

Internet Appendix of “A Two-Sided Story of Governments as
Venture Capitalists: Evidence from China”

Appendix A Supplementary Information

General Situation of Venture Capital in China

Venture capital investment is a relatively recent phenomenon in China. While in the U.S., the first venture capital firm, American Research and Development (ARD), was established in 1946 (Gompers and Lerner 2001), venture capital were not started in China until the early 1990s. According to Zero2IPO, the first venture capital investment was the investment in Jiangmen JJJ Battery Co, Ltd. by China KZ High Technology Co., Ltd. (CKZ) in 1991. The less-developed financial market attributes to this late start. In fact, active financial markets do not exist in China until early 1990s. The first boom in venture capital in China is around 2005. 2014-2017 sees another surge.

Government investments started early in venture capital in China. According to Zero2IPO, the first investment by government VC is in 1994, investment in Guangdong Fenghua Advanced Technology (Holding) Co, Ltd. by IDG Capital in Guangdong Province. The other three deals in the same year, one in Guangdong Province and two in Beijing, were also backed by government VC. CKZ who made the first VC investment in 1991 is not a government VC under our definition, but it has a strong state background. CKZ, established in 1989, is one of the earliest venture capital organizations in China and the first Sino-foreign joint venture VC firm with strong state background from China Merchants Group, the State Science and Technology Commission (Currently Ministry of Science and Technology) and the Commission of Science Technology and Industry for National Defense.

Venture Capital Policies in China

There were several important policy changes regarding venture capital in China. The first high level regulation was the *Interim Administrative Measures for Venture Capital Investment Enterprises* released in November 2005 and marks the official recognition of venture capital in China. This policy document is of the highest level and ten ministries¹ were backing it. Relatedly, In August 2006, *The Partnership Business Law* was revised and Limited Partnership becomes a legal form of company for the first time. This marks the starting point of formal venture capital investment in China. In 2007, the first national level policy on government investment in venture capital was released. The *National Innovation Fund Venture Capital Guidance Fund Program for Technology Based Firms* (InnoFund VC Program henceforth, www.innofund.gov.cn) was established in the following year.

There are other policies regarding venture capital. One policy is the tax reduction to venture capital firms. It started in 2007 but was not successful and stopped shortly after. Another policy is direct subsidy to venture capital firms and entrepreneurs. This is still ongoing but could be considered as supplementary to the LP investment policy. The amount is tiny relative to the LP-level investments. The direct subsidy is 0.1-0.7 million RMB per VC firm/small business while the funds established by the national program is of 0.9-3 billion RMB per fund. Even consider that each fund invests in a large number of companies, the size difference between direct subsidy and LP investment is still enormous. Moreover, the existence of direct subsidy and potentially other policies are not in contradictory to my story as long as that policies go in same direction. My main argument is that government investments could have pull in effects on other investors if their actions contain (private) information of investment environment. Both GGF policy and VC direct subsidy policy contains information on government's emphasis in venture capital.

¹ National Development and Reform Commission, Ministry of Science and Technology, Ministry of Finance, Ministry of Commerce, People's Bank of China, State Administration of Taxation, State Administration for Industry and Commerce, China Banking Regulatory Commission, China Securities Regulatory Commission, and State Administration of Foreign Exchange

Grant from the InnoFund Program

The InnoFund contains another subprogram which is mainly in the form of direct subsidy to SMEs. As discussed above, subsidy is different from VC investments (which are my current research objects). Table A1 gives the information on types of grants in this subprogram. Data on established, mid-term qualified and terminated grants in 1999-2014 is publicly available on the official website (innofund.chinatorch.gov.cn).

Table A1: Grant Type Distribution

Grant Type	N.	N. (%)	Amount (Billion RMB)	Amount (mean, Million RMB)	Start Year
Subsidy ¹	42,538	87.94	27.52	0.65	1999
Loan Interest Reduction	3,259	6.74	2.30	0.71	1999
Subsidy to Portfolio Companies of VCs	1,215	2.51	0.95	0.78	2008
Subsidy to Service Center	779	1.61	0.81	1.05	2014
Subsidy to VCs	579	1.20	0.50	0.86	2008

¹ There is a separate category, subsidy to start-ups contained in this category (in 2006 only).

Zero2IPO Database

There are two main big commercial VCPE database companies in China: Zero2IPO and CVsource. In this paper, I use Zero2IPO as the main data source of venture capital investment. It is relatively better known internationally, with John Dean and Danny Lui among the initial investors. The chapter about China in *Venture Capital and Private Equity: A Casebook* (Lerner and Hardyman, 2008) used it. Stanford GSB has a case study (No. E325) on it. An additional reason for choosing Zero2IPO is the public availability. Although the full list and download function is only available in the paid version, all information could be viewed on the official website (pedata.cn) so that readers could get an idea by surfing and searching the website.

VCPE database (PEData, “simutong”) is one product of Zero2IPO Group, a leading integrated service provider and VCPE investment institution in China founded in 1999. Many lead VC/PE firms, including IDG Capital, CDH investments, Sequoia Capital and KKR, subscribe to it. Data are collected from mainly three sources. First, first hand data is collected from frequent surveys of active VCPE institutions. Second, news and announcements on public and professional information platforms, including government announcements, big news presses, VCPE journals, stock exchanges and regional equity markets, are tracked constantly. Third, original data is obtained through direct interaction with entrepreneurs and VCPE firms in regular forums and conferences.

