of FSAs.[11]

2.2. Literature review

Previous studies have examined the impacts of related party transactions. Jian and Wong (2010) report that related lending transactions, commonly referred to as financial tunneling, is negatively correlated with firm value. Cheung, Rau, and Stouraitis (2006) examine the market reaction of listed companies' disclosure of related party transactions with their controlling shareholders on the Hong Kong capital market and find the stock return is significantly negative. Moreover, Beckman, Cole, and Fu (2009) find that loan guarantees issued by listed companies to controlling shareholders are detrimental to firm value. Ex post RPTs are significantly negatively associated with operating profitability and are

[8] In October of 2006, state-owned business groups were explicitly required by SASAC (State-owned Assets Supervision and Administration Committee) to manage cash in a centralized way for the purpose of proper budgeting and improving fund-use efficiency. As a result, state-owned and some non-state-owned business groups have set up finance companies since 2007.

[9] Those finance companies affiliated to business groups are also under the supervision of Chinese Banking Regulatory Commission (CBRC).

[10] There is anecdotal evidence that proposing to sign such agreement has been rejected in general meetings of shareholders, while other proposals of FSAs have failed to pass board meetings. For example, the proposed FSA between Angang Steel Company Limited (stock id: 000898) and Angang Finance Company had been unapproved twice in shareholder meetings.

[11] FSAs may vary in detailed provisions for different companies, including the upper limit of related deposits, the contract period, and many other items. Thus, the tunneling opportunities by controlling shareholders may also vary among companies, which is difficult to measure and compare. Therefore, we mainly focus on whether listed companies have signed FSAs.

Table 1
Sample distribution of *AGREEMENT* by year and industry.

Panel A Sample Distribution by Year

Year	*AGREEMENT* = 0	*AGREEMENT* = 1	Total	Percentage
2007	776	35	811	4.32%
2008	906	43	949	4.53%
2009	1000	57	1057	5.39%
2010	1078	77	1155	6.67%
2011	1409	119	1528	7.79%
2012	1601	149	1750	8.51%
2013	1888	171	2059	8.31%
2014	1868	177	2045	8.66%
2015	1956	178	2134	8.34%
2016	2197	194	2391	8.11%
2017	2419	202	2621	7.71%
2018	2834	199	3033	6.56%
Total	19,932	1601	21,533	7.44%

Panel B Sample Distribution by Industry

Industry	*AGREEMENT* = 0	*AGREEMENT* = 1	Total	Percentage
Agriculture (A)	192	18	210	8.57%
Mining (B)	369	93	462	20.13%
Agricultural Processing (C13)	310	10	320	3.13%
Food (C14)	232	1	233	0.43%
Beverage (C15)	347	18	365	4.93%
Spinning (C17)	389	0	389	0.00%
Apparel (C18)	250	5	255	1.96%
Leather (C19)	11	0	11	0.00%
Wood (C20)	2	0	2	0.00%
Furniture (C21)	35	0	35	0.00%
Paper Products (C22)	231	12	243	4.94%
Printing (C23)	19	0	19	0.00%
Culture & Education Manufacturing (C24)	24	0	24	0.00%
Petroleum Processing(C25)	127	38	165	23.03%
Chemical Products(C26)	1513	122	1635	7.46%
Pharmaceutical Products(C27)	1409	39	1448	2.69%
Chemical Fibers (C28)	225	5	230	2.17%
Rubber & Plastics (C29)	428	15	443	3.39%
Non-metallic Mineral products (C30)	638	12	650	1.85%
Ferrous Metal (C31)	263	53	316	16.77%
Non-ferrous Metal (C32)	460	40	500	8.00%
Metal Products (C33)	386	1	387	0.26%
General Equipment (C34)	759	46	805	5.71%
Special Equipment (C35)	1020	91	1111	8.19%
Automobile (C36)	584	158	742	21.29%
Transportation (C37)	188	135	323	41.80%
Electrical Machinery (C38)	1261	45	1306	3.45%
Computer & Communications (C39)	1827	118	1945	6.07%
Instrumentation (C40)	227	2	229	0.87%
Other Manufacturing (C41)	176	0	176	0.00%
Waste Resources (C42)	3	0	3	0.00%
Electric, Heat, Gas, & Water (D)	535	203	738	27.51%
Construction (E)	495	49	544	9.01%
Wholesale & Retail Trade (F)	1266	94	1360	6.91%
Transportation, Warehousing, & Postal Service (G)	506	61	567	10.76%
Accommodation & Catering (H)	3	1	4	25.00%
Information Technology (I)	1100	41	1141	3.59%
Real Estate (K)	1118	43	1161	3.70%
Leasing & Business Services (L)	249	6	255	2.35%
Scientific Research & Technical Services (M)	74	6	80	7.50%
Public Facilities Management (N)	178	4	182	2.20%
Education (P)	2	0	2	0.00%
Health & social work (Q)	5	0	5	0.00%
Culture, sports & entertainment (R)	158	2	160	1.25%
Comprehensive (S)	338	14	352	3.98%
Total	19,932	1601	21,533	7.44%

This table presents the sample distribution of *AGREEMENT* by year (Panel A) and industry (Panel B). *AGREEMENT* is a dummy variable, which equals one if the listed companies have signed the FSAs with affiliated finance companies, and zero otherwise. Industry classification follows *Industrial Classification Codes for Listed Companies* (Edition 2012) issued by CSRC.

associated with an increased likelihood of financial distress or delisting (Ryngaert & Thomas, 2012). In addition, related party transactions serve as "red flags" of future financial misstatement (Kohlbeck & Mayhew, 2017).

A copious amount of research has discussed the related-party transactions within business groups. One stream of studies has argued

Table 2
Descriptive statistics.

Variables	N	Mean	SD	Min	Median	Max
$AGREEMENT_t$	21,533	0.074	0.262	0.000	0.000	1.000
$TOBINQ_t$	21,533	2.012	1.513	0.605	1.524	10.114
ROA_t	21,533	0.053	0.065	−0.242	0.050	0.243
$SIZE_{t-1}$	21,533	22.418	1.190	20.008	22.343	25.924
LEV_{t-1}	21,533	0.443	0.217	0.049	0.440	0.965
NCF_{t-1}	21,533	0.042	0.075	−0.196	0.042	0.248
AGE_{t-1}	21,533	10.179	6.562	1.000	9.000	28.000
$STATE_{t-1}$	21,533	0.431	0.495	0.000	0.000	1.000
$OWNCON_{t-1}$	21,533	0.354	0.149	0.092	0.334	0.748
$SHRCR2TO5_{t-1}$	21,533	0.177	0.115	0.011	0.160	0.468
HHI_{t-1}	21,533	0.091	0.076	0.016	0.069	0.480
$DIVERSIFY_{t-1}$	21,533	0.602	0.490	0.000	1.000	1.000
$FIXED_{t-1}$	21,533	0.231	0.170	0.002	0.197	0.728
$HOLDSHARE_{t-1}$	21,533	0.353	0.238	0.000	0.344	0.865
$DUAL_{t-1}$	21,533	0.242	0.429	0.000	0.000	1.000
$BDSIZE_{t-1}$	21,533	2.155	0.198	1.609	2.197	2.708

This table presents descriptive statistics of all variables for the 2007 to 2018 period (N = 21,533). See Appendix B for variable definitions. All continuous variables at firm-level are winsorized at the 1% and 99% level.

that related-party transactions increase the operating efficiency of the whole group as well as member companies. When the outside market is incomplete, the transaction friction is fairly large. Therefore, related-party transactions within a group are "efficiency enhancing" or "value added," by avoiding friction due to outside-group transactions and thus lowering the transaction costs (Khanna & Palepu, 1997, 2000). Another stream of studies has proposed that controlling shareholders expropriate minority shareholders through related party transactions (Johnson, Porta, Lopez-de-Silanes, & Shleifer, 2000). Chang (2003) reports that it is difficult for outsiders to identify unfair transactions between two subsidiary companies within a business group, thus related party transactions are a potential way for controlling shareholder to expropriate the listed company.

In China, there are many ways that controlling shareholders could extract private benefits from Chinese public firms, including asset appropriation (Gao & Kling, 2008), issuing loan guarantees to related parties (Beckman et al., 2009), high-dividend payments (Chen, Jian, & Xu, 2009), various types of connected transactions (Peng, Wei, & Yang, 2011), and intercorporate loans (Jiang et al., 2010; Jiang et al., 2015). Specifically, Jiang et al. (2010) demonstrate that controlling shareholders use intercorporate loans to embezzle funds of listed companies. Such loans represent 8.1% of total assets on average, and in most cases, loan holders (i.e., controlling shareholders or their affiliates) do not reimburse interest or principle. This form of corporate abuse is long-standing and pervasive, which has significant negative economic consequences to listed firms and their minority shareholders. Cheung, Rau, Stouraitis, and Tan (2021) find that in periods of high tunneling risks, operating assets of Chinese listed firms that are easy to tunnel are valued at larger discounts. Therefore, recent studies of China have directly used related-party transactions as proxy for greater tunneling of corporate resources (e.g., Firth, Lin, Wong, & Zhao, 2019; Ge, Li, Liu, & McVay, 2021).

