Top Management Team Power in China: Measurement and an Application

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Research objective

- We wish to develop a measure of top management team (TMT) power for publicly listed Chinese firms

Motivation

- The importance of TMT in corporate decision making
- Central to the research on TMTs is the power distribution of TMTs
  - Individual top managers are able to influence organizational outcomes only to the extent that they have power (Finkelstein 1992)
- There is a demand for a good measure of TMT power

Why China

- Publicly listed Chinese firms are required to disclose the entire list of TMT in their annual reports

- The names of the TMT is usually not listed in alphabetical order, raising the possibility that Chinese firms' ordered TMT name list is a proxy for managerial power

Why is the list a valid proxy?

- The Differential Mode of Association (chaxugeju in Chinese) theory proposed by a renowned Chinese Sociologist Fei Xiaotong
  - China is a relational society
  - People's behaviors are governed by rituals (publicly recognized behavioural norms) rather than rule of law
- We argue that the ordered TMT list serves as a ritual in a relational society

Validation approach

- Examine whether the commonly identified power sources from prior literature can explain the ranking of the ordered list

Definition of TMT in China

- TMT refers to a firm's top executives explicitly disclosed in the firm's annual report (still active as of the fiscal year end), including the board chairman, the CEO, vice presidents, the CFO (if included), the board secretary, and other company-designated top managers
  - We exclude the Chairman and CEO from main analysis

Sample selection procedures

Table 1. Sample selection procedures

	Full sample	SOE sample	Non-SOE sample
All A-share firms over 2005 to 2013	317,542	168,568	133,222
Full sample: 17,122 firm-years, 2,554 unique firms			
SOE sample: 8,425 firm-years, 1,209 unique firms			
Non-SOE sample: 7,889 firm-years, 1,584 unique firms			
Eliminating individuals not belonging to top management teams	(189,929)	(102,283)	(77,969)
Eliminating board chairmen and CEOs	(30,963)	(16,056)	(13,424)
Eliminating top management team members that quit in the current year or take on the position after the fiscal-year end	(5,722)	(2,509)	(2,950)
Eliminating observations with missing compensation or age data	(492)	(344)	(139)
Eliminating top management teams with only one member	(254)	(84)	(157)
Final sample	90,182	47,292	38,583
Full sample: 16,692 firm-years, 2,553 unique firms			
SOE sample: 8,251 firm-years, 1,206 unique firms			
Non-SOE sample: 7,656 firm-years, 1,578 unique firms			

Definition of POWER

- *POWER = 1 – (RANK – MIN)/(MAX – MIN)*, where *RANK* is the rank of the TMT members disclosed in the annual report of a firm-year with 1 being the highest rank. *MIN* is the minimum of *RANK* (i.e., 1) and *MAX* is the maximum of *RANK* (i.e., the number of TMT members in a firm-year)

  - *POWER* ranges from zero (lowest power) to one (highest power)

- We perform a similar transformation for the explanatory variables

Theory of TMT power

- Finkelstein (1992) identifies four key dimensions of an individual executive's power, referred to as
  - structural power,
  - ownership power,
  - expert power, and
  - prestige power

Structural Power

- Structural Power is based on formal organizational structure and hierarchical authority

EXEC_DIR	A dummy variable indicating whether a TMT member is part of the firm's board
COMP	TMT member's total annual cash compensation (including bonuses) divided by the total cash compensation of the highest paid manager
NUM_TITLES	The number of top executive job titles held by a TMT member

Ownership power

- Finkelstein (1992) argues that the strength of a manager's ownership power depends on his ownership position as well as on his link to the founder of a firm

SHARE_OWN	The stock ownership of a TMT member and her related parties acting in concert
FOUNDER	A dummy variable indicating whether a TMT member is disclosed in the IPO prospectus as a top ten shareholder or a top management team member in the IPO year
CONTROLLER	A dummy variable indicating whether a TMT member is the ultimate controlling shareholder of the firm

Expert power

- Expert power is the ability of top managers to deal with environmental contingencies and contribute to organizational success
- Finkelstein (1992) argues that the more managers have developed contacts and relationships with elements of the task environment, the greater is their ability to cope with contingencies of the task environment

Expert power

- Following Finkelstein (1992), we assume that top managers with functional experience in a particular area can be said to be expert in that area

- The breadth of managerial assignments over a career increases exposure to environmental actors and enhances an executive's ability to manage the relationships that grow out of such contact

Expert power

SKILL_MATCH	A dummy variable indicating whether there is a match between a TMT member's functional areas and her professional qualifications
NUM_FUNCTIONS	The number of functional areas in which a TMT member holds a post
NUM_POSITIONS	The number of senior executive positions a TMT member previously held based on her resume

