Moving "Umbrellas": Bureaucratic Transfer, Political Connection, and Rent-Seeking in China

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What we do?

- We take advantage of frequent inter-jurisdictional transfers within the bureaucratic system in China to identify the impact of political connection in business
- Explore administrative firm registry database (including millions of firms) between 2000 and 2011
- Examine the pattern of inter-city investment (as measured by firm registry) following bureaucratic transfers
- Investigate the relationship between collusion and political incentives
- Study the impacts of political connections on development (mode of firm entry, exit, and innovation)

Highlights of findings

- Official transfer was positively associated with inter-region investment:
  - The directed registry capital increases by approximately 3% within the tenure of the transferred official
- Officials attracting more investment flows are more likely to be investigated for corruption
- Firms associated with transferred officials enjoy a greater likelihood of survival when their connected officials stay in office, but the probability drops dramatically once the officials leave office
- Politically connected firms deter the entry of unconnected firms and hinder innovations of existing firms

Measuring corruption/rent-seeking

- An emerging body of literature studying politically connected firms (Cingano and Pinoth, 2013; Faccio, 2006; Ferguson and Voth, 2008; Fisman and Wang, 2015; Li et al, 2008; Truex, 2014)
- Connections are often hidden information – using political network of CEOs/owners as proxy
- Problem of endogeneity:
  - Personal connections may be correlated with unobservable factors that drive performance
- Problem of external validity:
  - Most rely on public listed firms, which account for only a small portion of economy
  - Less is known about political connections of vast non-listed firms

"Umbrellas" are moving

- Collusion between businessmen and officials rely upon strong trust (Grief and Tabellini, 2017; Karlan, et al, 2009)
- It takes time to build up trust
- Newly transferred leaders have less local connections and are less likely to collude and extract rents (Jia and Nie, 2016)
- But officials may bring their trusted businessmen along with them: business moving with their "umbrellas" (保护伞)

An example: Qiu He

- Qiu He was the party secretary of Suqian（宿迁）from 2001 and 2006, and was promoted to the vice governor of Jiangsu （江苏）province from 2006 to 2007
- In 2007, he was promoted to be the party secretary of Kunming （昆明）, the capital city of Yunnan （云南）province
- The real estate company connected to him grew from 5 million yuan to an empire of multi-billion registry capital, developing 8% of total urban area in Kunming
- Qiu He was investigated for corruption in 2015 and sentenced to 16 years in 2016
- The CEO of the real estate company (Liu Weigao) resigned in 2015

Some statistics on transfers

- We gathered data on career histories of city mayors, city party secretaries, and provincial party standing committee members from 2000 to 2011
- The dataset includes 4013 officials and 1128 transfers
- Among the 1128 transfers, 778 (68.97%) are within province and 350 (31.03%) are cross province

Independent variable

- $Transfer_{ijt}$: a dummy indicating whether there is at least one official presiding in city j in year t whose previous job is located in city i
- A transfer of a provincial official is treated as one that happens in all cities in both provinces
- 5.9% dyads in the sample have at least one transfer

Measure directed inter-region investments

- Focusing on the investment flow for each directed city pair: from i to j in time t
- Identify the origin of a newly established firms in region j from region i by the national ID (first 6 digit) of the legal representative
- Main dependent variable: $\log[1 + flow_{ijt}]$, the log aggregate registry capital of all firms established in city j and year t whose legal representatives come from city i
- Alternative dependent variable: $1(flow_{ijt} > 0)$, whether the investment flow is strictly positive
- The mean of the inter-city investment flows is 21.4 million RMB per year

Baseline specification

- $\log(1 + flow_{ijt}) = \alpha\ Transfer_{ijt} + X_{ijt}\beta + \lambda_{ij} + \gamma_t + \delta_t \times \eta_{ij} + u_{ijt}$
- X_{ijt} is a vector of control variables including log real per capita GDP and log population in both origin city i and destination city j in year
- γ_t denotes year fixed effects
- λ_{ij} denotes city-dyad fixed effects
- $\delta_t \times \eta_{ij}$ region-specific cyclic year trends for six large regions
- As a robustness check we also use $1(flow_{ijt} > 0)$ as dependent variable