In the Chinese stock market, where the agency problem between controlling shareholder and minority shareholders is prevalent, we expect that controlling shareholders would have a strong incentive to exploit related-party transactions for the purpose of tunneling.

3. Hypothesis development

This study investigates whether and how the occurrence of such related-party transactions (FSAs) influence listed companies, including firm valuation and profitability.

When the outside market is incomplete, the transaction friction is fairly large (Khanna & Palepu, 1997, 2000), and firms cannot easily

Table 3
Correlation matrix of main variables.

	VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	$AGREEMENT_t$	1															
(2)	$TOBINQ_t$	−0.067***	1														
(3)	ROA_t	−0.040***	0.026***	1													
(4)	$SIZE_{t-1}$	0.258***	−0.119***	0.053***	1												
(5)	LEV_{t-1}	0.161***	−0.114***	−0.164***	0.395***	1											
(6)	NCF_{t-1}	0.021***	0.047***	0.329***	0.074***	−0.150***	1										
(7)	AGE_{t-1}	0.188***	0.084***	−0.111***	0.423***	0.389***	−0.032***	1									
(8)	$STATE_{T-1}$	0.278***	−0.089***	−0.049***	0.301***	0.316***	0.044***	0.409***	1								
(9)	$OWNCON_{t-1}$	0.120***	−0.149***	0.118***	0.148***	0.037***	0.091***	−0.089***	0.183***	1							
(10)	$SHRCR2TO5_{t-1}$	−0.071***	−0.041***	0.078***	−0.140***	−0.231***	0.012*	−0.356***	−0.284***	−0.335***	1						
(11)	HHI_{t-1}	0.075***	−0.050***	−0.017**	0.057***	0.058***	0.018***	0.015**	0.093***	0.073***	−0.019***	1					
(12)	$DIVERSIFY_{t-1}$	−0.004	−0.055***	−0.040***	0.183***	0.176***	−0.047***	0.264***	0.115***	−0.044***	−0.130***	0.016**	1				
(13)	$FIXED_{T-1}$	0.105***	−0.055***	−0.01	0.050***	0.137***	0.250***	0.059***	0.234***	0.066***	−0.092***	0.055***	−0.026***	1			
(14)	$HOLDSHARE_{t-1}$	0.185***	0.048***	0.111***	0.566***	0.180***	0.107***	0.309***	0.289***	0.276***	−0.029***	0.046***	0.084***	0.056***	1		
(15)	$DUAL_{t-1}$	−0.110***	0.023***	0.01	−0.153***	−0.170***	−0.022***	−0.221***	−0.295***	−0.050***	0.115***	−0.064***	−0.068***	−0.103***	−0.148***	1	
(16)	$BDSIZE_{t-1}$	0.136***	−0.108***	0.034***	0.195***	0.158***	0.060***	0.092***	0.268***	0.001	−0.011	0.074***	0.060***	0.168***	0.142***	−0.174***	1

This table reports the correlations between our main variables. *, **, *** indicates statistical significance at 10%, 5%, 1% level, respectively. See Appendix B for variable definitions.

Table 4
Univariate analysis.

Variables	Mean			Median		
	Agreement = 0	*Agreement* = 1	Difference	*Agreement* = 0	*Agreement* = 1	Difference
	(*N* = 19,932)	(*N* = 1601)		(N = 19,932)	(N = 1601)	
TOBINQ$_t$	2.040	1.656	**0.384*****	1.546	1.274	**0.272*****
ROA$_t$	0.053	0.043	**0.010*****	0.051	0.040	**0.011*****
SIZE$_{t-1}$	22.331	23.500	−1.170***	22.272	23.430	−1.158***
LEV$_{t-1}$	0.433	0.566	−0.133***	0.426	0.575	−0.149***
NCF$_{t-1}$	0.041	0.047	−0.006***	0.042	0.045	−0.003**
AGE$_{t-1}$	9.830	14.521	−4.691***	9.000	15.000	−6.000***
STATE$_{t-1}$	0.392	0.917	−0.525***	0.000	1.000	−1.000***
OWNCON$_{t-1}$	0.349	0.418	−0.068***	0.328	0.422	−0.094***
SHRCR2TO5$_{t-1}$	0.179	0.148	0.031***	0.163	0.103	0.060***
HHI$_{t-1}$	0.090	0.111	−0.022***	0.068	0.082	−0.014***
DIVERSIFY$_{t-1}$	0.602	0.594	0.008	1.000	1.000	0.000
FIXED$_{t-1}$	0.226	0.293	−0.068***	0.194	0.237	−0.043***
HOLDSHARE$_{t-1}$	0.340	0.509	−0.168***	0.326	0.553	−0.227***
DUAL$_{t-1}$	0.256	0.076	0.180***	0.000	0.000	0.000***
BDSIZE$_{t-1}$	2.147	2.249	−0.102***	2.197	2.197	0.000***

This table presents univariate comparison of variables between firms with FSAs (*AGREEMENT* = 1) and firms without FSAs (*AGREEMENT* = 0). *AGREEMENT* is a dummy variable, which equals one if the list companies have signed the FSAs with affiliated finance companies, and zero otherwise. The sample period is from 2007 to 2018. *, **, *** indicates statistical significance at the 10%, 5%, 1% levels, respectively. See Appendix B for variable definitions.

raise enough money in a timely manner to finance their profit-making projects. Therefore, the internal capital market of a business group plays an important role in providing funds for its member companies. Gopalan, Nanda, and Seru (2007) find internal capital markets are largely used to support member firms in trouble based on a sample of Indian business group.

As previously mentioned, the affiliated finance company will lend cash deposited by listed firms to their parent company or other affiliated firms in the business group. Finance companies could also provide loans for listed companies if they have signed the FSA. When listed companies are in urgent need of funds, facing financial constraints or bankruptcy risk (in extremely cases) for example, those with FSAs can directly borrow enough money from affiliated finance companies, which is much easier and more convenient than bank loans. In other words, an FSA might be beneficial. We state the hypothesis as follows.

Hypothesis 1a. *Having an FSA with affiliated finance companies is beneficial to the performance of listed companies.*

In European and Asian companies, control by large blockholders is prevalent, and the central agency problem concerns interest conflicts between controlling shareholders and minority investors (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). Related party transactions are a potential way for controlling shareholders to expropriate minority shareholders. Signing FSAs with affiliated finance companies is a new and underexplored form of related-party transaction through which controlling shareholders could legitimately occupy funds of Chinese public firms.

The provisions regarding related deposits in FSAs put pressure on listed companies to deposit cash in affiliated finance companies. This related-party transaction is risky and costly to listed companies. In this transaction, the affiliated finance company lends related deposits to their parent company or other affiliated firms in the business group. There is a possibility that listed companies would not regain their cash back when needed, and, in extreme cases, the affiliated finance companies could go bankrupt. In other words, listed companies with FSAs bear the risk of fund embezzlement by their controlling shareholders. In addition, the interest obtained from the related deposits in finance companies is usually less than that from bank deposits or other short-term investments, resulting in lower fund-use efficiency. Therefore, we expect that firms' operating performance will deteriorate with this agreement, and capital market will lower the valuation of corporate stocks for possibility of tunneling. Then, we state the competing hypothesis as follows.

Hypothesis 1b. *Having an FSA with affiliated finance companies is detrimental to the performance of listed companies.*

4. Research design

4.1. Sample and data

Our sample consists of all A-share firms listed on both the Shanghai and Shenzhen Stock Exchanges. Due to data availability, we use the sample period of 2007 to 2018.[12] First, we collect finance companies information from *The China Yearbook on Finance Companies of Business Groups*. From the yearbooks, we obtain the list of finance companies and the names of their controlling business groups. Next, we collect controlling shareholder information of listed companies from CSMAR database. Then, we manually match data from both source and identify listed firms under the control of the same controlling shareholder of finance companies. Finally, we collect FSA information from the CNINFO website and annual reports.

We obtain other data, including financial statements, ownership structure, board composition, and stock returns from the CSMAR database, Wind database, and CCER database.[13] We then exclude listed companies in financial industry and observations with missing data. Our final sample for empirical tests consists of 21,533 firm-year observations.

