Discussion – Investing with the Government: A Field Experiment in China

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# Outline

China VC Market has Grown Rapidly, on Par with US

China's Venture Fundraising Climbs to U.S. Levels

Last year, venture capital commitments in China exceeded $50B for the first time, funded largely by domestic RMB investors. Venture fundraising in China matched U.S. fundraising in 2016, which was the highest total in 15 years.

Chinese and U.S. Venture Fundraising (China by Source): 2007–2016
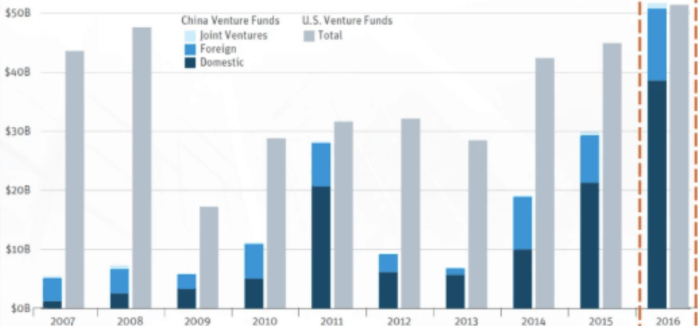
Government Plays Large Role in Chinese Market

Finance & economics

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The Chinese state is pumping funds into private equity

It sounds too good to be true to private investors—and it might be

Context

- VCPE: In China, VC and PE can be grouped together
  - Mainly early stage and growth equity investors

- Follows "limited partnership" structure typical to US market
  - Capital providers referred to as "Limited Partners" (LPs)
  - Managers referred to as "General Partners" (GPs)

- Government plays large role in the VCPE market
  - Half of LPs at least partially owned by government
  - 60% of market by total assets

Market Overview

- Government-owned GPs generally perform worse than private ones

	(1) CR	(2) CR	(3) CR	(4) CR	(5) IRR	(6) IRR	(7) IRR	(8) IRR
Gov GPs	-0.012***	-0.006**	-0.014***	-0.008**	-12.871***	-10.529**	-17.211***	-15.112***
	(-3.74)	(-2.21)	(-3.25)	(-2.22)	(-3.13)	(-2.51)	(-3.52)	(-3.00)
AUM			0.000*	-0.000			-0.001	-0.002
			(1.84)	(-0.13)			(-1.09)	(-1.60)
Observations	1104	1104	683	683	984	984	631	631
HQ FEs	No	Yes	No	Yes	No	Yes	No	Yes

- GPs / LPs tend to match with the same type (gov with gov and non-gov with non-gov)

	Gov LP	Non-Gov LP	ColRatio
Gov GP	1.608	0.633	2.540
	(33.54 %)	(13.46 %)	(0.000)
Non-Gov GP	0.828	1.001	0.827
	(23.75 %)	(29.25 %)	(0.000)
RowRatio	1.941	0.632	
	(0.000)	(0.000)	
Assortative Index		1.254	
Homogeneity Test(p-value)		0.000	

This Paper

- Many studies about government involvement...what do managers think?

- Ambitious motivation: "We study the demand for government participation in financial markets."
  - Contributes to literature on government participation and its effects on economic outcomes

- I will summarize paper and comment as I go along!

Outline

Data on GPs and LPs

- Administrative data (Zero2IPO, VCPE data & service provider)
  - ▶ Registered capital, headquarter location, etc.

- GP performance data (Zero2IPO)
  - ▶ Observing GP performance is difficult due to confidentiality
    - ⋆ Lack cash flows between GPs, LPs, and funds
  - ▶ Use Zero2IPO's "comprehensive return" (trusted by industry)

- Ownership data (NECIPS, SASAC)
  - ▶ Government owners are SOEs or central, provincial, or city agencies
  - ▶ GPs and LPs gov-owned if **any** owners are government entities

- QUESTION: Who are the non-gov't LPs?
  - ▶ In US, pension funds and univ endowments make a crucial core of LPs. In China these institutional investors effectively do not exist.

