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Agency Conflict, State Ownership and Disclosure Quality in China

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Abstract

This study investigates the role of principal-principal (P-P) agency conflict in shaping disclosure quality of firms in China. It further aims at establishing whether controlling owner's intention to expropriate firm resources or to avoid associated costs of disclosure is the dominant rationale for the said relationship. Moreover, if state's presence as controlling owner have implications for this relationship? Disclosure quality is modelled as a dynamic nonlinear function of P-P agency conflict where analyst forecast error is used as the primary measure of disclosure quality. We synthesize a measure of P-P agency conflict using factor analysis. This study finds that higher P-P agency conflict is associated with poorer disclosure quality in China. This relationship is driven in non-SOEs (privately incorporated firms) by expropriation intentions of controlling shareholder. For state-owned enterprises, the dominant cause for this negative relationship is firms' intention to avoid associated costs of disclosure. Findings of this study signify that the conflict of interest between the controlling and minority shareholders plays a significant role in shaping information environment of firms and the underlying reasons vary for subgroups of firms in China. And this study complements recent literature on controlling owner's expropriation/tunnelling activities by suggesting a role for disclosure quality in expropriation.

Keywords: Principal-principal agency conflict; Disclosure quality; State ownership; SOEs in China; Expropriation; Ownership concentration

Introduction

Information asymmetry provides the room for conflict of interest [1]. The incumbent controlling shareholders have more and better information than outside minority shareholders. This information disparity facilitates controlling shareholders in pursuing selfish interests and leads to a conflict of interest which differs from typical principal-agent conflict in its ramifications and remedies. This principal-principal (P-P) agency conflict is more widespread in economies characterized with high ownership concentration and weaker investor protection [2,3]. Firms with high P-P agency conflict are likely to pursue the interests of controlling shareholders at expense of minority shareholders [4,5]. And if controlling shareholders intend to expropriate firm resources they are likely to opt for lesser disclosure to avoid divulging their clandestine activities and subsequent reputational and penal costs. Hence, keeping an opaque information environment is conducive to expropriation.

This study investigates firms' choice of disclosure quality when there is potential conflict of interest between the controlling and minority shareholders. China offers a natural case of high potential P-P agency conflict due to greater ownership concentration in listed firms. Weak institutional and legal environment and high information opacity in China make minority investors more vulnerable to adverse consequences of P-P agency conflict. Moreover, controlling shareholders in China often hold important management positions and are thus able to pursue their selfish interest without much inconvenience [6-9]. Tunnelling, misusing, or outright expropriation of firm resources in China is well-founded in literature [10]. Furthermore, a large chunk of market capitalization in China comprises of firms which are (or were until recently) owned by the state. These firms provide us with additional opportunity to analyse a situation where a firm simultaneously suffers from high principal-principal and principal-agent agency conflicts.

The state's ownership of listed firms in China takes us further from expropriation rationale for a relationship between P-P agency conflict and disclosure quality. If the controlling owner deems that the prime beneficiary of additional disclosure would be an outside minority and if the expected benefits of disclosure (e.g., reduced cost of capital) are lower than the proprietary and other costs of disclosure, the firm may chose not to disclose. Especially in state-owned enterprises (SOEs) in China, the outside minority is often too small and comprises of individual investors with short-term investment horizon and speculative tendencies [10-12]. Moreover, SOEs do not depend much on equity market for their financing needs due to existence of a state-owned banking industry which tends to offer financing more on political and policy grounds than on economic merits.

To distinguish between the expropriation and costs incentives for poor disclosure, this study hypothesize a non-linear relationship between P-P agency conflict and disclosure quality. A U-shaped relationship is expected if expropriation is intended. Because, after a certain threshold the expected benefits of expropriation are likely to get lowered than potential reputational and penal costs. For costs incentive of poor disclosure an inverse U-shaped relationship is expected. It is because as other stockholders are reduced to insignificance the controlling shareholder will be less and less willing to incur the associated costs of disclosure.

This study finds a significantly negative relationship between P-P agency conflict and disclosure quality in China. The said relationship is non-linear and differs across subgroups of firms. In non-SOEs (privately incorporated firms), the expropriation intention of controlling owner is the dominant cause for a negative relationship between P-P agency conflict and disclosure quality. For firms with state as controlling owner, the negative relationship between P-P agency conflict and disclosure quality is driven by low expected benefits of disclosure and firms' intention to avoid costs associated with disclosure. For recently

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privatized firms, this study registers an insignificant relationship between P-P agency conflict and disclosure quality.

This study contributes to existing literature on agency theory and signifies how the conflict of interest between two classes of owners can shape the information environment of a firm. Findings of this study complement and build on recent studies which suggest a link between ownership concentration and tunnelling/expropriation but do not account for the role of disclosure quality in this relationship. Findings of this study also imply that firms can reduce the perceived principal-principal agency conflict by disclosing more and better quality information. Moreover, by analysing state's presence as controlling owner, this study highlights the governance implications of P-P agency conflict beyond expropriation hypothesis.

The findings of this study have some policy implications. The adverse consequences of potential P-P agency conflict embedded in ownership structures of firms can be mitigated by policy initiatives to improve firms' information environment. Ensuring the enforcement of greater penal costs for expropriation would lead to a lowered threshold where potential costs surpass expected benefits of expropriation. Moreover, long run policy initiatives to dilute the concentrated ownership in Chinese firms can improve the overall information environment in China and enable the capital market to discipline listed firms.