One weakness of Zero2IPO is that it may contain duplicated or imprecise information. When the content of the news is not accurate, all information is recorded. Besides, announcements in news press sometimes may not imply an actual investment. However, the database is updated constantly if more precise information is available when the company goes public or the VCPE firm/company discloses it. Moreover, it is the same situation for the competing database. I checked a small random sample to compare the two databases Zero2IPO and CVsource. The coverage and investment amounts are similar. The exact investment date and estimated returns are different. But the difference is within a reasonable range.

Province Ranks

I rank provinces based on several indicators. Indicators are based on five categories: InnoFund Grant, Special Zone, Patent, Education and GDP. InnoFund Grant includes total number of grants and total amount of grants. Special Zone includes number of special zones, total number of companies, total output and total exports in special zones. Patent includes number of utility patents and number of invention patents. Education includes high school population and college population. GDP includes GDP, GDP growth rate, share of tertiary sector and tertiary sector growth rate. I first rank provinces based on each indicator. Then I calculate the average of sub indicators in each category and then calculate the mean of each category. We have ranks for each province in each year. I calculate the mean of the ranks in 1999-2006 for each province. The final ranks from high to low for provinces are the following,

Guangdong, Jiangsu, Beijing, Shandong, Zhejiang, Shanghai, Liaoning, Hubei, Hunan, Sichuan, Shaanxi, Hebei, Tianjin, Henan, Fujian, Jilin, Anhui, Heilongjiang, Guangxi, Neimenggu, Shanxi, Chongqing, Jiangxi, Tibet, Guizhou, Xinjiang, Gansu, Yunnan, Hainan, Qinghai, Ningxia

The first three groups, denoted as “rich”, “middle” and “poor”, contain seven provinces each. The last (the least developed) group contains ten provinces and among them only one province was included in the national program before 2013 and therefore excluded from the sample for this section.

Appendix B Data Collection and Cleaning Procedure

1 Fund Information

I focus on VCPE funds established before 2014 (included). As discussed in detail in the following paragraphs, only funds in related categories are included. The starting point is AMAC (Asset Management Association of China). Then I supplemented the dataset with Zero2IPO.

Funds Registered in AMAC

AMAC (Asset Management Association of China, www.amac.org.cn), founded in 6 July 2012, is a national level nonprofit organization under the guidance of China Securities Regulatory Commission and Ministry of Civil Affairs of People's Republic of China. According to Securities Investment Fund Law of People's Republic of China, fund management and custodian companies should register in the association. The official website provides various types of entities, including private offered funds and their management firms, private offered funds by security companies, publicly offered funds and their management firms, asset management funds, asset-back securitization funds and futures funds. I used web crawler technology to get a full list of all private offered funds and their management firms and private offered funds by security companies, updated at 1 January 2018.

I included only venture capital and private equity funds established before January 2014 (included), a total of 4874. January 2014 is chosen as the ending date to accommodate to the policy period I study (one-month lag is allowed for gaps between release and execution of the policy). Within private offered funds, there are several categories, including Venture Capital (11%), Private Equity (42%), Trust Plans (14%), Asset Management Plans by funds (7.5%), Asset Management Plans by security companies & their sub-companies, banks, insurance companies and futures companies (less than 1.5%), Security and Bond Investment (16%) and Others (8%, including real estate & construction, arts, films & television, bank loans etc.) I include the following categories: Venture Capital, Private Equity and Others. Trust plans and asset management plans invest in private equities as well, but usually for late stages. In addition, trust plans and asset management plans are treated differently on legal and regulation issues, they should not be as in the same category as VCPE funds. For example, under current regulation, trust plans and asset management plans should exit before a company goes public. i.e., LPs in those plans are

not considered as shareholders of the company and cannot get the return upon IPO. I exclude all funds in Venture Capital, Private Equity and Others category with a trust plan or an asset management plan name. For the category Venture Capital and the category Private Equity, I use a more tolerant filter as funds in these categories in principle should operate as a VCPE business. I only exclude highly unlikely funds. For the category Others, I use a rather strict criterion. I exclude all funds with descriptions containing other types of business and include only funds with names and descriptions referring to VCPE operation. A detailed process description on what are excluded and what are included for each case are available upon requests.

Funds Registered in Zero2IPO

From Zero2IPO, I collect funds established before January 2014 (included) in the following categories: FOF, Angel, VC, Growth and Buyout, updated at 1st January 2018. This gives us a total of 9,181 funds, composed of 4,936 funds both in Zero2IPO and AMAC (this includes some non VCPE funds in AMAC), 2,036 funds both in Zero2IPO and NECIPS, but not in AMAC and 2,271 funds only in Zero2IPO, not in NECIPS nor in AMAC. When establishment date is not available, I use fundraising date. As for AMAC funds, I exclude all funds with a trust plan or an asset management plan name. I focus on a conservative list of funds by deleting funds with duplicated full names, since funds that are not well identified by different VC firms could have the same full name in the database. Through the matching processes with AMAC and NECIPS, duplicated funds are also deleted. Details of the data cleaning procedure are available upon request. Our final fund sample consists of 4,874 funds from AMAC and supplemented by 4,307 funds from Zero2IPO.

I exclude funds that are VC firms (though there is no clear distinction between the two): companies with names containing “group”, companies with names containing “management (*guanli*)” which are not of limited partnership format and companies whose VC firm is the same as the fund company itself with all shareholders individuals.