GP Survey

- Original **experimental** survey data partnering with Zero2IPO
  - ▸ 688 responses out of 1,600: Very good!
- GPs rate 20 LP profiles along two dimensions (10-pt Likert scale)
  - ▸ How interested they would be in establishing an investment relationship with LP (assume LP is interested)
  - ▸ Likelihood that LP would be interested in entering an investment relationship with them
- Zero2IPO will use ratings to facilitate real-life GP-LP matches
  - ▸ No deception (GPs know LP profiles are hypothetical)
- Create profiles from common "components", e.g. HQ location, <u>government ties</u>
  - ▸ Components randomized but retain true probability distribution (e.g., if gov't LPs rare, most profiles have non-gov't LPs)
  - ▸ **Allows estimating GP preferences for given characteristic, while holding others fixed!**

COMMENT: What is the content of key indicator variable for government ties?

Variables	Description
Government Ties	A dummy indicating whether the LP has ties to the government.
Large Investor	A dummy indicating whether the LP has size above 1 billion yuan.
High Registered Capital	A dummy indicating whether the registered capital of the LP is > 1 billion yuan.
Industry Information	A dummy indicating whether the LP profile displays industry information.
Young LP	A dummy indicating whether the LP is a young LP (founded after 2010).
Headquarter in Foreign Country	A dummy indicating whether the LP is headquartered in a foreign country.
Headquarter in Beijing	A dummy indicating whether the LP is located in Beijing.
Corporate Governance	A dummy indicating whether the LP profile displays description of corporate governance.
Investment Philosophy	A dummy indicating whether the LP profile displays description of investment philosophy.
Stage Focus	A dummy indicating whether the LP profile displays the targeted stage of investments.

- Key variation in the experiment: The text that drives the "Government Ties" dummy

TABLE A1. Description of LP Profiles Randomized Components

Variable	Categorical Value	Options			
Government Ties (0.8)	*Government Ties:* 1 if with government ties [5-11].	**1** The company gives full play to the role of the market in allocating resources and amplifying private capital investment in innovation and entrepreneurship, to promote the development of emerging industries.	**2** The investment strategy relies on the private capital market and modern management practices, and aims to channel capital to key sectors and ultimately promote social development	**3** It is one of the earliest market-oriented financing platform in China. Managers use modern management methods to exercise investors' rights and are committed to increase the value of the invested capital.	**4** The organization is focused on independent innovative enterprises nationwide, and to channel capital to them. Through a professional business model, an efficient and reliable market-oriented investment system, it aims to better promote technological innovation.
		5 The central government platform directly supervises state-owned enterprises and establishes platforms for industrial restructuring through the entry and exit of state-owned companies.	**6** Approved by the provincial committee and provincial government, the platform focuses on venture capital investment to accelerate economic transformation.	**7** A state-owned institution funded by the Provincial People's Government, it focuses on investment, financing, and asset management.	**8** Endorsed by the fiscal money of the provincial government, the platform focuses on private venture capital investment in innovative portfolio companies.
		9 The provincial government approved the establishment of the organization, and guides its capital operation, equity investment and asset management.	**10** Its operation is approved by the local government and the main focus relates to the investment in and operation and management of state-owned assets.	**11** It is funded by the local government and operates according to the market model.	

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- A few of the 11 options clearly indicate gov't provision of capital

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- Half only concern the *investment strategy* (allocating money to the private market), with no indication of the LPs gov't ties
  - ► Could be wholly state-owned but focused on investing in private companies. Unclear from this text

Variable	Categorical Value	Options			

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Options:

1	2	3	4
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- Some suggest that a gov't *approved the fund. Is that a "tie"? In what sense?*

COMMENT: What is the content of key indicator variable for government ties?