The next section provides a brief overview of governance implications in the aftermath of recent reforms in China; section 3 develops hypotheses; section 4 delineates methodological details; section 5 presents and discusses empirical results; and section 6 concludes this study.

Post Share Reforms State Ownership and Governance Dynamics in China

China introduced non-tradable shares reforms in 2006. In 2005 more than 60% of issued stocks were not tradable in the market and significant price differences existed between tradable and non-tradable shares [13]. Share reforms unlocked a huge chunk of stocks and the market activity was vigorous in subsequent years. Reviewing state ownership in listed non-financial firms over period 2005-16 reveals that state gradually divested from most state-owned enterprises (SOEs). In year 2005, 805 (65.85%) firms had at least 25% of their stocks held by the state which owned more than 47% of all outstanding stocks in market. By the end of 2016, the number of SOEs shrank to 155 firms, a mere 5% of total listed firms (3021) and state ownership constituted only 5.24% of market.

Extant literature suggests that SOEs in China differ from other firms in their governance philosophy, agency conflicts, and managerial incentives. Profit is not the primary driver of SOEs as state engages SOEs to achieve its policy objectives, which may come in conflict with private investors' objective of profit maximization. SOEs are run by state appointed officials who more often than not are bureaucrats or party officials. It is not surprising if they seek undue advantage of their positions or expropriate state resources given that the top managers in SOEs are underpaid relative to their counterparts in equivalent domestic private firms or those in international market. Therefore, concentration of ownership in SOEs may not result into effective management supervision and increased efficiency.

Divestment by sate from hitherto SOEs has potential governance implications for these firms. In year 2016, 1029 firms have previously (in year 2003 or later) been SOEs. SOEs are born with political connections and once an SOE is privatized it is likely that a significant portion of the earlier management would be retained to secure political connections. However, the incumbent politically-connected managers could also pursue political rent seeking. It is not likely for recently privatized firm to transform its governance infrastructure overnight. Therefore, we conjecture that the governance characteristics of newly privatized firms set them apart from both SOEs and privately incorporated firms. And their information environment may become more nebulous due to rent seeking incentives of management and, also, due to controlling owners' intentions of getting favours from government on behest of politically connected managers.

Literature Review and Hypotheses Development

The primary explanation for concentrated ownership is that the large block-holders can oversee and control the firm, especially when the institutional and legal environment is not strong enough to safeguard shareholders' interests [3,14]. However, being at helm of the firm, the large controlling shareholder the ability and incentives to misuse or expropriate firm resources at the expense of outside minority shareholders [9,15,16]. This potential conflict of interest is embedded in the ownership structure of the firm which is not easily changeable. So what can assure minority shareholders that the controlling shareholders are not pursuing selfish interests? Extant literature identifies that more and reliable information about the actions of controlling shareholders can alleviate the concerns of minority shareholders [17-20]. Better disclosure can reduce the 'perceived' agency conflict embedded in ownership structure. But, if the controlling shareholders are actually perusing selfish interests they would want to keep the information environment opaque to avoid reputational and legal damages.

The forgoing expropriation argument implies the short-term orientation of controlling shareholder which may not always be true. Jin and Park [21] argue that the concentrated ownership in a firm associated with a family or business group benefits the firm by providing access to cheap financing from internal capital market. Financing from internal capital market is cheaper because it eliminates the additional costs arising due to information asymmetry and moral hazard between the firm and outsider market. Having access to a well-functioning internal capital market reduces firms' incentives to provide more and quality information to the market as the firm is less reliant on market for financing. Another similar line of argument suggests that in firms with high ownership concentration the incentive to create transparent information environment for the benefit of a small minority is outweighed by proprietary and other direct costs associated with disclosure [22-25]. Further, discloser can adversely affect firms' political rent extraction [4]. Therefore, less transparent information environment can be an optimal choice for controlling shareholders.

Both the expropriation and cost incentives suggest a negative relationship between P-P agency conflict and disclosure quality. So we develop the following hypothesis.

Hypothesis 1: Higher principal-principal agency conflict is associated with poorer disclosure quality.

Recent literature indicates that as the ownership of controlling shareholder increases the expropriating activities increase until a certain threshold [16]. After which further concentration of ownership does not lead to greater expropriation as the marginal benefits of expropriation exceed the potential costs. As opaque information environment is prerequisite for expropriation, we conjecture that there may be a non-linear relationship between P-P agency conflict and disclosure quality too. It is because as the ownership of controlling

owner exceeds the threshold where benefits of expropriation surpass the potential costs the controlling owner loses the incentives to keep the information environment opaque. Moreover, he may want to increase disclosure quality to allay the concerns of minority shareholders. So, under expropriation argument, we expect a U-shaped relationship between P-P agency conflict and disclosure quality. However, if the intention is to avoid costs of disclosure then the P-P agency conflict would have a negative relationship with disclosure quality where reaching a certain threshold (where minority shareholders are further reduced to insignificance) further increases controlling owner's intentions to avoid costs of disclosure as he will be bearing the larger chunk of disclosure related costs. So we expected a non-linear relationship between P-P agency conflict and disclosure quality where the shape of said relationship depends upon controlling shareholder's intentions. So we develop the following hypothesis.

Hypothesis 2: There is non-linear relationship between principal-principal agency conflict and disclosure quality in China.