2 LP information

Shareholder Information in NECIPS

To operate a business as an independent legal entity in mainland China, all companies need to be registered in the National Enterprise Credit Information Publicity System (NECIPS, www.gsxt.gov.cn) by the State Administration for Industry & Commerce of the People’s Republic of China (SAIC). The majority of VCPE funds are in the form of Limited Partnership or Corporate (more than 98% according to Zero2IPO), which are independent legal entities and are thus registered in the NECIPS. Other forms of funds that operate semi-VCPE business are trust plans and asset management plans. As explained before, they are quite different from VCPE funds in the normal sense and are excluded from the sample. The majority of the observations are collected from third-party platforms because the original NECIPS website doesn’t allow for large amount of data downloads. The fund sample is divided into a registered part, a total of 6,431 (among which 35 funds missing LP share information), and an unregistered part, a total of 2,421. A total of 6,384 (99.8%) funds have complete shareholder information (11 without LP information and 35 without share information).

Identify the GP Firm(s)

To identify GP(s), I apply three criteria by descending order

- 1) GPs reported in NECIPS ("zhishi" partner" “putong” partner). This is the case for the majority of funds in Limited Partner form (66%);
- 2) associated VC in AMAC/Zero2IPO if it is a shareholder (18%);
- 3) based on fund form (limited partner/corporate), shareholder equity, shareholder type (individual/investment company/other company type) for funds without direct GP information. For funds of limited partnership, I identify the shareholder with least shares. If there are more than one GP

Internet Appendix

identified, the GPs with smallest shares are chosen. For funds of the organization form as corporates, I identify the shareholder with most shares.

The methodology successfully identifies GP(s) for 5,857 funds. In the rest of the funds, 326 are funds with person as all shareholders. Thus, we cannot find a GP firm among the shareholders. A total of 239 (4%) funds are left with LPs might be GP firms.

LP composition

The following analysis relies on the above sample of 6,419 funds with LP information. For the 5,857 funds with identified GP firm, LPs are the shareholders excluding the GPs who own less than 5%. For the unclear 239 funds, I include all shareholders in the LP sample.

Fund-of-Fund (FoF) is a common practice for large VC firms in China. For the original LP× fund sample, 2,114 data points are FoFs. This is about 3.78% of the whole sample and 13.81% of the non-individual LP sample. The deepest layer of FoF goes to six layers. The proportion of FoFs at each layer is rather similar (3%-4% of the whole sample and 10%-15% of non-individual LP sample). (I identify FoF based on their registered names. Details are available upon request. This could identify well limited partnership format FoFs as the registered names usually inform well the role of the company for this organization format. This method cannot pick up corporate format funds. However, the standard FoFs are not in this format.) To prevent duplicate accounting, only ultimate LPs of the FoF chain are included in the final LP sample. The FoFs themselves are not included. This reduces the final fund sample to 6,260 funds. The deleted funds are funds whose LPs are all FoFs.

The final LP sample constitutes 53,812 LP×fund records for 6,260 funds, 9,589 corporate LPs (based on unique ID in NECIPS) and 34,079 individual LPs (based on person link from a third-party platform using machine learning technics). Based on LP type, LP×fund records could be divided into 1) from wealthy individuals (74.03%), 2) from investment companies (16.00%), 3) from other financial companies (0.59%) and 4) from non-financial companies (banks, insurance company, trusts, security companies) (9.38%). The large proportion of individual LPs is mainly due to the larger number of total LPs for funds dominated by individual LPs compared to funds dominated by corporate LPs. A typical fund dominated by individual LPs consists of 10-30 LPs while a typical dominated by corporate LPs consists of 3-6 LPs. From the perspective of funds, corporate LPs are important. More than 75% of funds have at least one corporate LPs. The main part of study on funds and LPs is focused on corporate LPs as we have precise and meaningful information on them. For individual LPs, less precise information and lack of data on links among them (family/working relationship) will overestimate new entries. The share from traditional financial companies is very small mainly because the regulation separates VCPE funds from other types of funds. However, they could set up investment companies and make investments in VCPE funds.

LP × Fund	
Individual	39,838 (74.03 %)
Investment Companies	8,608 (16.00%)
Other Financial Companies	320 (0.59%)
Non-Financial Companies	5,046 (9.38%)
Total	53,812

I group the 9,589 LPs into 8,489 corporate groups based on a 50% threshold. If company A is the shareholder with more than 50% of the shares in company B, then company B is in the corporate group of company A. Controls rights through chains are considered. Admittedly, this is a very rough way of group classification and results in a number of groups larger than under a more refined way of group classification.

Internet Appendix

Government LPs are companies that are wholly owned by the state. (in practice, I use a 95% threshold for the convince of data collection. It should give approximately the same sample.) Ownership structure features many pyramids. Among the 1262 government LPs, only 9.78% are direct government institutions. 58.14% are wholly state-owned companies and the rest are companies wholly owned by the state through chains or pyramids. While government LPs are of 14.87% of the whole non-individual LP sample, they make up 18.35% of the non-individual investments.

The majority of the sample consists of LPs that make investments only once in my sample (88% for non-individual LPs and 91% for individual LPs).

	Investments		LP		Funds	
	N.	%	N.	%	N.	%
Government	2,791	19.97%	996	11.73%	1,590	25.40%
Non-Government Corporates	11,183	80.03%	7,493	88.27%	4,670	74.60%

3 GP-VC Link

There are 6,596 GP firms (877 foreign companies) in total, combined from the GPs identified in the fund list and the GPs from the deal list.