Baseline results: city dyads 2000-2011

Table 2: Baseline Results

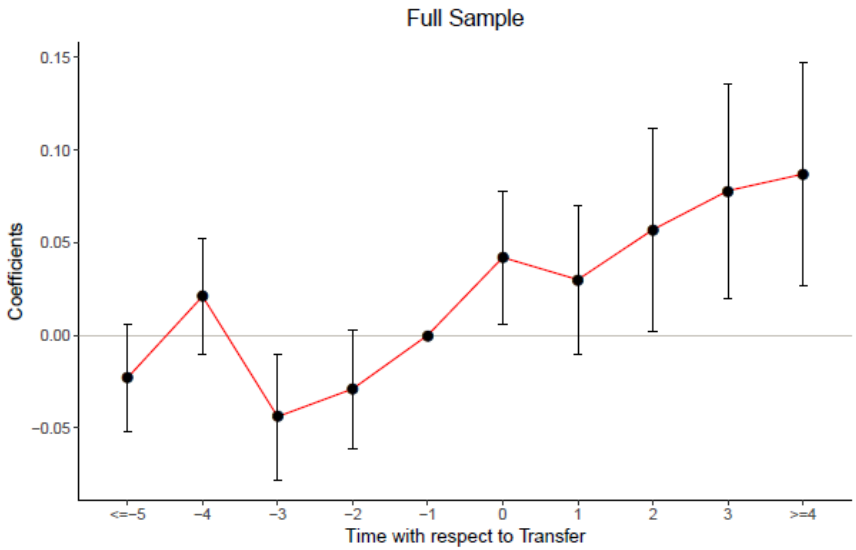
Dependent Variable	log(1+FLOW)				l(FLOW>0)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1(TRANSFER)	0.029**	0.028**	0.027**	0.030**	0.003***	0.003***	0.003**	0.004**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.011)	(0.001)	(0.001)	(0.002)
Controls	N	Y	Y	Y	N	Y	Y	Y
Dyad FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Regional Political Cycles	N	Y	Y	Y	N	Y	Y	Y
Transferred Dyads Only	N	N	N	Y	N	N	N	Y
R-squared	0.066	0.067	0.067	0.034	0.021	0.021	0.022	0.022
Observations	1,047,840	1,047,840	1,047,840	222,632	1,047,840	1,047,840	1,047,840	222,632
Number of City Dyads	87,320	87,320	87,320	18,636	87,320	87,320	87,320	18,636

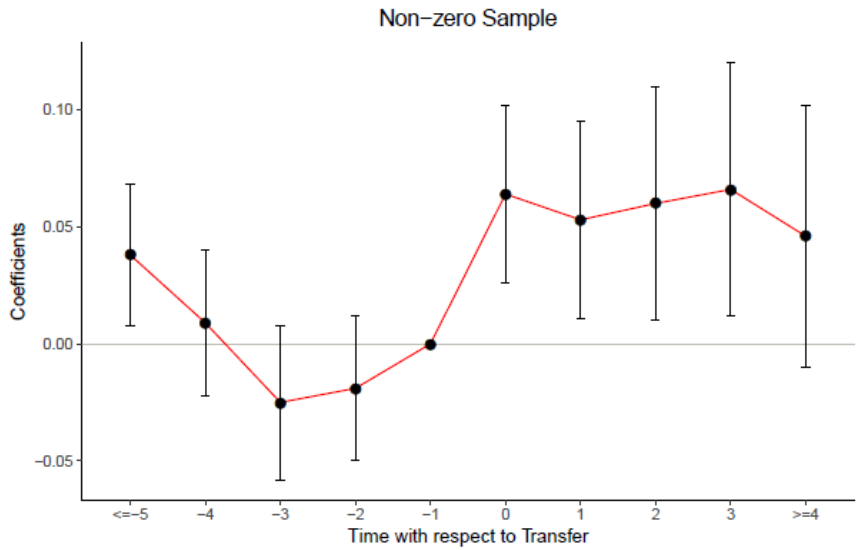
Placebo tests

Table 3: Placebo Tests

Dependent Variable	log(1+ FLOW)		
	(1)	(2)	(3)
l(TRANSFER), Randomly Reassigned	0.010		
	(0.008)		
l(OTHER)		-0.052***	
		(0.010)	
l(TRANSFER), Inverted			0.008
			(0.008)
Controls	Y	Y	Y
Dyad FE	Y	Y	Y
Year FE	Y	Y	Y
R-squared	0.027	0.067	0.027
Observations	1,047,840	1,047,840	1,047,840
Number of City Dyads	87,320	87,320	87,320

Testing pretrend





$$\log(\mathrm{FLOW}_{ijt}) = \sum_{\tau=-11}^{0} \alpha_\tau \ \mathrm{TRANSFER}_{ijt} \times \rho_{ij,t+\tau}$$

$$+ \sum_{\kappa=2}^{11} \alpha_\kappa \mathrm{TRANSFER}_{ij,t+\kappa} \times \mu_{ij,t+\kappa}$$

$$+ X_{ijt}\beta + \lambda_{ij} + \gamma_t + u_{ijt} \quad (1)$$

Who need moving umbrella? Demand side

- The demand for favoritism is higher in heavily rent-seeking sectors
  - Rent-seeking industries: energy, construction, transportation, real estate, and health industries
  - Competitive industries: agriculture, manufacture, catering, IT, and sci-tech industries
- Calculate investment flows among three types of firms
  - Private firms may be less secure in property rights and need more protections
  - Distinguishing different types of ownership: state-owned, collectively-owned, and private