Further, the state owned enterprises (SOEs) in China provide us with natural setting to test the relationship between P-P agency conflict and disclosure quality when the intentions of controlling shareholder is less likely to expropriate minority shareholders. SOEs may not be pursuing minority investors' interest of wealth maximization but it is unlikely for the state to expropriate minority shareholders. Therefore, in case of SOEs, if there is a negative relationship between principal-principal agency conflict and disclosure quality it is probably because the direct costs of disclosure are greater than any expected benefits of disclosure to the controlling shareholder (i.e., the state). Another likely scenario is that SOEs have overall lower disclosure quality due to lower expected benefits of disclosure but an increase in P-P agency conflict does not affect their disclosure quality as an increase in state ownership does not provides SOEs with extra incentives to expropriate minority shareholders. So we develop following hypothesis.

Hypothesis 3: The relationship between P-P agency conflict and disclosure quality is different in SOEs from that in non-SOEs.

Methodology

Our initial sample comprises of all A-share listed non-financial firms in China during years 2006-2016. The needed data is obtained from CSMAR.

Principal-principal agency conflict

The potential for either type of agency conflict is embedded in the ownership structure of firms. Dispersed ownership creates the potential for principal-agent conflict whereas concentrated ownership creates the potential for principal-principal (P-P) conflict. To focus exclusively on P-P conflict we exclude those firm years where largest owner holds less than 20% of stocks [26].

P-P agency conflict is a latent construct and not identical to ownership concentration. We define it as the likelihood of controlling shareholder's intentions to pursue selfish interests at expense of minority shareholders. If controlling owner does not pursue selfish interests or it is not likely due to existence of block holders and effective governance environment then the high ownership of controlling owner does not constitute P-P agency conflict. Therefore, to obtain a more precise measure of P-P agency conflict we account for factors which increase or reduce the potential for this conflict. And a measure based on various relevant variables is better than a single observed variable to proxy for P-P agency conflict [26].

We employ factor analysis to synthesize a measure of P-P agency conflict based on following five variables suggested in literature to be associated with P-P agency conflict [26]. First, the largest shareholder's holding proportion (Top1Holding). Second, the cumulative ownership proportion of second to fifth largest shareholders (2to5Holding). Third is the Balanced Ratio. It is the ratio of largest shareholder's holdings to cumulative holdings of second to fifth largest shareholders. Its lower value suggests the greater ability of other large shareholders to check largest shareholder. Next, the Herfindhal index of ownership proportions of ten largest shareholders (H10index). Its lower value suggests that ownership is more equally distributed among top ten shareholders. Lastly, we include dividend pay-out ratio. High dividend pay-out ratio suggests a lower risk of expropriation.

Panel A in Table 1 tabulates the descriptive statistics, correlation coefficients, and factor loadings of input variables. The signs of factor loadings are in expected direction. High ownership of largest shareholder, less equally distributed ownership among top10 shareholders, and higher imbalance between Top1Holding and 2to5Holding create potential for P-P agency conflict. Greater 2to5Holding and high dividend pay-out ratio reduce the potential for P-P agency conflict. The eigenvalue of created factor (P-P Agency Conflict) is 2.34 and it absorbs 89 percent of common variation among all the input variables.

Additionally, we use degree of separation in the ownership and control rights of ultimate owner (wedge) as alternate measure of P-P agency conflict [27].

Disclosure quality

We define disclosure quality of a firm as the degree of clarity to outside investors about its operations. Our primary measure of disclosure quality is analyst forecast error (Forecast Error) which is the mean of current year EPS forecasts minus actual EPS, scaled by average month-end stock price. Forecast Error represents the degree to which analysts, on average, were wrong about current year performance of the firm. Greater error suggests low clarity about firm's operations. At least three forecasts are required for each firm-year and we consider only those forecasts which are issued within six months prior to end date. It is because focusing on a relatively narrow window helps in capturing contemporaneous disagreements among analysts and provides more refined measures of disclosure quality.

Alternatively, we use discretionary accruals (Dis Accruals) to measure disclosure quality. Dis Accruals are the economically unexplained portion of total accruals. Greater Dis Accruals distort the true picture of firm's economic performance and make financial statements less informative. We follow modified model to estimate discretionary accruals [28].

Model and estimation technique

The information environment of a firm is not random as firms build on existing environment to reach a targeted level. So we model disclosure quality as a dynamic function where disclosure quality in current period is related to that in previous period. To test the relationship between P-P agency conflict and disclosure quality we set disclosure quality a function of P-P agency conflict as in following equation.

$$DisQlty_{it} = \alpha_1 + \beta_1 DisQlty_{it-1} + \beta_2 P\_PAgencyConflict_{it} + \phi_j Controls_{jit} + u_i + v_{it} \quad (1)$$

The coefficient on β_2 presents the effect of P-P agency conflict on disclosure quality and it tests our first hypothesis. To test the