- Authors cannot redo experiment, **but** need to explain more clearly what the statements conveyed to responders
  - Most do not clearly state whether (a) LP is gov't funded or not; and (b) LP is gov't managed or not
    - ★ Two very different things!
    - ★ Also different from the operational strategy (e.g. promoting the "market")
  - Feels like experiment wasn't really targeted to answer research question

- Also: Since paper is about gov't ties, would be interesting to separately consider central and provincial ties

Outline

GP Preferences

	Partner Rating		Expected Interest	
	(1)	(2)	(3)	(4)
Government Ties	-0.114***	-0.079**	-0.077**	-0.051
	(-2.92)	(-2.14)	(-2.00)	(-1.39)
Large Investor	0.147***	0.167***	0.133***	0.140***
	(4.21)	(5.03)	(3.84)	(4.22)
High Registered Capital	0.196***	0.185***	0.227***	0.224***
	(5.52)	(5.53)	(6.45)	(6.64)
Industry Information	-0.231***	-0.178***	-0.240***	-0.181***
	(-6.68)	(-5.39)	(-6.99)	(-5.52)
Young LP	-0.004	-0.010	0.014	0.032
	(-0.11)	(-0.29)	(0.41)	(0.95)
Headquarter In Foreign Country	0.034	-0.022	0.044	-0.017
	(0.55)	(-0.35)	(0.71)	(-0.27)
Headquarter In Beijing	0.208***	0.175***	0.270***	0.244***
	(4.04)	(3.51)	(5.32)	(4.95)
Corporate Governance	0.013	0.055*	0.003	0.050
	(0.37)	(1.67)	(0.09)	(1.52)
Investment Philosophy	0.014	0.039	0.006	0.046
	(0.40)	(1.14)	(0.16)	(1.35)
Stage Focus	-0.085**	-0.086**	-0.105***	-0.091***
	(-2.44)	(-2.57)	(-3.02)	(-2.74)
Observations	13375	13375	13363	13363
Unique GPs	679	679	679	679
GP FEs	No	Yes	No	Yes
Model	OLS	OLS	OLS	OLS
DV Mean	6.448	6.448	6.425	6.425
DV SD	2.016	2.016	1.999	1.999

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- In general, GPs prefer:
    - ▶ Investors with deep pockets
    - ▶ Headquartered in Beijing (large innovation hub akin to Silicon Valley)
- GPs dislike LPs:
    - ▶ With government ties
    - ▶ Focused on specific industries or stages of development
- Surprising: Foreign doesn't matter one way or the other!
    - ▶ Are you sure there aren't subgroups for whom it does matter?

- Table 3: Gov't ties coeff much smaller than coeff on industry info or HQ in Beijing
  - ▶ What are the economic magnitudes? Does this matter?

- Can you use standard deviations of Likert scale to interpret?
  - ▶ Hard to know if this is a big or little effect otherwise

COMMENT: Is there really a choice for the government-owned GPs?

- Key distinction in data is that gov't-owned GPs tend to have gov't-owned LPs
  - Since gov't-owned LPs are (a) what is available to them and (b) what they are structured to use
  - Seems obvious they wouldn't report disliking gov't-owned LPs

- In general, there has often been bifurcation in China between state-owned and private sectors
  - E.g. Howell (2018) on JVs in China's auto sector
  - Results seem to suggest structurally bifurcated market, rather than GPs freely choosing
    - ★ Especially since we see expected interest so correlated with partner interest

Authors aim to do 2 things in the experiment:

1. Randomize whether an investor is connected to government while holding fixed other characteristics
   ▶ Amazing work and huge contribution!

2. Isolate GPs' preferences for investors independently of the likelihood of a match
   ▶ Less clear: If GP is set up to have gov't involvement, he will focus on selecting high-quality gov't LPs
   ▶ Even though instruction is to "Assume LP is interested", still may operate in the world of the realistic
     ★ Doubly true since the incentive has real-world implications (get matched with real LPs)