4.2. Empirical models

Our competing hypotheses are concerned with whether an FSA is beneficial or detrimental to the performance of listed companies. In order to infer the causal effect that an FSA has on listed companies, we

[12] Before 2007, there were only sporadic cases of finance companies in business groups. In 2005, the Split-Share Structure Reform (SSSR) was implemented to convert the non-tradable shares into tradable ones. Almost all of companies had completed the reform by 2007 (Hope, Wu, & Zhao, 2015). Peng et al. (2011) suggests that this SSSR causes the boom of stock prices in 2007. Therefore, we delete the observations of 2007, and results remain unchanged.
[13] CSMAR, Wind, and CCER are the three major databases supporting accounting and finance research in China.

Table 5
Economic consequences of FSAs.

	Dependent variable	
	$TOBINQ_t$	ROA_t
Variables	(1)	(2)
$AGREEMENT_t$	**−0.145****	**−0.009*****
	(−2.44)	**(−2.78)**
$SIZE_{t-1}$	−0.124***	0.001
	(−6.36)	(1.27)
LEV_{t-1}	0.037	0.004
	(0.50)	(0.95)
NCF_{t-1}	0.841***	0.115***
	(7.05)	(18.63)
AGE_{t-1}	0.066	−0.006
	(0.56)	(−1.00)
$STATE_{t-1}$	−0.239***	−0.011***
	(−4.22)	(−3.93)
$OWNCON_{t-1}$	−2.286***	0.067***
	(−17.90)	(10.21)
$SHRCR2TO5_{t-1}$	−2.412***	0.070***
	(−18.19)	(10.30)
HHI_{t-1}	−0.252	0.003
	(−1.44)	(0.28)
$DIVERSIFY_{t-1}$	−0.062**	−0.003**
	(−2.38)	(−2.52)
$FIXED_{t-1}$	0.216**	−0.008*
	(2.38)	(−1.67)
$HOLDSHARE_{t-1}$	1.153***	0.016***
	(21.29)	(5.81)
$DUAL_{t-1}$	−0.053*	−0.000
	(−1.93)	(−0.03)
$BDSIZE_{t-1}$	−0.364***	−0.005
	(−5.00)	(−1.28)
CONSTANT	6.605***	0.037
	(11.18)	(1.23)
YEAR & FIRM	YES	YES
Observations	21,533	21,533
Within R^2	0.234	0.064

This table presents regression results of *TOBINQ* (*ROA*) on *AGREEMENT*. *AGREEMENT* is a dummy variable, which equals one if the list companies have signed the FSAs with affiliated finance companies, and zero otherwise. The sample period is from 2007 to 2018. T-statistics are presented in parentheses. *, **, *** indicates statistical significance at the 10%, 5%, 1% levels, respectively. See Appendix B for variable definitions.

adopt the following staggered difference-in-differences regression model to test the hypotheses. Two dependent variables are employed, and the first one is *TOBINQ*, a measure of firm value. The second one is *ROA*, a measure of operating performance.

$$TOBINQ\ (ROA)_{i,t} = \beta_0 + \beta_1 \times AGREEMENT_{i,t} + \beta_2 \times ControlVariables_{i,t-1} + FirmFixedEffects + YearFixedEffects + \varepsilon_{i,t} \quad (1)$$

where *AGREEMENT* is a dummy variable that equals one if the listed company *i* has an effective FSA with affiliated finance companies in year *t* and zero otherwise.[14] As we include firm and year fixed effects in model (1), the coefficient on *AGREEMENT* represents the difference-in-differences effect of the treatment firms relative to the control firms for the period before versus after the adoption of FSAs by listed companies (Bertrand & Mullainathan, 2003). The treatment firms are those who have signed FSAs during the sample period, and the control firms have not signed agreements with affiliated finance company. As the effective dates of FSAs are different among firms (i.e. staggered adoption of FSAs), we can compare the performance of a listed company before and after the start of an agreement and isolate the effect of agreement from calendar-year specific effect controlled by year dummies. In addition, the firm dummies control for time-invariant unobservable firm-specific characteristics.

If the coefficient of *AGREEMENT* is significantly positive, the beneficial role of an FSA (H1a) is supported, while a significant and negative coefficient is expected to support any possible tunneling behavior associated with FSAs (H1b).

Following Beckman et al. (2009), we include several control variables[15] in our regression model (1). *SIZE* is the natural logarithm of a firm's total market value. *LEV* is firm leverage, defined as total liabilities divided by total assets. *NCF* is firm cash flow, defined as net operating cash flows divided by total assets. *AGE* is the number of years since a firm went public. *STATE* indicates whether the government ultimately owns the listed company.[16] *OWNCON* is the ownership of the controlling shareholders. *SHRCR2TO5* is the percentage of shares held by the second to fifth largest shareholders. *HHI* is industry concentration. *DIVERSIFY*, is an indicator variable which equals one if companies have sales in two or more industries, and zero otherwise (Xu, Chan, Jiang, & Yi, 2013).[17] *FIXED* is defined as net fixed assets divided by total assets. *HOLDSHARE* is the percentage of shares held by institutional shareholders. *DUAL* indicates whether the board chairman and CEO are the same person. *BDSIZE* is the natural logarithm of a firm's number of board members.

All of the variables in model (1) are defined in Appendix B. To mitigate the potential effect of outliers, we winsorize the continuous variables at the 1% and 99% levels.

5. Empirical results

5.1. Descriptive statistics and univariate analysis

In Panel A of Table 1, we present the sample distribution of *AGREEMENT* by year. In 2007, there were only 35 listed companies that have signed FSAs, and the number increased to about 200 in recent years, which implies that an increasing number of listed companies have signed FSAs. As such, it is necessary to explore the economic consequences of such related-party transactions, which impose the threat of fund occupancy over listed companies. In Panel B of Table 1, we present the sample distribution of *AGREEMENT* by industry. The likelihood to sign FSAs is various among companies in different industries.

Table 2 reports the descriptive statistics of all variables. The mean of *AGREEMENT* is 0.074, which implies that 7.4% of observations in full sample have already signed FSAs. The mean and median of *TOBINQ* are 2.012, and 1.524, respectively, which is consistent with previous literature (Jiang et al., 2015). The mean and median of *ROA* are 0.053, and 0.050, respectively, which indicates the profitability of Chinese listed companies. The mean and median of *OWNCON* are 0.354 and 0.334. In other word, the largest shareholder of all public firms in China owns around 35% of total shares on average, indicating a highly-concentrated ownership structure and strong incentives of expropriation from controlling shareholders.

[14] For example, if firm *i* signed agreement with affiliated finance company in year 2016 and the contract period is three years, the 2016, 2017, and 2018 observations for firm *i* are included in our sample, and we code *AGREEMENT* as one for these observations. We believe that an agreement signed during year t will have effects on current-year valuation and operating performance.

[15] We follow reviewer's constructive suggestions and include additional control variables, *RPT_SALE* and *RPT_PURCHASE* into Model (1). *RPT_PURCHASE* is defined as the ratio of related party purchase transactions to operating income. *RPT_SALE* is the ratio of related party sales transactions to operating income. The coefficient of *AGREEMENT* is still significantly negative, supporting our hypothesis 1b.

[16] We further control the foreign ownership and our results remain unchanged.

[17] Berger and Ofek (1995) pointed out that diversified companies could have a discount on the firm values in general. Therefore, we include *DIVERSIFY* in model (1) as a control variable. However, the effect may not always be the case, and depends on certain factors like economic conditions and governance structures (Erdorf et al., 2013; Graham et al., 2002). Therefore, the regression coefficients of *DIVERSIFY* should be explained with cautions.

Table 6
Moderate effects of financial constraint and bankruptcy risk.