Panel A: P-P Agency Conflict factor (N=24356, Eigenvalue=2.34)										
S.No	**Input variables**	**Mean**	**St. Dev.**	**Correlation matrix**				**Factor Loadings**		
				1	**2**	**3**	**4**			
1	Top1Holdings	35.67	15.57					0.7		
2	2to5Holdings	17.34	11.9	-0.31				-0.73		
3	H10index	0.48	0.22	0.72	-0.75			0.96		
4	Balanced Ratio	5.71	11.69	0.42	-0.45	0.63		0.63		
5	Dividend	0.1	0.19	0.14	0.12	-0.04	-0.05	-0.03		
Panel B: Descriptive statistics N=8140										
S.No	**variable**	**Mean**	**St. Dev.**	**P1**	**P25**	**P50**	**P75**	**P99**		
1	P-PAgencyConflict	0.06	0.87	-1.28	-0.65	-0.08	0.71	2.08		
2	wedge	6.51	8.77	0	0	0	13.07	31.15		
3	ForecastError (% of price)	0.66	1.94	-2.26	0.01	0.33	0.89	7.86		
4	Analyst Following	12.98	9.34	2	6	10	18	44		
5	Ln Assets	22.27	1.47	19.83	21.23	22.02	23.06	27.32		
6	Assets Growth	0.31	0.75	-0.17	0.06	0.15	0.31	3.27		
7	Business Cycle	269	412	8.5	80	160	280	2239		
8	ROA	0.06	0.05	-0.06	0.03	0.05	0.09	0.24		
9	M/B ratio	4.17	3.45	0.72	2.08	3.25	5.17	16.46		
10	DisAccruals	0.01	0.23	-0.2	-0.02	0.01	0.05	0.28		
Panel C: Correlation analysis										
S.No	**Variable**	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**
1	P-PAgencyConflict									
2	Wedge	0.07*								
3	ForecastError	0.08*	0							
4	Analyst Following	-0.09*	-0.01	-0.07*						
5	Ln Assets	0.17*	0	0.12*	0.31*					
6	Assets Growth	-0.07*	0.01	-0.11*	0.02	0				
7	Business Cycle	0.04*	-0.02	0.08*	-0.08*	0.02*	-0.01			
8	ROA	-0.12*	0.02	-0.41*	0.33*	-0.08*	0.15*	-0.12*		
9	M/B ratio	-0.07*	0	-0.12*	-0.03*	-0.26*	0.02*	0.02*	0.05*	
10	Dis. Accruals	-0.01	0	-0.02	-0.01	0.2	-0.01	0	0	0.08*

Values superscripted '*' are significant at 1 percent

Note: Panel A presents the descriptive statistics, correlation matrix, and factor loadings of input variables used in factor analysis to construct P-PAgencyConflict. Panel B and C respectively present the descriptive statistics and correlation coefficients of major variables in this study. P-PAgencyConflict is a measure of principal-principal agency conflict created by factor analysis on Top1Holdings, 2to5Holdings, H10index, Balanced Ratio, and Dividend. Top1Holdings is the ownership proportion of largest shareholder. 2to5Holdings is the aggregate ownership proportion of 2nd to 5th largest shareholder. H10index is the Herfindhal index of the ownership proportions of 10 largest shareholders. Balanced Ratio is Top1Holdings divided by 2to5Holdings. Dividend is the dividend payout ratio. Wedge is the control rights in excess of ownership rights. ForecastError is the mean of analysts' forecast of current period EPS minus actual EPS. Analyst Following is the number of analysts who forecasted EPS for current year scaled by average month-end stock price. Ln Assets is the natural log of total assets. Assets Growth is the change in total assets over current period. Business Cycle is the inventory turnover days plus accounts receivables turnover days. ROA is return over assets. M/B ratio is the ratio of market to book value of the firm. Dis. Accruals is discretionary accruals obtained using modified Jones (1991) model (see table 3 for details).

Table 1: Univariate analysis.

nonlinearity of relationship between P-P agency conflict and disclosure quality we add the square of P-P agency conflict in eqn. (1) as follows.

$$DisQlty_{it} = \alpha_1 + \beta_1 DisQlty_{it-1} + \beta_2 P\_PAgencyConflict_{it} + \beta_3 P\_PAgencyConflict^2_{it} + \phi_j Controls_{jit} + u_i + v_{it} \quad (2)$$

A significant coefficient on β_3 suggests the nonlinearity of said relationship. Before squaring P-PAgencyConflict, we add the absolute of its most negative value in itself to make all values positive. Next, to test whether the relationship between P-P agency conflict and disclosure quality differ for SOEs we test the following equation .

$$DisQlty_{it} = \alpha_1 + \beta_1 DisQlty_{it-1} + \beta_2 P\_PAgencyConflict_{it} + \beta_3 P\_PAgencyConflict^2_{it} + \alpha_2 SOE_{it} + \beta_4 SOE_{it} * P\_PAgencyConflict_{it} + \phi_j Controls_{jit} + u_i + v_{it} \quad (3)$$

Where α_2 is the differential intercept for SOEs and, if significant, it shows that disclosure quality in SOEs differs from that in other firms. More importantly, β_4 in eqn. (3) represents the differential slope of P-P agency conflict for SOEs. Significant coefficient on β_4 suggests that the effect of P-P agency conflict on disclosure quality differs for SOEs.

We estimate eqns. (1), (2), and (3) using full sample data. Afterwards, subsample analyses is performed where we estimate eqns. (1) and (2) for three subgroup of firms namely SOEs, non-SOEs, and Prev-SOEs (i.e., firms which were previously SOEs but are privatized in recent years).

Existence of a lagged depended variable introduces endogeniety in our model and thus renders usual pooled OLS or panel fixed-effects estimation techniques inappropriate. Two address endogeniety concern we employ dynamic panel data estimation technique. Particularly, we use two-step Arellano-Bover/Blundell-Bond system GMM estimators. System GMM is designed for dynamic "small-T, large-N" panels that may contain fixed effects (see STATA guide). We test for second order serial correlations AR(2) and Sargan test of over-identifying restrictions for validity of model and instruments.