Private GPs Don't Like Government LPs

	(1) Gov	(2) Non-Gov	(1)=(2) P-Value	(3) Gov	(4) Non-Gov	(3)=(4) P-Value
Government Ties	0.016 (0.22)	-0.173*** (-3.68)	0.026	0.008 (0.13)	-0.119*** (-2.70)	0.104
Large Investor	0.186*** (2.95)	0.131*** (3.11)	0.470	0.186*** (3.08)	0.157*** (3.94)	0.682
High Registered Capital	0.210*** (3.28)	0.189*** (4.44)	0.782	0.163*** (2.66)	0.194*** (4.85)	0.664
Industry Information	-0.255*** (-4.09)	-0.222*** (-5.33)	0.658	-0.172*** (-2.84)	-0.181*** (-4.59)	0.893
Young LP	0.010 (0.16)	-0.012 (-0.28)	0.774	-0.007 (-0.11)	-0.013 (-0.33)	0.931
Headquarter In Foreign Country	0.027 (0.24)	0.039 (0.52)	0.926	-0.091 (-0.81)	0.011 (0.15)	0.431
Headquarter In Beijing	0.281*** (2.98)	0.175*** (2.84)	0.349	0.226** (2.46)	0.151** (2.54)	0.486
Corporate Governance	0.047 (0.75)	-0.003 (-0.08)	0.503	0.123** (2.05)	0.024 (0.62)	0.160
Investment Philosophy	0.008 (0.13)	0.020 (0.45)	0.882	0.050 (0.80)	0.036 (0.88)	0.852
Stage Focus	-0.083 (-1.31)	-0.084** (-1.99)	0.985	-0.115* (-1.90)	-0.071* (-1.78)	0.531
Observations	4221	9154		4221	9154	
Unique GPs	214	465		214	465	
GP FEs	No	No	SUR	Yes	Yes	SUR
Model	OLS	OLS		OLS	OLS	
DV Mean	6.452	6.445		6.452	6.445	
DV SD	2.038	2.006		2.038	2.006	

- No other component displays significant difference between gov / non-gov GPs

- Paper sets up two hypotheses
    1. Gov't capital benefits: Regulatory favors, political connections
    2. Gov't capital costs: Distortions from political interference in decisions

- Gov-owned GPs should already have political connections, so these should be more valuable to private GPs
    - How does this map to the results?

COMMENT: Two challenges in profile approach

1. How profile is written could matter
   - e.g., some profiles seem like fluff pieces talking about how great the market is, etc. without any concrete information
     - ★ Smart GP might react negatively to such language

2. Profile is rated as a single object → unclear which component GP is responding to
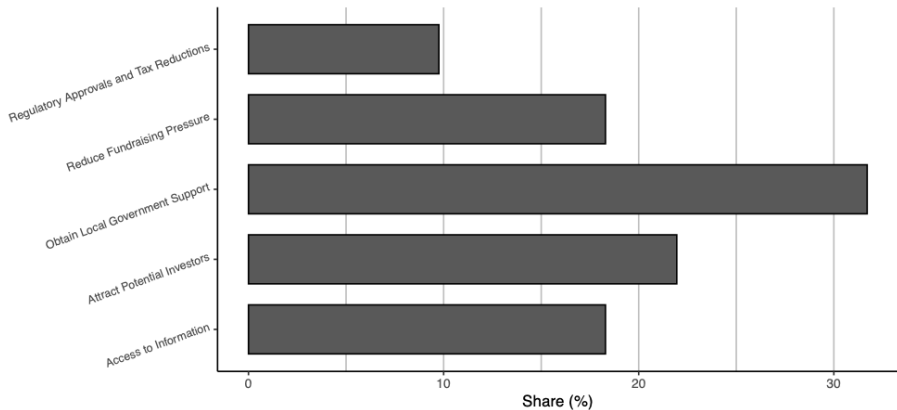
   To address both, why not ask them directly about the components themselves? e.g. Do you prefer foreign LPs?