First, I pin down the ultimate owners accounting for 20% or more shares in the GP firm based on ownership structure information from NECIPS. The main idea follows La Porta, Lopez-de-Silanes, and Shleifer (1999). I track down all controlling owners in the pyramids. For example, if company C hold more than 50% of the shares in company B, and company B accounts for x% of the shares in company A, we say company C accounts for x% of the shares in company A. When there is no controlling shareholder backing owners at a certain layer, each owner accounts for the corresponding percentage of shares in next layer if the total number of owners doesn't surpass 20. For example, if company E, D, and F accounts for e%, d%, and f% of the shares in company B, but none of them is a controlling shareholder, and company B accounts for x% of the shares in company A, we say company E, D, and F accounts for e% \times x%, d% \times x%, and f% \times x%, of the shares in company A, respectively. If the total number of owners at a certain layer surpass 20, I stop the tracking and classify the company as a widely held corporate. I track down until all owners are of one of the following types: 1) individual; 2) government institution; 3) widely held corporate; 4) listed company with a controlling shareholder; 5) foreign company. Companies situated in layers between the ultimate owners and the GP firm and are controlled by the ultimate owners are called parent companies. For example, if ultimate owner P controls company B, directly or through pyramids, and company B is a shareholder of GP A, then company B is the parent company of GP A.

Then, I aggregate the GP firms to the VC firm level based on the following criteria, in descending order.

- 1) Group according to chairman or the two ultimate owners with the largest number of shares. i.e. If two GPs have the same chairman, I group them together. Or, if two GPs have a common ultimate owner who accounts for the largest or second largest number of shares, I group them together. If there is a common ultimate owner that is a company or there is a common parent company, then the company is chosen to represent the corporate group. If there is no such company, the oldest GP is chosen.
- 2) Further group according to corporate email address, official website and telephone number, which are registered in NECIPS. If two GPs have the same website, or same corporate email domain, or same telephone number, they are grouped together. The same procedure is adopted to choose the

company to represent the corporate group.

When there are conflicts, i.e., chairman, ultimate owner and email/website/telephone doesn't point to the same group, I first see if there is an ownership relation (a common owner of more 20% of the shares, one is a large owner of the other). If there is such an ownership relation, then the two corporate groups are grouped together. If no relation is identified, I apply the majority rule. If there is no majority, I classify the corporate group based on chairman information.

This procedure assigns a corporate group to 3,010 GPs. For those GPs, the corresponding VC firm is the corporate group. The rest 3,586 GPs (877 foreign companies) are left with no further corporate group and therefore themselves are considered as a VC firm. We have 4,443 VC firms in total.

4 Local Government Guidance Funds

Information on local GGF is released on corresponding government websites. As the number of local governments is large and past information might be deleted from the official websites, it is impossible to collect data on all local programs from official sources. Instead, I merge information from Zero2IPO and CVSource, and complement the database with manually collected data.

First, I combine the list of government funds (in general sense) in Zero2IPO and CVSource. Then, I exclude all funds that are co-investment by government and professional financial firms as they are, in essence, son-GGFs. Finally, based on the regulation policy documents, I identify the funds as mother-GGFs if it is stated that one operation form is investment as a LP in son-GGFs. In some cases, Zero2IPO provides the policy documents. If not, I search the Internet and used the information on the corresponding local government websites. I identify 126 mother-GGFs, with 29 at province level, 21 at high-tech industry park level, 46 at city level and 30 at county or district level. I focused on the 93 mother-GGFs that are of a scale of more than or equal to 100 million RMB as the disclosure of small scale mother-GGFs might be incomplete and biased towards more open local governments.