Results and Analysis

Univariate analysis

Panel B and C in Table 1 tabulates the descriptive statistics and correlation matrix of key variables in this study. All variables exhibit sufficient variation and are in plausible range. P-P Agency Conflict has a mean value of 0.06 and its values at 1st and 99th percentiles are -1.28

and 2.08 respectively. Its values are smaller than those of input variables (see panel A in Table 1) because it absorbs only the common variation among input variables. The mean of Wedge is 6.51, suggesting that the control of ultimate owner exceeds, on average, 6.5% than their ownership rights. However the Wedge is absent in more than half of the observations in our analysis. It is plausible considering that, in our sample period; it is common in Chinese firms to have an absolute controlling shareholder who does not need to gain excess control to implement his will. This argument is strengthened by the mean value of Balanced Ratio (5.71) which suggests that the largest shareholder in China has, on average, 5.71 times more ownership rights than the combined ownership of 2nd to 5th largest shareholders. This limits the efficacy of Wedge to measure principal-principal agency conflict in China.

Wedge is positively correlation with P-P Agency Conflict. However, unreported subsample correlation analysis reveals that Wedge is not significantly correlated with P-P Agency Conflict in SOEs. SOEs have lowest mean Wedge but higher ownership concentration. This supports the argument that higher ownership concentration leaves little room for Wedge.

The mean forecast error is less than one percent (0.66) of average stock price. Its values at 1st and 99th percentiles are -2.26 and 7.86 respectively. Discretionary accruals are not correlated with forecast error, suggesting that each captures a different dimension of disclosure quality. P-P Agency Conflict is significantly positively correlated with Forecast Error. This supports our first hypothesis that high P-P agency conflict is associated with lower disclosure quality. However, P-P Agency Conflict is not significantly correlated with discretionary accruals. Wedge is also not correlated with any measure of disclosure quality. It may be because the relationship between P-P agency conflict and disclosure quality is nonlinear or the nature of relationship differs in different subgroups, resulting into insignificant correlations between the two. Both of these potential causes are addressed in the next section.

Multivariate analysis

Table 2 tabulates primary results for eqns. (1), (2), and (3) where P-P Agency Conflict and Forecast Error are respectively employed as measures of principal-principal agency conflict and disclosure quality. The higher values of ForecastError represent poorer disclosure quality.

Dependent: ForecastError	Overall			SOEs		Non_SOEs		Prev_SOEs	
	1	2	3	4	5	6	7	8	9
L1	-0.09	-0.09	-0.1	-0.04	-0.04	-0.07	-0.07	-0.11	-0.11
	(-5.43)***	(-5.7)***	(-5.72)***	(-4.79)***	(-4.43)***	(-2.66)***	(-2.66)***	(-6.91)***	(-6.95)***
(1) P-PAgencyConflict	2.76	3.03	1.55	5.71	-4.68	2.87	1.91	-0.87	-2.49
	(2.98)***	(3.08)***	-0.59	(3.78)***	(-0.91)	(4.09)***	-0.85	(-0.58)	(-0.58)
(2) P-PAgencyConflict ^{2}			0.41		2.54		0.28		0.46
			-0.55		(2.23)**		-0.44		-0.44
(3) SOE		2.18	2.21						
		(2.18)**	(2.22)**						
(4) SOE* P-PAgencyConflict		-1.62	-1.61						
		(-1.71)*	(-1.67)*						
(5) Analyst Following	0.18	0.18	0.18	0.21	0.22	0.09	0.09	0.31	0.31
	(5.04)***	(5.06)***	(5.04)***	(2.25)**	(2.39)**	(2.71)***	(2.71)***	(4.92)***	(4.94)***
(6) ROA	-0.23	-0.23	-0.23	-0.39	-0.38	-0.17	-0.17	-0.35	-0.35
	(-9.54)***	(-9.56)***	(-9.57)***	(-8.70)***	(-8.77)***	(-10.01)***	(-10.0)***	(-9.99)***	(-9.95)***
(7) Ln Assets	-2.54	-2.48	-2.44	-3.54	-3.25	0.11	0.12	-4.82	-4.81
	(-2.77)***	(-2.66)***	(-2.64)***	(-2.37)**	(-2.44)**	(0.15	-0.17	(-3.25)***	(-3.21)***
(8) M/B ratio	-0.45	-0.45	-0.45	-2.02	-2.01	-0.36	-0.36	0.05	0.05
	(-1.98)**	(-1.96)**	(-1.97)**	(-13.39)***	(-13.72)***	(-2.38)**	(-2.36)**	-0.23	-0.21
(9) Assets Growth	-1.9	-1.98	-1.97	-2.45	-2.6	-1.46	-1.48	-5.57	-5.57
	(-3.54)***	(-3.65)***	(-3.56)***	(-2.87)***	(-3.15)***	(-2.06)**	(-2.06)**	(-4.03)***	(-3.97)***
(10) Business Cycle	0	0	0	-0.01	-0.01	0	0	0	0
	(1.93)*	(1.92)*	(1.91)*	(-1.39)	(-1.43)	(2.75)***	(2.76)***	-1.14	-1.13
_cons	0.08	0.08	0.07	0.12	0.1	0.02	0.01	0.13	0.13
	(3.51)***	(3.39)***	(3.35)***	(3.2)***	(3.10)***	-0.93	-0.87	(3.84)***	(3.73)***
Wald chi^2	171***	188***	188***	497***	487***	175***	175***	160***	161***
AR(2)	0.2	0.2	0.2	0.34	0.35	0.36	0.36	0.03	0.03
Sargan test (p-value)	0.35	0.32	0.32	0.2	0.17	0.37	0.38	0.04	0.05
Number of instruments	34	36	37	33	34	32	33	31	32
Number of firms	1689	1689	1689	447	447	969	969	608	608
N	6720	6720	6720	934	934	3419	3419	2367	2367
Joint Significance (1) & (2) Chi^2			9.94***		22.16***		16.79***		0.44