Variables	Dependent variable							
	$TOBINQ_t$				ROA_t			
	DKZ = 1	DKZ = 0	DZS = 1	DZS = 0	DKZ = 1	DKZ = 0	DZS = 1	DZS = 0
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
AGREEMENT$_t$	**−0.046**	**−0.205****	**−0.023**	**−0.145***	**−0.006**	**−0.007***	**−0.003**	**−0.009****
	(−0.58)	(−2.20)	(−0.33)	(−1.84)	(−1.34)	(−1.74)	(−0.55)	(−2.52)
$SIZE_{t-1}$	−0.285***	0.033	−0.431***	−0.027	−0.004**	0.007***	−0.008***	0.005***
	(−9.08)	(1.14)	(−14.21)	(−1.08)	(−2.14)	(5.08)	(−3.22)	(4.45)
LEV_{t-1}	−0.448***	−0.352***	1.681***	−0.068	0.032***	−0.006	0.072***	0.006
	(−3.97)	(−2.70)	(13.07)	(−0.68)	(5.14)	(−0.95)	(6.98)	(1.31)
NCF_{t-1}	0.469***	1.333***	0.377**	0.991***	0.070***	0.141***	0.072***	0.114***
	(2.72)	(7.62)	(2.24)	(6.72)	(7.24)	(17.66)	(5.33)	(16.49)
AGE_{t-1}	−0.072	0.009	0.041	0.038	0.007	−0.007	0.016**	−0.007**
	(−0.96)	(0.09)	(0.46)	(0.55)	(1.61)	(−1.64)	(2.26)	(−2.27)
$STATE_{t-1}$	−0.375***	−0.069	−0.343***	−0.073	−0.011***	−0.003	−0.008	−0.015***
	(−5.07)	(−0.76)	(−5.17)	(−0.97)	(−2.65)	(−0.71)	(−1.59)	(−4.15)
$OWNCON_{t-1}$	−2.011***	−1.197***	−1.092***	−1.759***	0.018*	0.070***	0.026*	0.085***
	(−10.42)	(−6.18)	(−6.32)	(−10.14)	(1.71)	(7.92)	(1.91)	(10.51)
$SHRCR2TO5_{t-1}$	−1.512***	−1.534***	−0.637***	−1.878***	0.034***	0.077***	0.046***	0.078***
	(−7.41)	(−7.80)	(−3.49)	(−10.82)	(3.02)	(8.61)	(3.15)	(9.68)
HHI_{t-1}	−0.305	0.083	0.118	−0.327	0.020	−0.035***	0.027	−0.010
	(−1.16)	(0.30)	(0.49)	(−1.41)	(1.36)	(−2.80)	(1.40)	(−0.93)
$DIVERSIFY_{t-1}$	−0.038	−0.064*	0.038	−0.076**	−0.000	−0.003*	−0.001	−0.003*
	(−0.94)	(−1.83)	(0.98)	(−2.43)	(−0.11)	(−1.66)	(−0.34)	(−1.79)
$FIXED_{t-1}$	−0.083	0.640***	0.151	0.657***	−0.000	−0.015**	0.013	−0.017***
	(−0.63)	(4.62)	(1.38)	(5.34)	(−0.03)	(−2.42)	(1.48)	(−2.88)
$HOLDSHARE_{t-1}$	0.860***	1.000***	0.548***	1.136***	0.010**	0.022***	−0.004	0.017***
	(9.40)	(13.73)	(7.05)	(16.24)	(2.00)	(6.69)	(−0.59)	(5.21)
$DUAL_{t-1}$	−0.023	−0.049	−0.047	−0.038	0.000	0.000	−0.004	0.001
	(−0.55)	(−1.31)	(−1.10)	(−1.16)	(0.07)	(0.03)	(−1.19)	(0.61)
$BDSIZE_{t-1}$	−0.423***	−0.103	−0.199**	−0.334***	−0.005	−0.003	−0.013*	−0.006
	(−4.03)	(−0.99)	(−2.08)	(−3.67)	(−0.92)	(−0.55)	(−1.74)	(−1.33)
CONSTANT	11.021***	2.395***	10.824***	4.461***	0.069	−0.065**	0.076	−0.041
	(13.76)	(3.57)	(12.07)	(7.50)	(1.55)	(−2.14)	(1.07)	(−1.48)
YEAR & FIRM	YES	YES	YES	YES	YES	YES	YES	YES
Chow Test	0.010**		0.350		0.000***		0.040**	
Observations	10,010	10,119	5301	14,828	10,010	10,119	5301	14,828
Within R^2	0.224	0.305	0.216	0.298	0.033	0.113	0.047	0.082

This table presents regression results of *TOBINQ* (*ROA*) on *AGREEMENT*, in subsamples partitioned by financial constraint (*DKZ*) and bankruptcy risk (*DZS*). *AGREEMENT* is a dummy variable, which equals one if the list companies have signed the FSAs with affiliated finance companies, and zero otherwise. *DKZ* is a dummy variable, which equals one if the firm faces financial constraint (has a larger KZ-index), and zero otherwise. *DZS* is a dummy variable, which equals one if the firm faces higher bankruptcy risk (Altman Z-score is below 1.81), and zero otherwise. The sample period is from 2007 to 2018. T-statistics are presented in parentheses. *, **, *** indicates statistical significance at the 10%, 5%, 1% levels, respectively. See Appendix B for variable definitions.

In Table 3, we present the correlation matrix of our main variables. The correlation coefficients between *AGREEMENT* and *TOBINQ* (*ROA*) are significantly negative, which is consistent with our Hypothesis 1b that FSAs are detrimental to firm value and operating performance. All of the correlation coefficients are relatively small, suggesting that multicollinearity problem was not an issue.

We then make comparisons between firms with FSAs (*AGREEMENT* = 1) and firms without FSAs (*AGREEMENT* = 0). The results are presented in Table 4. The mean and median firm value (*TOBINQ*) of listed companies with FSAs is lower, with the significant difference at the 1% level, which is consistent with Hypothesis 1b. Meanwhile, both mean and median of *ROA* are significantly different between the two subsamples, which also supports the Hypothesis 1b.

5.2. Main results

First, we examine whether having an FSA is beneficial or detrimental to firm value. The difference-in-differences regression results[18] are presented in column (1) of Table 5. As shown, the coefficient of *AGREEMENT* is significantly negative (−0.145) at the 5% level in column (1), suggesting that listed companies with FSAs generally have a lower firm value than their counterparts, consistent with Hypothesis 1b. In terms of economic significance, the coefficient estimate implies that a public firm with FSAs have a *TOBINQ* that is 14.5 basis points lower than a firm without FSAs. Given that the sample mean of *TOBINQ* is 2.012, this 14.5 basis point decrease translates into a 7.20% (=0.145/2.012) drop in a firm's value relative to the sample mean.

In addition, we report FSAs' impacts on firm profitability in column (2) of Table 5. The coefficient of *AGREEMENT* is significantly negative (−0.009) at the 1% level, which suggests that operating performance deteriorates with FSAs among listed companies under control of business groups (Hypothesis 1b). In terms of economic significance, the coefficient estimate implies that a public firm with FSAs have a *ROA* that is 0.9 basis points lower than a firm without FSAs. Given that the sample mean of ROA is 0.053, this 0.9 basis point decrease translates into a 16.98% (=0.009/0.053) drop in a firm's profitability relative to the sample mean.

We argue that the provisions regarding related deposits in FSA put pressure on listed companies to deposit cash in affiliated finance companies, which increases the risk of fund embezzlement by controlling

[18] Untabulated results have confirmed the validity of the parallel trends assumption.

Table 7
Propensity score matched sample analysis.

	Dependent variable	
	$TOBINQ_t$	ROA_t
Variables	(1)	(2)
AGREEMENT$_t$	**−0.146***	**−0.012****
	(−1.86)	(−2.39)
$SIZE_{t-1}$	−0.078	−0.000
	(−1.30)	(−0.03)
LEV_{t-1}	−0.526**	0.002
	(−2.37)	(0.13)
NCF_{t-1}	0.957***	0.169***
	(3.69)	(8.69)
AGE_{t-1}	−0.007	−0.005
	(−0.07)	(−0.65)
$STATE_{t-1}$	−0.040	−0.032**
	(−0.12)	(−2.15)
$OWNCON_{t-1}$	−1.285***	0.019
	(−4.66)	(0.97)
$SHRCR2TO5_{t-1}$	−1.130***	0.035*
	(−4.25)	(1.80)
HHI_{t-1}	−0.445	0.007
	(−1.09)	(0.32)
$DIVERSIFY_{t-1}$	−0.110*	0.001
	(−1.65)	(0.32)
$FIXED_{t-1}$	0.098	−0.004
	(0.51)	(−0.32)
$HOLDSHARE_{t-1}$	0.852***	0.003
	(7.53)	(0.45)
$DUAL_{t-1}$	0.056	−0.003
	(0.96)	(−0.68)
$BDSIZE_{t-1}$	0.027	−0.005
	(0.20)	(−0.55)
CONSTANT	4.634***	0.155*
	(3.02)	(1.71)
YEAR & FIRM	YES	YES
Observations	4530	4530
Within R^2	0.241	0.104

This table presents results of *TOBINQ* (*ROA*) on *AGREEMENT* using a propensity-score-matched sample. *AGREEMENT* is a dummy variable, which equals one if the list companies have signed the FSAs with affiliated finance companies, and zero otherwise. The sample period is from 2007 to 2018. T-statistics are presented in parentheses. *, **, *** indicates statistical significance at the 10%, 5%, 1% levels, respectively. See Appendix B for variable definitions.

shareholders. There is a possibility that listed companies could not regain their cash when it is needed, and, in extreme cases, affiliated finance companies may go bankrupt. Moreover, the interest obtained from the related deposits in finance companies is usually less than from banks. Thus, risks and costs associated with FSAs outweigh the benefits, as companies with such an agreement have a lower firm value and operating performance.