Estimates by different sectors and ownership

Table 4: Heterogeneity by Industry and Ownership

Dependent Variable	log(1 + FLOW)						
	By Industry				By Ownership		
	High Rent Sectors		Low Rent Sectors		State-owned	Collective	Private Firms
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1(TRANSFER)	0.020**	0.019*	0.005	0.004	-0.005	-0.002	0.034***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.004)	(0.003)	(0.011)
Controls	N	Y	N	Y	Y	Y	Y
City Dyad FE	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y
R-squared	0.052	0.052	0.027	0.028	0.001	0.004	0.072
Observations	1,047,840	1,047,840	1,047,840	1,047,840	1,047,840	1,047,840	1,047,840
Number of City Dyads	87,320	87,320	87,320	87,320	87,320	87,320	87,320

How did connected firms perform?

- Do not have precise firm-level information of investment, profit, innovation, etc
- Using the longevity of firms as a proxy of their viability
- Evaluation the prevalence of connected firms on the entry, exit, and innovation of other firms
- Impacts on GDP growth?

Effects on the hazard rate of firm exit

Table 5: Firm Survival: Cox proportional hazard rate

Dependent Variable	Hazard Rate		
	(1)	(2)	(3)
CONNECT_HOLD	-0.235***	-0.217***	-0.159***
	(0.013)	(0.013)	(0.013)
CONNECT_LEAVE	0.182***	0.186***	0.154***
	(0.012)	(0.012)	(0.012)
LOCAL	-0.026***	-0.086***	-0.146***
	(0.003)	(0.003)	(0.003)
log(CAPITAL)		-0.213***	-0.216***
		(0.001)	(0.001)
Provincial Dummies	Y	Y	Y
Establish Year Dummies	N	N	Y
Log pseudo-likelihood	-13,086,401	-13,031,786	-12,979,282
Observations	2,438,195	2,438,195	2,438,195

$$h_{i,p}(t) = h_0(t)\ \exp[\alpha_1\ \text{CONNECT\_HOLD}_{i,t} + \alpha_2\ \text{CONNECT\_LEAVE}_{i,t} + \alpha_3\ \text{LOCAL}_{i,t} + \beta\ \log(\text{CAPITAL}_i) + \delta_p + \mu_t]$$

Effects on Firm Entry

Table 6: Entry Deterrence Effects

Dependent Variable	log K_ENTRY, Connected			log K_ENTRY, Unconnected			log K_ENTRY, Local		
				Panel A: Full Sample					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
lag SHARE	1.836***	1.836***	1.836***	-0.267	-0.325*	-0.339*	-0.115	-0.249	-0.246
	(0.237)	(0.237)	(0.237)	(0.180)	(0.183)	(0.182)	(0.171)	(0.189)	(0.188)
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
City-Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
City Linear Year Trend	N	Y	Y	N	Y	Y	N	Y	Y
Industry Linear Year Trend	N	N	Y	N	N	Y	N	N	Y
R-squared	0.084	0.128	0.160	0.068	0.098	0.166	0.065	0.111	0.167
Observations	51,403	51,403	51,403	51,403	51,403	51,403	51,403	51,403	51,403
Number of City-industries	5383	5383	5383	5383	5383	5383	5383	5383	5383
				Panel B: High Rent Sectors					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
lag SHARE	1.643***	1.464***	1.565***	-0.473**	-0.558**	-0.567**	-0.209	-0.392*	-0.389*
	(0.282)	(0.372)	(0.375)	(0.228)	(0.236)	(0.235)	(0.217)	(0.237)	(0.236)
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
City-Industry FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
City Linear Year Trend	N	Y	Y	N	Y	Y	N	Y	Y
Industry Linear Year Trend	N	N	Y	N	N	Y	N	N	Y
R-squared	0.073	0.114	0.149	0.054	0.086	0.152	0.048	0.090	0.142
Observations	38,128	38,128	38,128	38,128	38,128	38,128	38,128	38,128	38,128
Number of City-industries	3993	3993	3993	3993	3993	3993	3993	3993	3993