Note: Table 2 presents the estimation results for equations 1-3 using two-step dynamic panel system GMM estimators. Columns 1-3 present results from full sample analyses. Columns 4-5 present results for subsample of state-owned firms (SOEs). Firms with at least 25% state ownership are categorized as SOEs. Columns 6-7 present results for subsample firms who were privately incorporated or were privatized before 2003(non-SOEs). Columns 8-9 present results for subsample of firms who were incorporated as SOEs but were privatized after year 2003(Prev-SOEs). A non-SOE remain non-SOE for all the years in our sample (2006-16). However, an SOE turns to Prev-SOE in the year in our analysis when state divest from that firm. The coefficients on variables (1), (2), (3), (4), (5), (7), (9), and (10) are presented after multiplying by 1000. Z-statistics are presented in parentheses and "***", "**", and "*" suggest their significance level at 1, 5 and 10 percent respectively. L1 is the first lag of dependent variable. SOE is a dummy variable indicating SOEs. See table 1 for definitions of other variables.

Table 2: Principal-principal agency conflict and analyst forecast error.

These results are estimated using dynamic panel two-step system GMM estimators where first lag of dependent variable (L1) is also included as explanatory variable. L1 has significantly negative coefficients in all the columns in Table 2, suggesting that previous period forecast error is negatively related with current period forecast errors. It lends support to the notion that disclosure quality is dynamic where firms build over existing information environment to reach their targeted level of disclosure. Also, the negative coefficients on L1 indicate that information environment has been improving in China during our sample period. The coefficients on control variables are mostly consistent across various model specifications. Higher profitability, size, M/B ratio, asset growth, and smaller business cycle are significantly associated with better disclosure quality.

Columns 1, 2, and 3 in Table 2 present estimations from full sample analysis. The models are significant (i.e. significant Wald chi2) and the generated instruments are valid (i.e., insignificant AR(2) and Sargan test statistic). Column 1 is the base model where only P-P Agency Conflict is included as explanatory variable in addition to L1 and control variables. The coefficient on P-P Agency Conflict is positive (2.76) and significant at one percent. It strongly supports for our first hypothesis, i.e., higher principal-principal agency conflict is associated with poorer disclosure quality. Next, in column 2, an SOE dummy and its interaction with P-P Agency Conflict are added in the model. The coefficient on SOE is positive and significant at five percent, suggesting that SOEs on average have poor disclosure quality than rest of the firms. The coefficient on SOE*P-P Agency Conflict is negative and marginally significant. This negative differential slope of P-P Agency Conflict for SOEs (considering the positive coefficient on P-P Agency Conflict) suggests that the relationship between P-P agency conflict and disclosure quality is weaker in SOEs. This support our argument that SOEs have relatively lower disclosure quality due to lesser expected benefits of greater disclosure and that, unlike non-SOEs, greater potential P-P agency conflict do not provides the state with additional incentives to expropriate.

The column 3 in Table 2 presents results where P-PAgencyConflict2 is added in the model to test for nonlinearity of relationship between P-P agency conflict and disclosure quality. The coefficient on P-PAgencyConflict2 is insignificant and the coefficient on P-P Agency Conflict is also reduced to insignificance. However, the test of joint significance of P-P Agency Conflict and P-PAgencyConflict2 (presented in the last row of Table 2) shows a significant combined effect of both on Forecast Error. It hits at the possibility that the relationship is not non-linear for all firms in our sample, or the nature of relationship is different in subgroups. In overall, the results in column 3 support a positive relationship between P-P Agency Conflict and Forecast Error though they do not establish non-linearity or linearity of the relationship. Therefore, we proceed with subsample analyses to establish the nature of relationship.

Subsample results for SOEs are presented in columns 4 and 5 in Table 2 whereas those for non-SOEs and Prev-SOEs are presented in columns 6-7 and 8-9 respectively. All the models are significant. However, the generated instruments for Prev-SOEs are not valid due to significant AR(2) and lower p-values of Sargan test, rendering results for Prev-SOEs unreliable. The results for SOEs and non-SOEs are reliable. The results for SOEs in column 5 suggest a non-linear relationship between P-P agency conflict and disclosure quality. The coefficient on P-P Agency Conflict has turned negative (though insignificant) but that of P-PAgencyConflict2 is positive (2.54) and significant. It suggests that for lower values of P-P Agency Conflict, an increase in P-P Agency Conflict causes only an insignificant improvement in disclosure quality (i.e., reduced forecast error). Afterwards, an increase in in P-P agency conflict significantly reduces disclosure quality in SOEs. This is in alignment with cost-incentives for poor disclosure quality and is contrary to what we expect if controlling shareholder's intention is to expropriate minority shareholders (see hypotheses development). These results are plausible as in presence of other significant shareholders the state may be willing to bear costs associated with better disclosure. But as other shareholders shrink to insignificance the state will be less willing to bear costs of disclosure given that it has fewer expected benefits of disclosure. In overall, the results in column 5 support that avoiding the associated costs of disclosure is the primary rationale for a negative relationship between principal-principal agency conflict and disclosure quality in state-owned enterprises in China.