Prestige power

- Finkelstein argues that managerial prestige promotes power by facilitating the absorption of uncertainty from the institutional environment both informationally and symbolically

- Prestige also provides power through suggesting that a manager has gilt-edged qualifications and powerful friends

Prestige power

NUM_DIR	The number of board seats a TMT member holds in other listed firms
NUM_NONPROFIT	The number of board seats a TMT member holds in non-for-profit organizations
EDU	A dummy variable that equals one if a TMT member's educational level is technical secondary level or below, two if the educational level is junior college level, three if the educational level is a bachelor degree, four if the educational level is a master degree, and five if the educational level is a doctor degree

Theory of TMT power

- We also develop proxies for three additional dimensions of power more relevant to the China/Asian context:
  - political power,
  - seniority power, and
  - gender power

Political power

- We hypothesize that politically connected managers are more powerful in China
  - Political connection with the government
  - Political connection with the parent company
- This could be part of expert power

Political power

PC	A dummy variable that equals one if a manager is a current or former government official at the central, provincial or county government level, or a representative of the People's Congress or the Chinese People's Political Consultative Conference (CPPCC) at the national, provincial or county level
PARENT_POS	*PARENT_POS* is three if a TMT member holds the position of both the chairman of the board and the CEO at the parent company, two if the TMT member holds the positon of either the chairman of the board or the CEO but not both at the parent company, one if the TMT member holds any managerial position lower than the board chairman and the CEO at the parent company, and zero if the TMT member holds no managerial position at the parent company

Seniority power

- We hypothesize that seniority plays an important role in the ranking of the ordered list

- We measure seniority using both age (AGE) and tenure with the current firm (TENURE)

Gender power

- We conjecture that male TMT members (MALE) are expected to be more powerful and therefore ranked lower in the ordered list of TMT in the annual report

Descriptive statistics

Panel B. Distribution by the size of top management team

	Number of firms			Number of individuals		
	Full sample	SOE sample	Non-SOE sample	Full sample	SOE sample	Non-SOE sample
2	1,102	356	705	2,204	712	1,410
3	2,158	858	1,205	6,474	2,574	3,615
4	3,200	1,419	1,619	12,800	5,676	6,476
5	3,362	1,653	1,571	16,810	8,265	7,855
6	2,596	1,436	1,028	15,576	8,616	6,168
7	1,734	1,032	612	12,138	7,224	4,284
8	1,086	632	389	8,688	5,056	3,112
9	608	355	226	5,472	3,195	2,034
10	335	212	109	3,350	2,120	1,090
11	179	106	66	1,969	1,166	726
12	118	73	41	1,416	876	492
13	61	40	19	793	520	247
14	48	25	20	672	350	280
15	32	23	8	480	345	120
16	24	9	13	384	144	208
17	18	9	9	306	153	153
18	6	1	4	108	18	72
19	14	7	6	266	133	114
20	3	0	3	60	0	60
21	2	1	1	42	21	21
>=22	6	4	2	174	128	46
Total	16,692	8,251	7,656	90,182	47,292	38,583

Results of validation tests

Panel A. Full sample

Dependent variable: POWER	(1) Structural	(2) Ownership	(3) Expert	(4) Prestige	(5) Political	(6) Seniority	(7) Gender	(8)
EXEC_DIR	0.518***							0.458***
	(0.007)							(0.007)
COMP	0.241***							0.185***
	(0.006)							(0.006)
NUM_TITLES	0.040***							0.039***
	(0.008)							(0.008)
SHARE_OWN		0.237***						0.056***
		(0.011)						(0.007)
FOUNDER		0.195***						0.017**
		(0.009)						(0.008)
CONTROLLER		0.301***						0.058***
		(0.020)						(0.015)
SKILL_MATCH			0.036***					-0.012*
			(0.010)					(0.006)
NUM_FUNCTIONS			-0.053***					-0.024***
			(0.009)					(0.006)
NUM_POSITIONS			0.151***					0.061***
			(0.007)					(0.005)
NUM_DIR				0.298***				0.049***
				(0.009)				(0.007)
NUM_NONPROFIT				0.166***				0.058***
				(0.022)				(0.016)
EDU				0.021**				0.018***
				(0.008)				(0.006)
PC					0.097***			0.022**
					(0.012)			(0.009)
PARENT_POS					0.380***			0.077***
					(0.012)			(0.009)
AGE						0.185***		0.116***
						(0.008)		(0.006)
TENURE						0.258***		0.095***
						(0.008)		(0.007)
MALE							0.101***	0.052***
							(0.010)	(0.006)
Firm×year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	90,182	90,182	90,182	90,182	90,182	90,182	90,182	90,182
R-squared	0.446	0.098	0.029	0.054	0.043	0.131	0.008	0.495