6. Further analyses

In this section, we conduct several additional analyses to ensure the robustness of the main findings.

6.1. Moderate effects of financial constraint and bankruptcy risk

As our main tests have supported that an FSA on average has a detrimental impact on market valuation and operating performance of listed companies, we further explore whether this effect is moderated by certain factors.

First, we divide the full regression sample into two groups based on whether the public firm faces financial constraint (*DKZ*) or not, and then re-estimate the model (1) in the two subsamples. The regression results of *TOBINQ* are reported in column (1) and (2) of Table 6. The coefficient of *AGREEMENT* is insignificant in subsample of financial constraint (column 1), and the coefficient is significantly negative for firms without financial constraint (column 2). These results support that the detrimental effect of this related agreement most concentrates on firms without financial constraint, as the fund raised from outside parties could be embezzled by their controlling shareholders. For companies which have troubles in borrowing money from external sources, they can directly seek financial support from affiliated finance companies within the same business groups. Thus, the negative effect of an FSA on firm value is mitigated in public firms with financial constraint. The regression results of *ROA*, which are presented in column (5) and (6), are similar to the results of *TOBINQ* and also support our analysis.

Second, we divide the full regression sample into two groups based on whether the bankruptcy risk (*DZS*) faced by public firm is high or low, and then re-estimate the model (1) in the two subsamples. The regression results of *TOBINQ* are presented in column (3) and (4) of Table 6, and the results of *ROA* are reported in column (7) and (8). The coefficients of *AGREEMENT* are insignificant in subsample of high bankruptcy risk (column 3 & 7), and the coefficients are significantly negative for firms who are less likely to go bankrupt (column 4 & 8). These results support the fact that firm value and operating performance deteriorate with agreements when companies operate normally, while the negative effect of an FSA is weakened by high bankruptcy risk of listed companies. As getting listed on stock exchanges would obtain valuable resources from Chinese capital market, such as reputation and funds (Piotroski & Zhang, 2014), parent companies will employ multiple methods, including related loans, to rescue those public firms with high risk of bankruptcy.

Overall, our results suggest that FSAs' detrimental effects on firm value and operating performance depends on firms' financial constraint and bankruptcy risk.

6.2. Propensity score matching method

In model (1), we employ difference-in-differences design to alleviate the endogeneity concerns that an FSA's association with firm performance may not be causal, and we find that signing FSAs with affiliated finance companies will harm firms' market valuation and profitability. However, here are still concerns that characteristics of firms with FSAs may be systematically different from those without agreement. For example, firms that have signed FSAs are less profitable or in financial distress, and thus they tend to obtain financial support from their parents via related loans lent by affiliated finance companies.

To address this issue in the tests for FSAs' impact on firm value and operating performance, we use a propensity score matched (PSM) method. In the first stage, we run a logit model to obtain the propensity score for each observation and to construct the PSM sample. The dependent variable is a dummy variable that indicates whether a listed company has signed an FSA nor not. We match each observation of a firm signing an agreement to a non-FSA observation with the closest propensity score. The matched sample consists of 4530 firm-years in total. In the second stage, we run regression model (1) and re-estimate our main tests using this matched sample, in which untabulated *t*-tests show that there are rarely significant differences in the mean and median values of the variables between FSA and non-FSA groups.

The PSM regression results are presented in Table 7. In column (1), the coefficient of *AGREEMENT* is negative (−0.146) and statistically significant at the 10% level, consistently supporting that having an FSA is detrimental to firm value. In column (2), *AGREEMENT* is also negatively associated with *ROA* in a matched sample. These findings indicate that our main results are robust after further addressing endogeneity issues and are not driven by differences in firm fundamentals.

6.3. Restricted sample: determinants and consequences

As we mention in the previous section, firm characteristics may be systematically different between companies that have signed FSAs and those without agreement in the full regression sample. Therefore, it is natural to ask about the determinants of FSAs. To be specific, what types

Table 8
FSAs in restricted sample: determinants.

	Dependent variable = $AGREEMENT_t$				
Variables	(1)	(2)	(3)	(4)	(5)
$BALANCE_{t-1}$	**−1.014*** **				**−1.005*** **
	(−2.92)				**(−2.83)**
$BOARDPERC_{t-1}$		**−5.310** **			**−4.150***
		(−2.25)			**(−1.74)**
$INDPERC_{t-1}$			**−5.990*** **		**−6.451*** **
			(−4.66)		**(−4.92)**
$MARKET_{t-1}$				**−0.027***	**−0.034** **
				(−1.75)	**(−2.12)**
$SIZE_{t-1}$	0.397***	0.399***	0.477***	0.416***	0.497***
	(5.54)	(5.58)	(6.49)	(5.78)	(6.63)
LEV_{t-1}	1.419***	1.371***	1.351***	1.376***	1.323***
	(3.96)	(3.83)	(3.77)	(3.86)	(3.67)
NCF_{t-1}	0.137	0.205	−0.049	0.164	−0.063
	(0.16)	(0.23)	(−0.06)	(0.19)	(−0.07)
ROA_{t-1}	0.480	0.722	0.497	0.432	0.514
	(0.37)	(0.56)	(0.39)	(0.34)	(0.40)
MB_{t-1}	−0.072***	−0.066***	−0.068***	−0.066***	−0.074***
	(−2.80)	(−2.61)	(−2.65)	(−2.59)	(−2.89)
AGE_{t-1}	0.068***	0.064***	0.067***	0.074***	0.061***
	(4.83)	(4.48)	(4.79)	(5.25)	(4.22)
$STATE_{t-1}$	0.534***	0.504***	0.574***	0.564***	0.442**
	(2.79)	(2.58)	(3.00)	(2.97)	(2.25)
$OWNCON_{t-1}$	−0.754	0.416	0.513	0.586	−0.581
	(−1.14)	(0.81)	(0.99)	(1.13)	(−0.86)
$SHRCR2TO5_{t-1}$	3.458***	0.727	0.413	0.523	3.660***
	(2.88)	(1.17)	(0.68)	(0.86)	(2.99)
HHI_{t-1}	0.104	0.052	−0.240	0.003	−0.342
	(0.15)	(0.07)	(−0.33)	(0.00)	(−0.47)
$FIXED_{t-1}$	−0.158	−0.217	−0.194	−0.312	−0.303
	(−0.38)	(−0.52)	(−0.46)	(−0.74)	(−0.71)
$HOLDSHARE_{t-1}$	0.938***	0.778**	0.799**	0.905***	0.755**
	(2.85)	(2.33)	(2.41)	(2.76)	(2.23)
$DUAL_{t-1}$	−0.234	−0.218	−0.256	−0.205	−0.256
	(−1.23)	(−1.14)	(−1.33)	(−1.08)	(−1.32)
$BDSIZE_{t-1}$	−0.087	−0.108	−0.602*	−0.054	−0.684**
	(−0.26)	(−0.33)	(−1.75)	(−0.17)	(−1.97)
CONSTANT	−9.868***	−10.141***	−8.410***	−10.562***	−7.691***
	(−5.89)	(−6.08)	(−4.93)	(−6.35)	(−4.46)
YEAR & INDUSTRY	YES	YES	YES	YES	YES
Observations	2164	2164	2164	2164	2164
Pseudo R^2	0.174	0.173	0.179	0.172	0.186

This table presents regression results of *AGREEMENT* on variables of corporate governance mechanisms in a restricted sample. *AGREEMENT* is a dummy variable, which equals one if the list companies have signed the FSAs with affiliated finance companies, and zero otherwise. The sample period is from 2007 to 2018. T-statistics are presented in parentheses. *, **, *** indicates statistical significance at the 10%, 5%, 1% levels, respectively. See Appendix B for variable definitions.

of firms are more likely to sign such agreement?