The results for non-SOEs in columns 7 of Table 2 are similar to full sample results presented in columns 3. These results support a significantly positive correlation between P-P agency conflict and disclosure quality without establishing the linearity/nonlinearity of the relationship. As argued earlier, it may be because the nature of relationship differs in subgroups (of non-SOEs). Or the threshold where expected benefits get lowered than the potential costs of expropriation is not achieved in our sample firms. However, a clearer picture emerges when we use discretionary accruals as measure of disclosure quality. The estimation results using discretionary accruals are presented in Table 3. The subsample results for SOEs are tabulated in column 3 and support our earlier inference about SOEs. The results for non-SOEs are tabulated in column 4. The coefficient on P-P Agency Conflict is positive and the coefficient on P-PAgencyConflict2 is negative, both are marginally significant. These results suggest that an increase in P-P agency conflict reduces disclosure quality (i.e., higher discretionary accruals) up to a certain threshold after which the relationship reverses. This is in accordance with our expectations under expropriation rationale.

For previously state owned enterprises (Prev-SOEs) the results in Tables 2 and 3 do not support a significant relationship between P-P agency conflict and disclosure quality. A potential, though weak, explanation is that, as argued in section 2, the opacity of information environment in these firms is motivated by political rent seeking not with intention to expropriate minority shareholders. A deeper analysis is beyond the scope of this study and this study merely asserts that Prev-SOEs differ from other two subgroups.

The full sample results using discretionary accruals as measure of disclosure quality are presented in columns 1 and 2 in Table 3. These results suggest a nonlinear relationship between P-P agency conflict and disclosure quality in accordance with expropriation rationale. The full sample and subsample results in Table 3 complement the results in Table 2 by providing further clarity. In overall, the results in Tables 2 and 3 lead us to conclude that higher P-P agency conflict results into poor disclosure quality in China. And this relationship is nonlinear and differs between SOEs and non-SOEs in China. The negative relationship in non-SOEs is driven by expropriation rationale for poor disclosure quality whereas that in SOEs is driven by cost incentives for poor disclosure quality. This study does not register any significant relationship between P-P agency conflict and disclosure quality in subgroups of recently privatized firms (Prev-SOEs). The unreported robustness analysis using Balanced Ratio as measure of P-P agency conflict supports these conclusions.

The results using Wedge as a measure of P-P agency conflict are

Dependent: Discretionary Accruals	Overall (1)	Overall (2)	SOEs (3)	non_SOEs (4)	Prev_SOEs (5)
P-PAgencyConflict	-0.07	-0.06	-0.07	0.41	-0.04
	(-1.71)*	(-1.7)*	(-2.97)***	(1.76)*	(-0.78)
P-PAgencyConflict 2	0.02	0.02	0.02	-0.08	0.01
	(1.74)*	(1.69)*	(3.03)***	(-1.66)*	-0.69
SOE		-0.04			
		(-0.83)			
SOE* P-PAgencyConflict		-0.01			
		(-0.77)			
ROA	1.26	1.27	0.9	11.23	0.16
	-0.93	-0.93	(9.94)***	(2.26)**	(1.84)*
Ln Assets	-0.02	-0.01	0.06	0.22	-0.08
	(-0.52)	(-0.38)	(1.84)*	-1.6	(-1.04)
M/B ratio	-0.9	-0.9	1.5	-11.42	-0.13
	(-0.95)	(-0.95)	-0.98	(-1.79)*	(-1.07)
Assets Growth	0	0	0	-0.01	0
	(-0.51)	(-0.51)	(-2.1)**	(-1.67)*	(13.15)***
Business Cycle	0	0	0	0	0
	(-0.71)	(-0.74)	(2.63)**	(1.78)*	(-0.77)
_cons	0.24	0.19	-1.35	-4.57	1.77
	-0.39	-0.3	(-1.94)*	(-1.63)	-1.02
year dummies	included	included	included	included	included
F-Statistics	2.29***	2.41***	8.59***	0.46	83.39***
Number of observation	17010	17010	3251	7271	6488
Number of firms	2463	2463	917	1367	1026

Note: Table 3 presents results for fixed-effect estimation of disclosure quality over principal-principal agency conflict where Discretionary Accruals is the measure of disclosure quality. T-statistics are presented in parentheses and "***", "**", and "*" suggest their significance level at 1, 5 and 10 percent respectively. See notes to table 1 for definitions of explanatory variables and notes to table 2 for definitions of SOEs, non-SOEs, and Prev-SOEs. Discretionary Accruals are calculated using modified Jones (1991) model as explained below.

Discretionary accruals are computed as total accruals (TotalAccruals) minus non-discretionary accruals (NonDisAccruals). TotalAccruals are net income minus cash flow from operations plus depreciation. NonDisAccruals are calculated as in equation (1).

$$NonDisAccruals_{it} = \hat{\alpha}_j(1/TA_{it}) + \hat{\beta}_{1j}(\Delta \mathrm{R}\,EV_{it} - \Delta REC/TA_{it}) + \hat{\beta}_{2j}(PPE_{it}/TA_{it}) \quad (1)$$

Where , , and are industry-year specific coefficients estimated using following model (2).

$$TotalAccruals_{it} = \alpha_j(1/TA_{it}) + \beta_{1j}(\Delta \mathrm{R}\,EV_{it}/TA_{it}) + \beta_{2j}(PPE_{it}/TA_{it}) + \varepsilon_{it} \quad (2)$$

We estimate model (2) for each industry-year 'j' with at least 10 valid observations. 'i' and 't' represent firm and year respectively. TA is average total assets; ΔREV is change in revenue; ΔREC is change in account receivables; and PPE is depreciable fixed assets.