Panel B. SOE sample

Dependent variable: POWER	(1) Structural	(2) Ownership	(3) Expert	(4) Prestige	(5) Political	(6) Seniority	(7) Gender	(8)
EXEC_DIR	0.510***							0.449***
	(0.010)							(0.010)
COMP	0.262***							0.206***
	(0.008)							(0.008)
NUM_TITLES	0.042***							0.045***
	(0.011)							(0.011)
SHARE_OWN		0.142***						0.018
		(0.016)						(0.011)
FOUNDER		0.201***						0.019*
		(0.013)						(0.011)
CONTROLLER		-						-
SKILL_MATCH			0.038***					0.001
			(0.013)					(0.009)
NUM_FUNCTIONS			-0.067***					-0.041***
			(0.012)					(0.009)
NUM_POSITIONS			0.167***					0.068***
			(0.010)					(0.008)
NUM_DIR				0.253***				0.050***
				(0.012)				(0.010)
NUM_NONPROFIT				0.195***				0.099***
				(0.030)				(0.024)
EDU				0.030***				0.030***
				(0.012)				(0.008)
PC					0.083***			0.027**
					(0.015)			(0.012)
PARENT_POS					0.370***			0.115***
					(0.017)			(0.014)
AGE						0.189***		0.127***
						(0.012)		(0.009)
TENURE						0.226***		0.091***
						(0.011)		(0.010)
MALE							0.130***	0.077***
							(0.014)	(0.009)
Firm×year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	47,292	47,292	47,292	47,292	47,292	47,292	47,292	47,292
R-squared	0.401	0.055	0.036	0.038	0.035	0.120	0.012	0.457

Panel C. Non-SOE sample

Dependent variable: POWER	(1) Structural	(2) Ownership	(3) Expert	(4) Prestige	(5) Political	(6) Seniority	(7) Gender	(8)
EXEC_DIR	0.528***							0.458***
	(0.009)							(0.009)
COMP	0.213***							0.159***
	(0.008)							(0.008)
NUM_TITLES	0.039***							0.037***
	(0.011)							(0.010)
SHARE_OWN		0.333***						0.099***
		(0.013)						(0.009)
FOUNDER		0.190***						0.014
		(0.012)						(0.010)
CONTROLLER		0.244***						0.046***
		(0.022)						(0.015)
SKILL_MATCH			0.031**					-0.029***
			(0.015)					(0.008)
NUM_FUNCTIONS			-0.033***					-0.000
			(0.012)					(0.008)
NUM_POSITIONS			0.128***					0.051***
			(0.011)					(0.007)
NUM_DIR				0.343***				0.047***
				(0.012)				(0.009)
NUM_NONPROFIT				0.138***				0.021
				(0.032)				(0.019)
EDU				0.015				0.011
				(0.012)				(0.008)
PC					0.121***			0.020
					(0.019)			(0.013)
PARENT_POS					0.383***			0.046***
					(0.017)			(0.012)
AGE						0.183***		0.106***
						(0.012)		(0.008)
TENURE						0.299***		0.098***
						(0.011)		(0.010)
MALE							0.071***	0.029***
							(0.013)	(0.008)
Firm×year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	38,583	38,583	38,583	38,583	38,583	38,583	38,583	38,583
R-squared	0.501	0.160	0.020	0.075	0.052	0.147	0.004	0.548

Power of CFOs

- Compare power across firms for the same title

Panel A. Distribution of CFOs by their rank

CFO rank	Number of CFOs		
	Full sample	SOE sample	Non-SOE sample
1	3,103	1,491	1,471
2	2,972	1,320	1,537
3	2,754	1,231	1,376
4	2,389	1,127	1,164
5	1,821	955	784
6	1,138	591	478
7	608	356	227
>= 8	621	337	250
Total	15,406	7,408	7,287