When we conduct main tests for FSAs' impact on firm performance, we run regressions in full sample including all A-share non-financial listed companies. However, we examine the determinants of FSAs in a restricted sample including firm-years whose controlling shareholder have established at least one subsidiary finance company. We believe that this criterion of sample selection is necessary. Only public firms meeting this criterion need to choose whether to sign or deny FSAs with affiliated finance companies. Other listed firms have no affiliated finance companies at all, so they do not need to make such choice from the very beginning. Therefore, we run the following logistic regression model (2) in a restricted sample to explore what factors demine firms' decision about FSAs.

$$AGREEMENT_{i,t} = \beta_0 + \beta_1 \times FACTOR_{i,t-1} + \beta_2 \times ControlVariables_{i,t-1} + IndustryFixedEffects + YearFixedEffects + \varepsilon_{i,t} \quad (2)$$

where *AGREEMENT* is as defined in the section of Research Design. Prior literature has shown that related party transactions are more likely to occur when companies in different markets have weak corporate governance (e.g. Kohlbeck & Mayhew, 2010; Lo, Wong, & Firth, 2010; Nekhili & Cherif, 2011). Therefore, *Factor* is a set of test variables that proxy for an array of internal and external corporate governance mechanisms, including *BALANCE*, *BOARDPERC*, *INDPERC*, and *MARKET*. *BALANCE* is the percentage of shares held by second to fifth largest shareholders divided by the percentage of shares held by the largest shareholders; *BOARDPERC* is the percentage of common shares held by the board members; *INDPERC* is the percentage of independent directors on the corporate board; *MARKET* is a comprehensive index measuring regional legal environment, and a higher value means the region is more legal-friendly (Fan & Wong, 2005). We included several control variables in our regression model (2), including *SIZE*, *LEV*, *NCF*, *ROA*, *AGE*, *STATE*, *OWNCON*, *SHRCR2TO5*, *HHI*, *FIXED*, *HOLDSHARE*, *DUAL*, *BDSIZE* and *MB*, which is market to book ratio of equity. We also include year dummies and industry dummies in model (2) to control for the year and industry fixed effect.

Results of FSAs' determinants are presented in Table 8. The coefficient of *BALANCE* in the first column is significantly negative (−1.014). Large owners may monitor the controlling shareholder and act as an

Table 9
FSAs in restricted sample: consequences.

	Dependent variable	
	$TOBINQ_t$	ROA_t
Variables	(1)	(2)
AGREEMENT$_t$	**−0.229*****	**−0.005***
	(−4.12)	**(−1.78)**
$SIZE_{t-1}$	−0.270***	0.005***
	(−10.43)	(3.95)
LEV_{t-1}	−0.800***	−0.045***
	(−5.84)	(−6.81)
NCF_{t-1}	0.863***	0.243***
	(2.65)	(15.60)
AGE_{t-1}	−0.002	−0.000
	(−0.46)	(−0.15)
$STATE_{t-1}$	−0.019	−0.021***
	(−0.24)	(−5.64)
$OWNCON_{t-1}$	−1.101***	−0.005
	(−5.37)	(−0.52)
$SHRCR2TO5_{t-1}$	−0.794***	0.014
	(−3.41)	(1.30)
HHI_{t-1}	0.369	−0.038***
	(1.23)	(−2.62)
$DIVERSIFY_{t-1}$	−0.064	−0.001
	(−1.35)	(−0.52)
$FIXED_{t-1}$	−0.657***	−0.045***
	(−4.10)	(−5.92)
$HOLDSHARE_{t-1}$	1.021***	0.011*
	(7.75)	(1.69)
$DUAL_{t-1}$	−0.073	0.010***
	(−0.89)	(2.61)
$BDSIZE_{t-1}$	−0.116	0.004
	(−0.98)	(0.63)
CONSTANT	9.892***	−0.029
	(17.43)	(−1.08)
YEAR & INDUSTRY	YES	YES
Observations	1960	1960
Adj_R^2	0.337	0.238

This table presents results of *TOBINQ* (*ROA*) on *AGREEMENT* in a restricted sample. *AGREEMENT* is a dummy variable, which equals one if the list companies have signed the FSAs with affiliated finance companies, and zero otherwise. *IMR* is the inverse Mills ratio. The sample period is from 2007 to 2018. T-statistics are presented in parentheses. *, **, *** indicates statistical significance at the 10%, 5%, 1% levels, respectively. See Appendix B for variable definitions.

obstacle to minority-investor expropriation in Chinese listed firms (Huyghebaert & Wang, 2012). Thus, when the listed companies are involved in detrimental related party transactions, they would become positive supervisors to prevent such agreements. The coefficient of *BOARDPERC* is significantly negative (−5.310) at the 5% level as presented in column (2), indicating that the probability of having an FSA decreases with the increase in percentage of shares held by board members. Board members have a strong incentive to restrict the use of such agreements when directors themselves become minority shareholders (Gao & Kling, 2008). The coefficient of *INDPERC* is also significantly negative (−5.990) at the 1% level in column (3), indicating that board independence has a positive effect on lowering the likelihood of having such agreements (Rosenstein & Wyatt, 1990), which supports that independent directors' monitoring role is effective in Chinese listed companies. In column (4), the coefficient of *MARKET* is significantly negative (−0.027) at the 10% level, indicating that listed companies located in areas with better legal environment are less likely to sign a related agreement with finance companies (La Porta et al., 1998). In column (5), we include all the four variables and run the logit regression model (2). The coefficients of *BALANCE*, *BOARDPERC*, *INDPERC*, and *MARKET* are all statistically negative.

Overall, when the listed companies are involved in related party transactions, which might be detrimental to operating efficiency of listed firms and the wealth of minority shareholders, strong internal and external corporate governance mechanisms would prevent such transactions to occur, i.e. FSAs in this case.

Furthermore, we also examine the impacts of FSAs and run regression model (1) in the restricted sample. The results are presented in Table 9. The *AGREEMENT* are still significantly and negatively associated with *TOBINQ* (column 1) and *ROA* (column 2), after we restrict the sample selection. We also conduct the Heckman two-step method to further prove the causality. Untabulated results show that *AGREEMENT* is still significantly and negatively associated with *TOBINQ* and *ROA* after inclusion of the inverse mill' ratio (*IMR*). Overall, our main findings about FSAs' detrimental effects are robust across different samples and model specifications.

7. Conclusions

This study examines a new form of related-party transactions, in which Chinese listed companies sign FSAs with affiliated finance companies within the same business group. Our empirical results demonstrate that the agreement between listed companies and affiliated finance companies is detrimental to firms operating performance and market valuation. These negative consequences of FSAs mainly concentrate on listed companies without financial constraints and those with lower bankruptcy risks. After controlling for endogeneity issues, our results still hold and are robust across different samples. In addition, we also find that corporate governance mechanism plays an influential role in inhibiting embezzlement behavior.

Because of concentrated ownership and the poor institutional environment in China, the agency problem between controlling shareholders and minority investors has stubborn roots. As a result, controlling shareholders have strong incentives to exploit FSAs to embezzle funds of listed companies. Our study supports that FSAs, a relatively new and under-explored form of related-party transactions, are detrimental to listed companies, suggesting that the internal capital market of business groups in China is inefficient and provides large shareholders with tunneling opportunities.

Data availability

Data will be made available on request.

Appendix. Hisense: A Case Study on an FSA

Hisense Group controls two listed companies, Hisense Electric Co., Ltd. (stock code: 600060) and Hisense Kelon Electrical Holdings Co., Ltd. (stock code: 000921), and a finance company, Hisense Finance Firm. The ownership structure is as shown in Fig. A1.

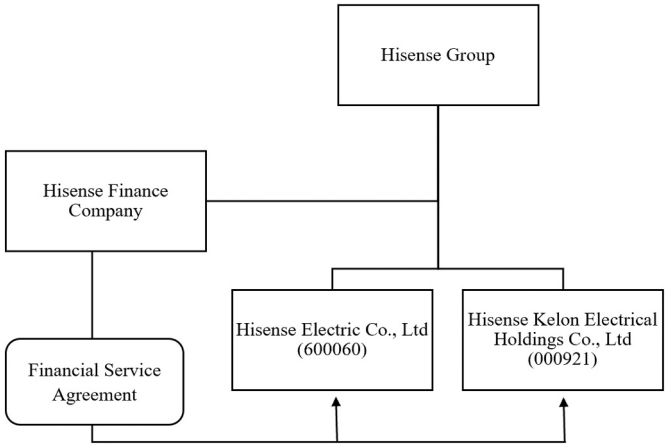

Fig. A1. An Illustration of FSAs and related parties involved.

On June 19, 2008, the board of Hisense Electric Co., Ltd. (Hisense Electric, hereafter) passed a proposal to sign a FSA with the affiliated Hisense Finance Company. The agreement was then passed in the following shareholders' conference. The key contents of this agreement are as follows: "From 2008 for a year, the Hisense Finance Company will provide financial services for Hisense Electric, and **the amount of related deposits and loans should not exceed 1 billion RMB**. All the transactions should follow the equity clause." Since then, Hisense Electric has signed FSAs annually and put large amounts of money into the finance company.

Since 2008, the other listed company in the Hisense Family, Hisense Kelon Electrical Holdings Co., Ltd., (Hisense Kelon, hereafter) has also signed an FSA with the Hisense Finance Company. The financial performance of Hisense Kelon was very poor and the firm was "specially treated (ST)"[19] from 2008 to 2012.