Table 3: Discretionary accruals and P-P agency conflict.

tabulated in Table 4. These results show that Wedge is significantly associated with Forecast Error only in subsample of SOEs. The coefficients on Wedge is positive and that on Wedge2 is negative, both significant at one percent. High Wedge is expected when controlling owner's ownership is relatively low and the vice versa. If state's ownership is high in an SOE, leaving little room for Wedge and low expected benefits of disclosure, the firm will be less willing to incur discloser related costs as the controlling owner (the state) will have to bear most part of these costs. However, if state ownership is lower in an SOE, leaving more room for wedge and the state will have to bear lesser proportion of disclosure related costs, the firm will enhance disclosure for investors' confidence. Therefore, it is plausible that for lower values of Wedge an increase in wedge is associated with lower disclosure quality and vice versa. So we maintain our earlier inference that avoiding cost of disclosure is primary reason for negative relationship between P-P agency conflict and disclosure quality in SOEs in China.

Conclusion

This study investigates the relationship between principal-principal (P-P) agency conflict and disclosure quality in China. It attempts to answer whether controlling owner's intention to expropriate or to avoid associated costs of disclosure is the dominant cause for a negative relationship between P-P agency conflict and disclosure quality. Also, if state's presence as controlling owner has implications for this relationship. The findings suggest that higher P-P agency conflict is significantly associated with poor disclosure quality in China. And the said relationship is not linear and varies across subgroups of firms in China. For subgroup of state-owned enterprises, avoiding the associated costs of disclosure appears to be the dominant cause for a negative relationship between P-P agency conflict and disclosure quality. For privately incorporated firms, this study suggests that expropriation incentives of controlling owner are the major cause for a negative relationship between P-P agency conflict and disclosure quality. Another subgroup, i.e. recently privatized firms, is separately analyzed due to their peculiar governance environment. This study does not find any significant relationship between P-P agency conflict and disclosure quality in these firms.

This study contributes to existing literature on agency theory and corporate governance by suggesting a role for P-P agency conflict in shaping information environment of firms. Moreover, this study complement to recent literature on controlling owner's expropriation/tunnelling activities by suggesting a role for disclosure quality in expropriation. Our findings suggest that policy initiatives to improve information environment of firms can help in mitigating the adverse consequences of P-P agency conflict. Further, ensuring the enforcement of greater penal costs for expropriation would lead to a lowered

Dependent: Forecast Error	Overall (2)	SOEs (4)	non_SOEs (6)	Prev_SOEs (9)
L1	-0.09	0.02	-0.06	-0.11
	(-4.80)***	-1.31	(-2.34)**	(-6.48)***
(1) Wedge	0.11	2.54	-0.07	-0.18
	(-0.47)	(4.82)***	(-0.48)	(-0.39)
(2) Wedge 2	0	-0.06	0.01	0
	-0.14	(-3.41)***	-0.48	-0.1
(3) Analyst Following	0.19	0.21	0.1	0.31
	(5.29)***	(2.34)**	(2.86)***	(4.78)***
(4) ROA	-0.23	-0.38	-0.17	-0.35
	(-9.43)***	(-10.19)***	(-10.28)***	(-9.37)***
(5) Ln Assets	-2.9	-6.61	-0.47	-4.71
	(-3.14)***	(-3.29)***	(-0.71)	(-3.1)***
(6) M/B ratio	-0.41	-1.51	-0.41	0.14
	(-1.71)*	(-11.64)***	(-2.81)***	-0.6
(7) Assets Growth	-3.15	-5.49	-2.42	-5.61
	(-4.43)***	(-5.33)***	(-3.16)***	(-3.92)***
(8) Business Cycle	0	-0.01	0	0
	-1.47	(-1.56)	-1.58	-1.32
_cons	0.09	0.18	0.03	0.13
	(3.88)***	(3.8)***	(1.78)*	(3.69)***
Wald chi2	134.56***	509.11***	149.18***	153.68***
N	6532	889	3353	2290
Number of firms	1668	432	959	599
Number of instruments	35	34	33	32
AR(2)	0.35	0.35	0.59	0.08
Sargan test (p-value)	0.43	0.21	0.26	0.02
Joint Significance of (1) & (2): $chi^2(2)$	0.91	25.4***	0.24	0.78
Note: This table presents the estimation results for equations 1-3 using two-step dynamic panel system GMM estimators. ForecastError is the dependent variable and Wedge is primary explanatory variable. L1 is the first lag of dependent variable. See notes to table 1 for definitions of explanatory variables and notes to table 2 for definitions of SOEs, non-SOEs, and Prev-SOEs. The coefficient of (1), (2), (3), (5), (7), and (8) are presented after multiplying by 1000. Z-statistics are presented in parentheses and "***", "**", and "*" suggest their significance level at 1, 5 and 10 percent respectively.				

Table 4: Excess control and disclosure quality.

threshold where potential costs of expropriation surpass expected benefits of expropriation. Moreover, long run policy initiatives to dilute the concentrated ownership in Chinese firms can improve the information environment in China and enable the capital market to discipline listed firms.

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