Appendix C Supplement Figures and Tables

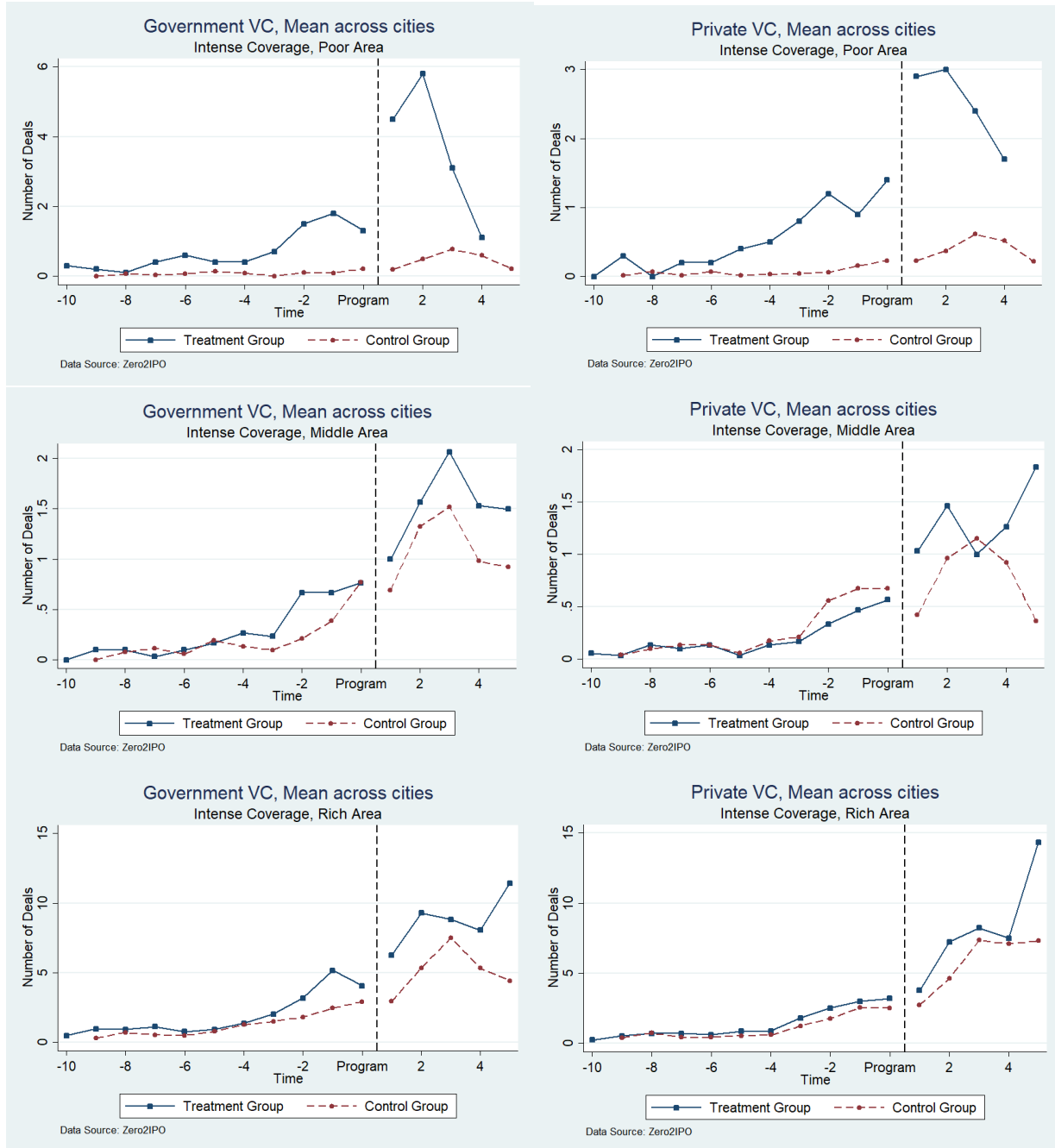


Figure C1: This figure, from top to bottom, includes plots on number of deals invested by VCs in "poor", "middle", and "rich" regions. Cities are grouped into "poor", "middle", and "rich" regions based on a series of indicators on economic development and innovation policies during 1999-2006. Within each group, cities that are located in provinces that are included intensively in the IFVC Program are in the treatment group and other cities are in the control group. Plots on the left are about government VCs and plots on the right are about private VCs. In each plot, the dots are the mean value of the number of deals across cities in each group, with blue solid line for the treatment group and red dashed line for the control group. There is a vertical dashed line between the policy document announcement year (program year) and one year after the program year.