Table A1 summarizes information obtained from CNINFO and financial statements of both public firms during our sample period.

Table A1
Summary of FSAs for listed companies in the hisense family.

Corporate name	Fiscal year	Upper limit of RD	Upper limit of loan	Actual amount of RD	Actual amount of loan	Interest gain from RD	Interest paid to loan
Hisense Electric	2008	1000	1000	351.52	0.00	1.20	0.00
	2009	1000	3330	872.59	0.00	6.95	0.00
	2010	2000	2000	1421.94	0.00	9.92	0.00
	2011	2500	2000	2486.41	0.00	28.27	0.00
	2012	3000	2500	1173.62	0.00	40.12	0.00
	2013	3000	2500	2732.43	0.00	27.40	0.00
	2014	3600	2000	2931.17	0.00	30.65	0.00
	2015	3600	2000	3205.38	0.00	42.93	0.00
	2016	4500	2500	2386.93	0.00	34.86	0.00
	2017	4500	2500	2521.08	0.00	16.3	0.00
	2018	4500	2500	3212.55	0.00	24.7	0.00
Hisense Kelon	2008	500	1000	0.00	30.00	0.00	0.00
	2009	500	1000	0.00	998.76	0.00	23.45
	2010	400	1500	184.48	592.51	0.30	40.25
	2011	400	N/A	177.37	702.50	0.90	35.73
	2012	350	1500	283.96	0.00	1.49	23.83
	2013	350	1500	318.09	0.00	2.09	0.00
	2014	800	2200	698.83	0.00	3.20	0.00
	2015	800	2200	790.81	0.00	5.01	0.00
	2016	3000	4500	1909.47	0.00	10.37	0.00
	2017	6000	6000	2618.43	0.00	25.77	0.00
	2018	6500	6000	3377.22	0.00	32.12	0.00

Unit: 1 million RMB; RD, related deposits; N/A, not available.

As shown in Table A1, although Hisense Electric has put large amounts of money into the finance company, it has never borrowed any loans. For example, the balance of related deposits in 2011 was 2.49 billion RMB, very close to the upper limit stated in the FSA. This amount is 89.88% of the firm's cash and 15.40% of its total asset. In addition, Hisense Electric obtained only 28.27 million of interest from this huge amount of related deposits, but received 11.20 million of interest from 0.28 billion of bank savings. In other word, the roughly estimated interest rate is 1.14% (28.27/2490) for related deposits and 4% (11.20/280) for bank savings (cash and equivalents). Overall, a large proportion of cash is under the direct control of Hisense Group, and small amount of interest was paid. Fig. A2 demonstrates the amount of related deposits (bar) and firm performance (line) of Hisense Electric during our sample period.

[19] Public firms suffering from losses in two consecutive years will be "specially treated".

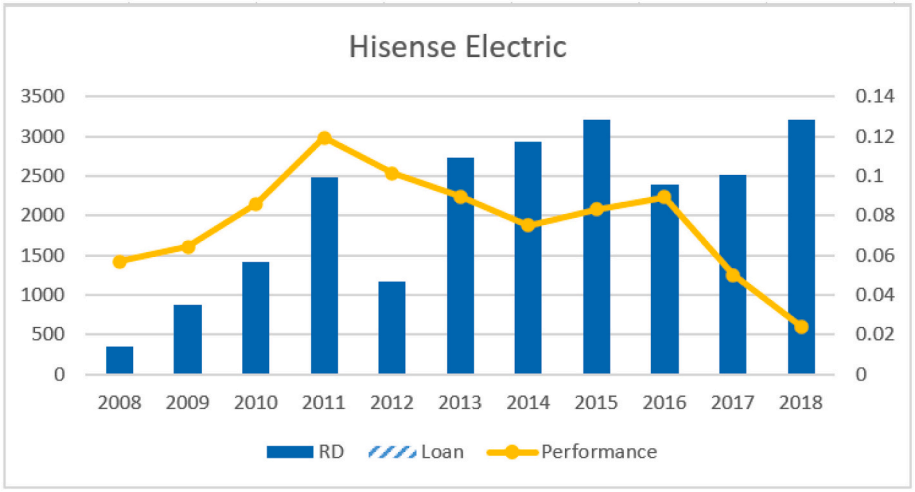

Fig. A2. Related Deposits, Related Loans, and Firm Performance of Hisense Electric.

As the financial performance of Hisense Kelon was very poor from 2008 to 2012, the firm borrowed money from the finance company, and the interest rate is comparable to a bank loan rate. For example, a roughly estimated interest rate for a loan was 5.09% (35.73/702.50) in the year 2011, while the bank base rate is 6.56% for a one-year loan. As we mentioned previously, as public firms are usually the most profitable companies in business groups, it is more likely that funds are siphoned from listed firms to feed other member companies, not the other way around. Since 2013, the financial condition of Hisense Kelon became better and has not been specially treated any more. Therefore, Hisense Kelon stopped borrowing, and its amount of related deposits has been increasing dramatically since then. Fig. A3 shows the amounts of related deposits, the amounts of related loans, and firm performance of Hisense Kelon during our sample period.

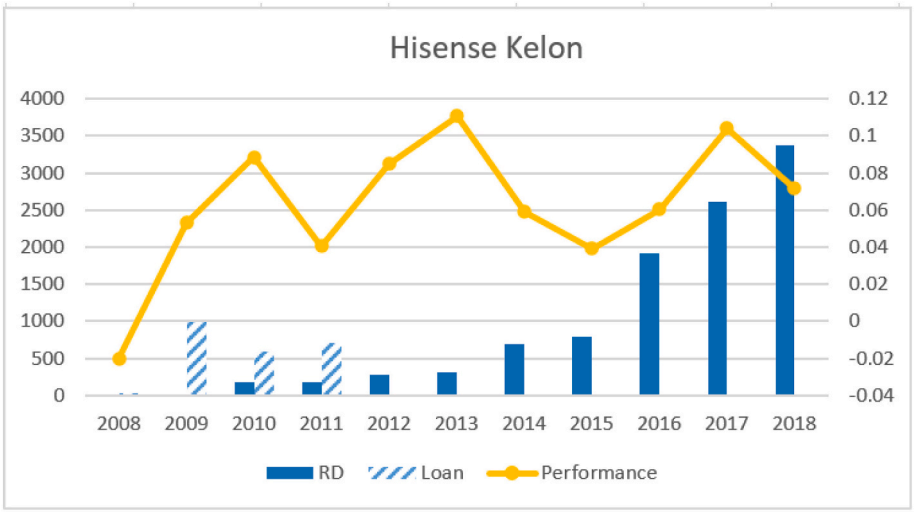

Fig. A3. Related deposits, related loans, and firm performance of Hisense Kelon.

Appendix B
Variables definitions

	Variables	Definition
Testing Variables	*AGREEMENT*	A dummy variable, which equals one if the listed company has signed the FSA with its affiliated finance company, and zero otherwise.
Dependent Variables	*TOBINQ*	Proxy for firm value, and is calculated using formula: (market value of equity + book value of debts)/total assets.
Control Variables	*ROA*	Return on total assets, defined as earnings before interest and tax divided by total assets.
	SIZE	The natural logarithm of a firm's total market value.
	LEV	Firm leverage, defined as total liabilities divided by total assets.
	NCF	Firm cash flow, defined as net operating cash flows divided by total assets.
	AGE	The number of years since a firm went public.
	STATE	A dummy variable, which equals one if the listed company is a state-owned enterprise, and zero otherwise.
	OWNCON	Percentage of shares held by controlling shareholders.

(*continued on next page*)

Appendix B (*continued*)

	Variables	Definition
Variables in Further Analyses	*SHRCR2TO5*	Percentage of shares held by the second to fifth largest shareholders.
	HHI	Industry concentration, defined as the square sum of the percentage of the industry's total revenue occupied by the market competitors in the industry
	DIVERSIFY	A dummy variable, which equals one for companies having sales in two or more industries, and zero otherwise
	FIXED	Defined as net fixed assets divided by total assets
	HOLDSHARE	The percentage of shares held by institutional shareholders.
	DUAL	A dummy variable, which equals one if the board chairman and the chief executive officer are the same person, and zero otherwise
	BDSIZE	The natural logarithm of a firm's number of board members.
	MB	The ratio of market value to book value of equity.
	DKZ	A dummy variable, which equals one if the firm face financial constraint, and zero otherwise. Following Kaplan and Zingales (1997), we first calculate KZindex as follows: KZindex = −1.002 × CashFlow +0.283 × TobinQ +3.139 × Lev – 39.368 × Dividends – 1.315 × CashHoldings, where CashFlow, Dividends, and CashHoldings proxy net operating cash flow, cash dividend, and cash respectively. All these three variables are scaled by lagged assets. Then, firms with KZindex higher (lower) than median are (not) financially constrained.
	DZS	A dummy variable, which equals one if the firm faces higher bankruptcy risk, and zero otherwise. We employ Altman's *Z*-score to proxy bankruptcy risk (Altman, 1968): Z-score = 1.2 × WC/TA + 1.4 × RE/TA + 3.3 × EBIT/TA + 0.6 × MVE/Debt +0.999 × Sales/TA, where WC, RE, EBIT, MVE, Debt, Sales, TA are firm's working capital, retained earnings, earnings before interest and tax, market value of equity, debt, sales, and total assets. Then, for firms with Z-score lower than 1.81, DZS equal 1, otherwise 0.
	BALANCE	The percentage of shares held by the second to fifth largest shareholders divided by the percentage of shares held by the largest shareholders.
	BOARDPERC	The percentage of common shares held by the board members.
	INDPERC	The percentage of independent directors on corporate board.
	MARKET	A comprehensive index measuring regional legal environment, and a higher value means the region is more legal-friendly (Fan & Wong, 2005).