Outline

1 Introduction

2 Data and Survey Structure

3 Experimental Survey Results

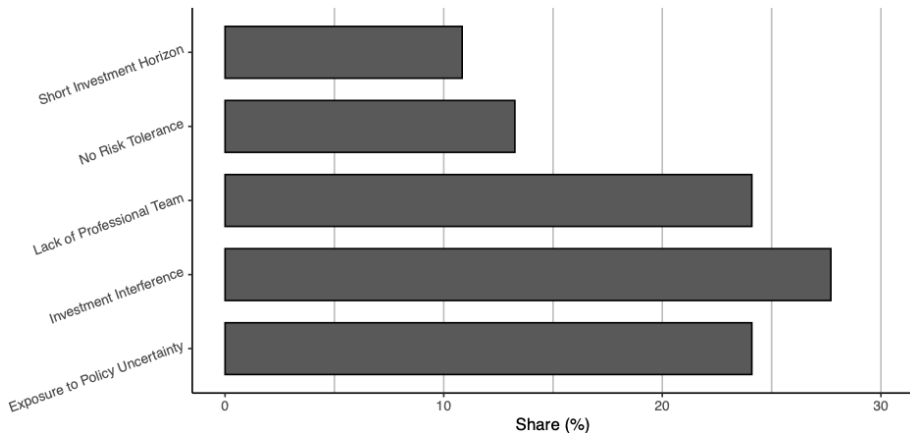4 **Follow-Up Surveys**

5 Performance

Go Some Way Toward This in 2nd Survey to GPs

Main Advantages of Government Investors:

2nd Survey to GPs

Main Disadvantages of Government Investors:

- This is very neat
  - ▶ Could be paper by itself, within literature on how government efforts to regulate Chinese markets can backfire (e.g. Cong and Howell (2021) on IPO suspensions)
  - ▶ Can you link it more to experimental results, to understand which types of GPs need which benefits or face highest costs of gov't LP characteristics?

- Then, how does that relate to the types of technology or business models they invest in?

- E.g., maybe regulatory interference burdensome for software, but local gov't approvals needed for building new factories

LP Survey

- 312 responses out of 790

- Strongest determinant of LP interest is whether GP has gov't ties

- LPs also prefer foreign, recently established GPs that focus on specific industries
  - Interestingly, GPs tend to dislike LPs who specialize

- Key finding: Non-govt GPs don't like gov't LPs
  - But non-gov't LPs prefer GPs with a gov't LP

- QUESTION: Why? This is interesting and deserves more explanation
  - One party here must be wrong...

Outline

Performance Data

- Use Comprehensive Return (CR) measure from Zero2IPO
  - "The CR is a weighted average of various measures Zero2IPO collects, some of which are obtained under confidentiality agreements from the GPs and LPs."
  - QUESTIONS: What measures? Reported by whom? Restricted to what point in fund life?

- COMMENT: Would be helpful to provide at least some information, since this is important to paper
  - E.g. if these numbers are what GPs self-report to Zero2IPO 2 years after their fund begins, not especially useful measure

Stylized Facts and Interpretation

- Stylized facts from beginning of talk:
  - ▶ Government LPs are more likely to provide capital to government-owned GPs
  - ▶ Government-owned GPs perform poorly relative to other GPs

- Common in literature to argue that gov'ts misallocate funds
  - ▶ This paper: This in part reflects GP preferences – best GPs do not want gov't LPs, this helps explain why the LPs would be misallocating away from best GPs

- COMMENT: Stylized fact is about the gov't-owned **GP** performing badly (and thus potentially misallocating funds), not the **LP**
  - ▶ To map the argument about government misallocation in the context of GP-LP matching, need LP performance information
  - ▶ Also: gov't LPs (and GPs) have an agenda beyond financial returns

Conclusion

- Very interesting and important paper!
  - ▶ Did not even discuss structural assortative matching model, which predicts that gov't LPs will match with gov't GPs

- Seems a bit unfocused
  - ▶ Emphasis on gov't ownership, yet not clear experimental survey designed optimally for this question

- Suggest drilling down into heterogeneity among LPs and GPs
  - ▶ Looking beyond gov't dummy to understand drivers of matching more broadly
  - ▶ And how this relates to real outcomes in terms of which technologies get funded and thus move forward in the economy