Internet Appendix

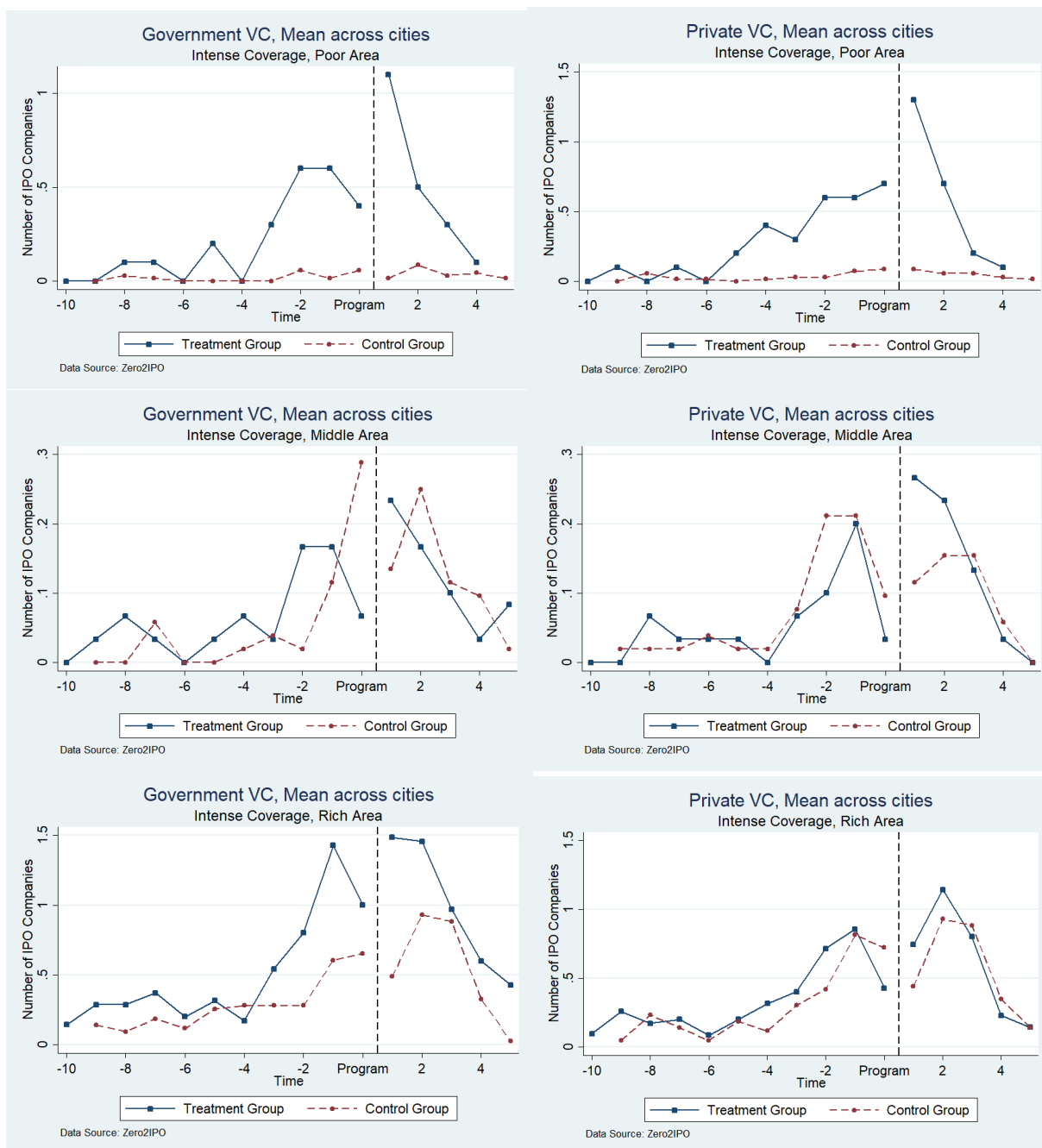


Figure C2: This figure, from top to bottom, includes plots on number of deals invested by VCs that eventually exit through IPOs in "poor", "middle", and "rich" regions. Cities are grouped into "poor", "middle", and "rich" regions based on a series of indicators on economic development and innovation policies during 1999-2006. Within each group, cities that are located in provinces that are included intensively in the IFVC Program are in the treatment group and other cities are in the control group. Plots on the left are about government VCs and plots on the right are about private VCs. In each plot, the dots are the mean value of the number of deals that exit through IPOs across cities in each group, with blue solid line for the treatment group and red dashed line for the control group. There is a vertical dashed line between the policy document announcement year (program year) and one year after the program year.

Table C1 Government Guided Fund Programs

This table presents information on government guided fund (GGF) programs during 2001-2013 in China. Panel A summarizes information on the number of GGF participant certifications issued to investors in each province during 2008-2013. Panel B summarizes information on the number of local GGFs (of a 100 million RMB scale or larger) established and the establishment year of the first GGF in each province during 2001-2013. Panel C summarizes information on the number of funds and the number of portfolio companies invested in by the IFVC Program in each province during 2008-2013. Provinces are arranged from north to south and from coast to inner area. The data is consolidated from the *Ministry of Science and Technology*, *Zero2IPO*, and *CVSource*.

Panel A: Venture Capital Government Guided Fund Participant Certifications

Province	Number of Certifications					
	2008	2009	2010	2011	2012	2013
Liaoning	3	1		1	1	
Jilin	4					1
Heilongjiang	2			1	1	2
Beijing	18	5	4	3	2	5
Tianjing	6	1	1			2
Hebei	6			1		1
Shandong	5		2	1	6	6
Jiangsu	26	20	20	27	25	26
Zhejiang	9	2	4		8	4
Shanghai	20	3	5	2	6	19
Fujian	2	3		4	2	3
Guangdong	18	3	3	3	5	12
Hainan	1	1	1			
Hubei	16	4	2	4		7
Hunan	2	2	4		1	6
Jiangxi	3					1
Anhui	5		1	1	1	4
Shanxi	2		1			2
Henan	3		1		1	
Neimenggu	2			1		
Shaanxi	3		1	6		2
Yunnan	2	1		1		
Guizhou	1				1	1
Sichuan	6	2	2		2	5
Chongqing	8	1	1	3	1	4
Guangxi						
Gansu	2					
Ningxia			1			1
Qinghai						1
Xinjiang	2	1	1	1	1	
Tibet						
Total	177	50	55	60	64	115

Internet Appendix

Table C1 (continued)

Panel B: Local Venture Capital Government Guided Funds

Province	First Year	Number of GGFs								
		2001	2006	2007	2008	2009	2010	2011	2012	2013
Liaoning	2012								2	
Jilin	2010						1			
Heilongjiang	2010						1			
Beijing	2001	1	1		1			2	1	1
Tianjing	2001	1								
Hebei	2009					2				
Shandong	2009					1	1	1	1	
Jiangsu	2006		1	1	1	2	2	5	6	2
Zhejiang	2008				4	2	1	1	1	1
Shanghai	2006		1	1			2	1	1	1
Fujian	2009					1				
Guangdong	2008				1	1	1	2	1	
Hainan	2011							1		
Hubei	2008				2				2	1
Hunan	2010						1		1	
Jiangxi	NA									
Anhui	2009					3		2		1
Shanxi	NA									
Henan	2010						1		1	
Neimenggu	2009					1				
Shaanxi	2008				1			1		1
Yunnan	2009					1		1		
Guizhou	2011							1	2	1
Sichuan	NA									
Chongqing	2008				1	1				
Guangxi	2012								1	1
Gansu	NA									
Ningxia	NA									
Qinghai	NA									
Xinjiang	NA									
Tibet	2012								1	

Internet Appendix

Table C1 (continued)

Panel C: The National InnoFund Venture Capital (IFVC) Program

Province	Number of Funds						Number of Companies				
	2008	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
Liaoning											
Jilin		1							1	5	1
Heilongjiang											
Beijing			1			3			3	1	3
Tianjing			1			1					
Hebei						1					1
Shandong	1				2	2	1	2	3	2	1
Jiangsu	2	1	1	4	5	3	2	5	14	6	4
Zhejiang		2				1	1	4	6	3	1
Shanghai	1	1	2	3	1	1	1	6	7	3	7
Fujian		1	1			1			1	1	1
Guangdong			2	1	1	1		3	4	4	4
Hainan											
Hubei	1		2		1	1	3	7	7	5	1
Hunan				1	2					2	
Jiangxi						1					
Anhui	1					1	1	1	2	1	
Shanxi											
Henan											
Neimenggu											
Shaanxi				1					1	1	
Yunnan											
Guizhou			1			1		1		2	
Sichuan		1	1			2		3	2	1	2
Chongqing		1		1				5	5	5	
Guangxi											
Gansu											
Ningxia											
Qinghai						1					
Xinjiang											
Tibet											