Dependent variable: CFO_INV_RANK	(1) Full sample	(2) SOE sample	(3) Non-SOE sample
Structural power			
EXEC_DIR	1.841***	1.864***	1.738***
	(0.071)	(0.110)	(0.095)
COMP	0.330***	0.237	0.596***
	(0.109)	(0.153)	(0.149)
NUM_TITLES	0.370***	0.459***	0.306***
	(0.047)	(0.073)	(0.062)
Ownership power			
SHARE_OWN	0.059***	0.203	0.054***
	(0.012)	(0.217)	(0.010)
FOUNDER	-0.139**	-0.153	-0.266***
	(0.061)	(0.107)	(0.080)
CONTROLLER	-0.320	-	-0.353*
	(0.206)		(0.212)
Expert power			
SKILL_MATCH	-0.298***	-0.181*	-0.379***
	(0.075)	(0.108)	(0.107)
NUM_FUNCTIONS	0.061	0.148	-0.010
	(0.062)	(0.092)	(0.082)
NUM_POSITIONS	0.044***	0.074***	0.018
	(0.015)	(0.021)	(0.021)
Prestige power			
NUM_DIR	-0.055**	-0.094***	0.011
	(0.025)	(0.036)	(0.023)
NUM_NONPROFIT	0.188	0.182	0.173
	(0.147)	(0.221)	(0.192)
EDU	-0.044	-0.068	0.025
	(0.035)	(0.057)	(0.042)
Political power			
PC	-0.136	-0.181	-0.109
	(0.109)	(0.149)	(0.163)
PARENT_POS	0.212***	0.160	0.144
	(0.080)	(0.138)	(0.093)
Seniority power			
AGE	0.016***	0.025***	0.021***
	(0.004)	(0.007)	(0.005)
TENURE	0.049***	0.047***	0.060***
	(0.009)	(0.013)	(0.015)
Gender power			
MALE	-0.026	0.051	-0.106
	(0.060)	(0.095)	(0.074)
Industry-year FE	Yes	Yes	Yes
Observations	15,406	7,408	7,287
R-squared	0.302	0.310	0.330

Competing power measures

- COMP as a potential competing proxy
  - COMP could also reflect multiple power sources
  - But COMP could be distorted in China due to collectivist culture, communism history, and dominance of SOEs

Dependent variable:	(1) POWER	(2) COMP	(3) COMP POWER
Structural power			
EXEC_DIR	0.480***	0.123***	0.142***
	(0.007)	(0.010)	(0.009)
NUM TITLES	0.044***	0.026***	0.017**
	(0.008)	(0.008)	(0.008)
Ownership power			
SHARE_OWN	0.072***	0.084***	0.083***
	(0.008)	(0.010)	(0.010)
FOUNDER	0.015*	-0.013	-0.012
	(0.008)	(0.010)	(0.009)
CONTROLLER	0.060***	0.012	-0.006
	(0.015)	(0.033)	(0.031)
Expert power			
SKILL_MATCH	-0.005	0.039***	0.040***
	(0.007)	(0.008)	(0.008)
NUM_FUNCTIONS	-0.030***	-0.029***	-0.033***
	(0.006)	(0.007)	(0.007)
NUM_POSITIONS	0.077***	0.088***	0.087***
	(0.005)	(0.007)	(0.006)
Prestige power			
NUM_DIR	0.060***	0.059***	0.064***
	(0.007)	(0.009)	(0.009)
NUM_NONPROFIT	0.055***	-0.017	-0.012
	(0.016)	(0.021)	(0.020)
EDU	0.024***	0.029***	0.030***
	(0.006)	(0.007)	(0.007)
Political power			
PC	0.016*	-0.035***	-0.034***
	(0.009)	(0.011)	(0.011)
PARENT_POS	0.060***	-0.095***	-0.076***
	(0.010)	(0.016)	(0.015)
Seniority power			
AGE	0.136***	0.113***	0.117***
	(0.007)	(0.008)	(0.007)
TENURE	0.124***	0.157***	0.157***
	(0.007)	(0.008)	(0.008)
Gender power			
MALE	0.066***	0.076***	0.071***
	(0.007)	(0.008)	(0.008)
Firm×year FE	Yes	Yes	Yes
Observations	90,182	90,182	90,182
R-squared	0.463	0.328	0.253

Usefulness of our power measure: an application

- Hoitash et al. (2016) show that CFOs with accounting backgrounds are associated with more conservative corporate policies

- We ask whether the relationship is stronger for more powerful CFOs

- Setting: long-lived asset impairment (WO)

- Our prediction: accountant CFOs should face a smaller need to write off long-lived assets, especially when the CFOs are powerful

Dependent variable: WO	(1) Full sample	(2) SOE sample	(3) Non-SOE sample
POWER_ONLY	0.014	-0.007	0.032
	(0.019)	(0.026)	(0.028)
ACCOUNTING_ONLY	-0.009	-0.024	0.005
	(0.013)	(0.021)	(0.017)
POWER_ACCOUNTING	-0.054***	-0.039	-0.070***
	(0.017)	(0.030)	(0.019)
Control variables	Yes	Yes	Yes
Industry×year FE	Yes	Yes	Yes
p-value of F-test			
POWER_ACCOUNTING = ACCOUNTING_ONLY	0.0149	0.6035	0.0014
Observations	13,550	6,794	6,157
R-squared	0.088	0.098	0.131

Expected contributions

- We are the first study to develop and validate a concise proxy of TMT power for the entire population of publicly listed firms in a country

Expected contributions

- We are the first study to develop a proxy of TMT power for the publicly listed firms of an Asian country
    - We extend Finkelstein's four power dimension by considering three additional power types more relevant to Asia: political connection, seniority, and gender