Effects on Firm Innovation

Table 7: The Effects of Political Connections on Innovation

Dependent Variable	log(PatApp+1)	log(PatApp/Pop+1)	log(PatApp/K+1)	log(PatGrt+1)	log(PatGrt/Pop+1)	log(PatGrt/K+1)
	(1)	(2)	(3)	(4)	(5)	(6)
lag SHARE	-0.131**	-0.027***	-0.034*	-0.130**	-0.017**	-0.025*
	(0.061)	(0.009)	(0.017)	(0.053)	(0.008)	(0.013)
Controls	Y	Y	Y	Y	Y	Y
City-Sector FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
City × Year Trend	Y	Y	Y	Y	Y	Y
Sector × Year Trend	Y	Y	Y	Y	Y	Y
R-squared	0.389	0.376	0.221	0.385	0.367	0.203
Observations	51,403	51,384	51,403	51,403	51,384	51,403
Number of City-industries	5,383	5,383	5,383	5,383	5,383	5,383

Who provide moving umbrellas: supply side

- Cost of being a moving umbrella: the officials bear a risk of getting involved in corruption and losing political career
- Officials with longer time horizon may be more patient and risk-averse
  - *Native*: whether the official was locally born in the origin city/province
  - Tenure $\geq$ 5 years: whether the official has a tenure longer than 5 years before transferred
  - $RL - 5 < Age < RL$: whether the official was within five-year window before the retirement
  - $\geq RL$: whether the official exceeded the retirement age limit

Interacting with officials' characteristics

Table 8: Accounting for Leader Characteristics

Dependent Variable	log(1+ FLOW)		
	(1)	(2)	(3)
1(TRANSFER)	0.019	0.011	0.021**
	(0.012)	(0.020)	(0.011)
1(TRANSFER) * 1(NATIVE)	0.156***		
	(0.053)		
1(TRANSFER) * 1(TENURE $\geq$ 5 YR)		0.024	
		(0.022)	
1(TRANSFER) * 1(AGE$\geq$RL)			0.172**
			(0.040)
Controls	Y	Y	Y
Dyad FE	Y	Y	Y
Year FE	Y	Y	Y
R-squared	0.067	0.067	0.066
Observations	1,047,840	1,047,840	1,047,840
Number of City Dyads	87,320	87,320	87,320

Impacts on promotion and corruption prosecution

Table 9: Impacts on Officials' Career Outcomes

Dependent Variable	TURNOVER			CAUGHT		
	Ordered Logistic			Logistic		
	(1)	(2)	(3)	(4)	(5)	(6)
SHARE	-0.024	-0.025	-0.023	0.068*	0.073**	0.065*
	(0.055)	(0.059)	(0.059)	(0.040)	(0.037)	(0.036)
Lag. log (CAPITAL +1)		0.002	0.002		0.004	0.006
		(0.003)	(0.003)		(0.005)	(0.006)
Constant cut1	-3.816**	-5.069***	-2.739			
	(1.533)	(1.854)	(2.463)			
Constant cut2	0.007	-1.239	1.113			
	(1.513)	(1.828)	(2.445)			
Controls	N	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	NA	NA	NA
YEAR FE	Y	Y	Y	NA	NA	NA
Ranking FE	Y	Y	Y	N	Y	Y
Ranking × AGE FE	N	N	Y	N	N	N
Age Cohort FE	NA	NA	NA	Y	Y	Y
Transfer Mode FE	NA	NA	NA	Y	Y	Y
Transfer Mode × Ranking FE	NA	NA	NA	N	Y	Y
Log Pseudo-likelihood	-584.6	-581.9	-581.6	-161.5	-152.3	-151.9
Pseudo R2	0.038	0.042	0.042	0.025	0.056	0.059
Observations	712	712	712	469	469	469

A separating equilibrium?

- Ex ante, officials who were late in political career were more likely to travel along with local business
- Ex post, officials travelling with local business were less likely to be promoted
- The political entrepreneurs' dilemma: more different to attract investment to poor cities, so the demand for umbrella is stronger
- But officials were more likely to get involved in corruption for that

Relation to the literature

- Corruption is bad for economic growth (Aidt, 2009; Bai et al, 2013; Mauro, 1995)
  - "Crony capitalism" is pervasive in many developing countries (Bai, Hsieh, and Song, 2014; Haber, 2013; Wei, 2001)
  - Connected real estate companies pay less for land and higher salary for former retired officials as directors (Chen, et al, 2017)
  - Misallocation and barrier to entry (Robinson, Torvik, and Verdier, 2006; Ryzhenkov, 2016)
- Collusion as a substitute for formal institutions (Allen, Qian, and Qian, 2005; Bardhan, 2006; Sarte, 2000)
  - Firms build up connections with powerful officials to receive protections or preferential treatments
  - Officials capitalize their power through connecting with trusted firms

Conclusion

- The purpose of rotating officials across jurisdiction is to reduce collusion between officials and local businessmen
- Unintended consequence: businessmen follow their "umbrellas" to the new places
- Transferred officials who have attracted more investment from origin cities are more likely to be prosecuted for corruption
- Political connections may deter firm entries and dampen firm innovations