Internet Appendix

Table C2 Robustness Checks: Impacts of Government Guidance Fund Programs on Venture Capital

<i>Panel A: All 31 provinces, 1999-2013, including minority regions, city level</i>												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID
Dependent Variable	Gov Fund		Private Fund		Gov Deal		Private Deal		Gov IPO		Private IPO	
IFVC Inclusion	1.25*** (3.19)	0.86** (2.15)	6.23** (2.01)	5.76* (1.74)	3.15** (2.57)	2.13** (2.02)	2.60* (1.94)	1.98* (1.69)	0.35*** (3.44)	0.16** (2.37)	0.24*** (3.54)	0.13** (2.54)
Local Programs	0.52*** (2.63)	0.24 (1.48)	1.75* (1.71)	0.98 (1.02)	1.21*** (3.00)	0.45** (2.33)	1.08** (2.48)	0.35** (2.31)	0.18*** (3.49)	0.07* (1.87)	0.13*** (3.57)	0.03 (1.28)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
City FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	5070	5070	5070	5070	5070	5070	5070	5070	5070	5070	5070	5070
Adjusted R ²	0.084	0.352	0.041	0.266	0.041	0.605	0.023	0.498	0.038	0.561	0.028	0.541
<i>Panel B: 26 provinces (exclude Tibet, Gansu, Niangxia, Qinghai, Xinjiang), 1999-2013, city level</i>												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID
Dependent Variable	Gov Fund		Private Fund		Gov Deal		Private Deal		Gov IPO		Private IPO	
IFVC Inclusion	1.28*** (3.14)	0.92** (2.07)	6.45** (1.99)	6.54* (1.75)	3.17** (2.50)	2.45* (1.96)	2.61* (1.88)	2.32* (1.68)	0.35*** (3.34)	0.20** (2.50)	0.23*** (3.32)	0.16*** (2.66)
Local Programs	0.52** (2.55)	0.31* (1.71)	1.73 (1.63)	1.16 (1.08)	1.19*** (2.93)	0.57** (2.27)	1.06** (2.42)	0.49* (1.95)	0.17*** (3.39)	0.07* (1.97)	0.12*** (3.45)	0.04 (1.51)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
City FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	4035	4035	4035	4035	4035	4035	4035	4035	4035	4035	4035	4035
Adjusted R ²	0.083	0.336	0.041	0.253	0.039	0.592	0.022	0.479	0.035	0.560	0.025	0.541

Internet Appendix

Table C2 (continued)

<i>Panel C: All 31 provinces, 1990-2014, city level</i>												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID
	Gov Fund		Private Fund		Gov Deal		Private Deal		Gov IPO		Private IPO	
IFVC Inclusion	1.31*** (3.21)	0.95** (2.10)	6.52** (2.00)	6.19* (1.71)	3.35*** (2.59)	2.41* (1.92)	2.78** (1.98)	2.12 (1.49)	0.38*** (3.52)	0.20** (2.31)	0.27*** (3.73)	0.15*** (2.62)
Local Programs	0.53*** (2.67)	0.38* (1.92)	1.78* (1.72)	1.36 (1.22)	1.29*** (3.02)	0.76** (2.17)	1.15** (2.46)	0.68* (1.87)	0.19*** (3.58)	0.10** (2.32)	0.14*** (3.66)	0.06** (2.20)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
City FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	7152	7152	7152	7152	7152	7152	7152	7152	7152	7152	7152	7152
Adjusted R ²	0.092	0.249	0.045	0.174	0.047	0.388	0.027	0.310	0.044	0.383	0.034	0.370
<i>Panel D: 31 provinces, 1999-2013, province level</i>												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID
	Gov Fund		Private Fund		Gov Deal		Private Deal		Gov IPO		Private IPO	
IFVC Inclusion	13.13*** (4.93)	5.90*** (2.89)	58.74*** (2.77)	35.09** (2.38)	34.11*** (3.85)	13.24*** (3.54)	26.02** (2.66)	9.29* (1.97)	9.21*** (3.88)	3.31*** (4.35)	6.76*** (4.00)	2.47** (2.54)
Local Programs	6.52*** (4.11)	2.67** (2.05)	20.31*** (4.72)	10.54 (1.61)	15.22*** (4.54)	5.38*** (2.91)	12.92** (2.74)	4.07** (2.23)	4.27*** (5.96)	1.63** (2.42)	4.27*** (5.37)	1.73*** (3.09)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
City FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	465	465	465	465	465	465	465	465	465	465	465	465
Adjusted R ²	0.541	0.767	0.383	0.617	0.380	0.819	0.241	0.700	0.400	0.792	0.371	0.735

Internet Appendix

Table C2 (continued)