References

Allen, F., Qian, J., & Qian, M. (2005). Law, finance, and economic growth in China. *Journal of Financial Economics, 77*(1), 57–116.

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance, 23*(4), 589–609.

Beckman, H., Cole, R. A., & Fu, L. J. (2009). Expropriation through loan guarantees to related parties: Evidence from China. *Journal of Banking & Finance, 33*(1), 141–156.

Berger, P. G., & Ofek, E. (1995). Diversification's effect on firm value. *Journal of Financial Economics, 37*(1), 39–65.

Bertrand, M., & Mullainathan, S. (2003). Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy, 111*(5), 1043–1075.

Chang, S. J. (2003). Ownership structure, expropriation, and performance of group-affiliated companies in Korea. *Academy of Management Journal, 46*(2), 238–254.

Chen, D., Jian, M., & Xu, M. (2009). Dividends for tunneling in a regulated economy: The case of China. *Pacific-Basin Finance Journal, 17*(2), 209–223.

Chen, J. Z., Lobo, G. J., Wang, Y., & Yu, L. (2013). Loan collateral and financial reporting conservatism: Chinese evidence. *Journal of Banking & Finance, 37*(12), 4989–5006.

Cheung, Y. L., Rau, P. R., & Stouraitis, A. (2006). Tunneling, propping, and expropriation: Evidence from connected party transactions. *Journal of Financial Economics, 82*(2), 343–386.

Cheung, Y. L., Rau, P. R., Stouraitis, A., & Tan, W. (2021). Does the market understand the ex ante risk of expropriation by controlling shareholders? *Journal of Corporate Finance, 68*, Article 101946.

Fan, J. P. H., Jin, L., & Zheng, G. (2008). *Internal capital market in emerging market: Expropriation and mitigating financing constraints*. Working paper, Chinese University of Hong Kong.

Fan, J. P. H., & Wong, T. J. (2005). Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asian. *Journal of Accounting Research, 43*(1), 35–72.

Firth, M., Lin, C., Wong, S. M. L., & Zhao, X. (2019). Hello, is anybody there? Corporate accessibility for outside shareholders as a signal of agency problems. *Review of Accounting Studies, 24*(4), 1317–1358.

Gao, L., & Kling, G. (2008). Corporate governance and tunneling: Empirical evidence from China. *Pacific-Basin Finance Journal, 16*(5), 591–605.

Ge, W., Li, Z., Liu, Q., & McVay, S. (2021). Internal control over financial reporting and resource extraction: Evidence from China. *Contemporary Accounting Research, 38*(2), 1274–1309.

Gopalan, R., Nanda, V., & Seru, A. (2007). Affiliated firms and financial support: Evidence from Indian business groups. *Journal of Financial Economics, 86*(3), 759–795.

Hachem, K. C., & Song, Z. M. (2016). *Liquidity regulation and unintended financial transformation in China* (NBER Working Paper).

Hope, O. K., & H., Lu.. (2020). Economic consequences of corporate governance disclosure: Evidence from the 2006 SEC regulation on related-party transactions. *The Accounting Review, 95*(4), 263–290.

Hope, O.-K., Wu, H., & Zhao, W. (2015). Blockholder exit threats in the presence of private benefits of control. *Review of Accounting Studies, 22*(4), 1–30.

Huyghebaert, N., & Wang, L. (2012). Expropriation of minority Investors in Chinese Listed Firms: The role of internal and external corporate governance mechanisms. *Corporate Governance: An International Review, 20*(3), 308–332.

Jia, N., Shi, J., & Wang, Y. (2013). Coinsurance within business groups: Evidence from related party transactions in an emerging market. *Management Science, 59*(10), 2295–2313.

Jian, M., & Wong, T. J. (2010). Propping through related party transactions. *Review of Accounting Studies, 15*(1), 70–105.

Jiang, F., & Kim, K. (2020). Corporate governance in China: A modern perspective. *Review of Finance, 24*(4), 733–772.

Jiang, G., Lee, C. M., & Yue, H. (2010). Tunneling through intercorporate loans: The China experience. *Journal of Financial Economics, 98*(1), 1–20.

Jiang, G., Rao, P., & Yue, H. (2015). Tunneling through non-operational fund occupancy: An investigation based on officially identified activities. *Journal of Corporate Finance, 32*, 295–311.

Johnson, S., Porta, R. L., Lopez-de-Silanes, F., & Shleifer, A. (2000). Tunneling. *The American Economic Review, 90*(2), 22–27.

Kaplan, S. N., & Zingales, L. (1997). Do investment-cash flow sensitivities provide useful measures of financing constraints? *The Quarterly Journal of Economics, 112*(1), 169–215.

Khanna, T., & Palepu, K. (1997). Why focused strategies might be wrong for emerging markets? *Harward Business Review, 75*(4), 41–51.

Khanna, T., & Palepu, K. (2000). Is group affiliation profitable in emerging markets? An analysis of Indian business groups. *Journal of Finance, 55*(2), 957–992.

Khanna, T., & Yafeh, Y. (2007). Business groups in emerging markets: Paragons or parasites? *Journal of Economic Literature, 45*(2), 331–372.

Kohlbeck, M., & Mayhew, B. W. (2010). Valuation of firms that disclose related party transactions. *Journal of Accounting and Public Policy, 29*(2), 115–137.

Kohlbeck, M., & Mayhew, B. W. (2017). Are related party transactions red flags? *Contemporary Accounting Research, 34*(2), 900–928.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (1998). Law and finance. *Journal of Political Economy, 106*(6), 1113–1155.

Lo, A. W. Y., Wong, R. M. K., & Firth, M. (2010). Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China. *Journal of Corporate Finance, 16*(2), 225–235.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information the investors do not have. *Journal of Financial Economics, 13*(2), 81–102.

Nekhili, M., & Cherif, M. (2011). Related parties transactions and firm's market value: The French case. *Review of Accounting and Finance, 10*(3), 291–315.

Peng, W. Q., Wei, K. C. J., & Yang, Z. (2011). Tunneling or propping: Evidence from connected transactions in China. *Journal of Corporate Finance, 17*, 306–325.

Piotroski, J. D., & Zhang, T. (2014). Politicians and the IPO decision: The impact of impending political promotions on IPO activity in China. *Journal of Financial Economics, 111*(1), 111–136.

Qian, J., & Strahan, P. E. (2007). How laws and institutions shape financial contracts: The case of bank loans. *Journal of Finance, 62*, 2803–2834.

Rosenstein, S., & Wyatt, J. G. (1990). Outside directors, board independence, and shareholder wealth. *Journal of Financial Economics, 26*(2), 175–191.

Ryngaert, M., & Thomas, S. (2012). Not all related party transactions (RPTs) are the same: Ex ante versus ex post RPTs. *Journal of Accounting Research, 50*(3), 845–882.

Scharfstein, D. S., & Stein, J. C. (2000). The dark side of internal capital markets: Divisional rent-seeking and inefficient investment. *Journal of Finance, 55*(6), 2537–2564.

Shan, Y. G. (2013). Can internal governance mechanisms prevent asset appropriation? Examination of type I tunneling in China. *Corporate Governance: An International Review, 21*(3), 225–241.
Shin, H., & Stulz, R. (1998). Are internal capital markets efficient? *Quarterly Journal of Economics, 113*(2), 531–552.
Stein, J. C. (1997). Internal capital markets and the competition for corporate resources. *The Journal of Finance, 52*(1), 111–133.
Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. New York: Free Press.
Xu, N., Chan, K. C., Jiang, X., & Yi, Z. (2013). Do star analysts know more firm-specific information? Evidence from China. *Journal of Banking & Finance, 37*(1), 89–102.