<i>Panel E: 26 provinces (exclude Tibet, Gansu, Niangxia, Qinghai, Xinjiang), 1999-2013, province level</i>												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID	COR	DID
	Gov Fund		Private Fund		Gov Deal		Private Deal		Gov IPO		Private IPO	
IFVCInclusion	13.01*** (4.87)	5.84*** (2.81)	58.62** (2.76)	35.13** (2.41)	33.35*** (3.78)	13.04*** (3.55)	25.35** (2.59)	9.44* (2.01)	9.00*** (3.82)	3.19*** (4.33)	6.56*** (3.89)	2.52** (2.67)
Local Programs	6.52*** (4.04)	2.63** (2.06)	20.35*** (4.66)	10.68 (1.57)	14.97*** (4.58)	5.17** (2.77)	12.69** (2.73)	4.05** (2.11)	4.20*** (5.99)	1.57** (2.32)	4.22*** (5.41)	1.67*** (3.01)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
City FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	390	390	390	390	390	390	390	390	390	390	390	390
Adjusted R^2	0.535	0.763	0.379	0.618	0.368	0.823	0.229	0.701	0.388	0.797	0.360	0.738

Note: The table shows the regression results of impact of government guided fund programs. Columns (1)-(4) are about fundraising, columns (5)-(8) are about VC investments, and column (9)-(12) are about VC investment performance. Panels differ in the sample coverage. Panels A-C is a city \times year panel and Panels D, E is a province \times year panel. The data in Panel A covers 338 cities during 1999-2013. The 338 cities include the 298 cities in the sample of Table 2 plus the 40 minority regions. The data in Panel B covers 269 cities during 1999-2013. Cities in provinces Tibet, Gansu, Niangxia, Qinghai, Xinjiang are excluded in the sample. The data in Panel C covers 298 cities during 1990-2013. Controls are reduced to *Experience Private*, *Experience Gov*, *GDP* and *GDP Growth Rate* due to data limitation. The data in Panel D covers 26 provinces during 1999-2013. The data in Panel E covers 31 provinces during 1999-2013. Dependent variables, independent variables and other control variables and their definitions are the same as in Table 2. *t* statistics in parentheses and standard errors are clustered at city/province level. *, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels.

Table C3 Robustness Checks: Policy Experimentation and Heterogeneous Impacts, Define Early Trials as Treatment Groups

	(1)	(2)	(3)	(4)	(5)	(6)
	Poor		Middle		Rich	
	Gov Fund	Private Fund	Gov Fund	Private Fund	Gov Fund	Private Fund
Treatment×Post	0.72*** (2.69)	2.35** (2.03)	-0.71 (-1.01)	-6.29 (-1.34)	0.43 (0.39)	2.12 (0.31)
Treatment	0.00 (0.13)	-0.07 (-0.92)	-0.13* (-1.81)	-0.86*** (-2.87)	1.40*** (4.29)	6.28*** (4.17)
Post	0.02 (0.22)	-0.18 (-0.45)	0.74 (1.48)	4.49 (1.12)	1.10 (1.41)	8.20* (1.93)
Local Programs	-0.12* (-1.80)	-0.57** (-2.05)	0.23 (1.65)	0.84** (2.10)	0.30 (1.05)	1.41 (0.85)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1200	1200	1230	1230	1170	1170
Adjusted R^2	0.143	0.114	0.147	0.133	0.295	0.228
	(1)	(2)	(3)	(4)	(5)	(6)
	Poor		Middle		Rich	
	Gov Deal	Private Deal	Gov Deal	Private Deal	Gov Deal	Private Deal
Treatment×Post	1.59** (2.49)	1.09*** (3.06)	-0.24 (-0.28)	0.20 (0.36)	-2.53 (-0.70)	-5.04 (-0.99)
Treatment	0.13 (1.02)	0.08 (1.61)	-0.09 (-0.37)	-0.17 (-0.86)	5.59*** (3.31)	6.94*** (3.42)
Post	0.10 (0.36)	-0.26 (-1.36)	0.81* (1.87)	0.20 (0.78)	4.68* (1.87)	5.94* (1.75)
Local Programs	-0.29* (-1.95)	-0.13 (-1.27)	0.13 (0.90)	0.27 (1.47)	0.20 (0.48)	-0.20 (-0.51)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1200	1200	1230	1230	1170	1170
Adjusted R^2	0.145	0.176	0.095	0.068	0.488	0.467
	(1)	(2)	(3)	(4)	(5)	(6)
	Poor		Middle		Rich	
	Gov IPO	Private IPO	Gov IPO	Private IPO	Gov IPO	Private IPO
Treatment×Post	0.18** (2.44)	0.17* (1.79)	-0.13 (-1.30)	0.03 (0.54)	0.14 (0.71)	-0.04 (-0.27)
Treatment	0.05** (2.18)	0.06** (2.45)	-0.01 (-0.31)	-0.04 (-0.81)	0.30 (1.18)	0.41*** (3.01)
Post	-0.08 (-1.23)	-0.14* (-1.81)	0.11** (2.06)	0.03 (1.02)	0.15 (1.12)	0.08 (0.75)
Local Programs	-0.04 (-1.53)	-0.01 (-0.30)	0.03 (1.34)	-0.04* (-1.92)	0.09 (1.26)	0.02 (0.45)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1200	1200	1230	1230	1170	1170
Adjusted R^2	0.073	0.068	0.055	0.021	0.305	0.412

Note: The table shows regression results of the impact of government guidance fund programs in "poor", "middle" or "rich" regions, using "early trials" to define the treatment. cities that locate in provinces that are included as early trials in the IFVC Program are in the treatment group and other cities are in the control group. Dependent variables, independent variables and control variables and their definitions are the same as in Table 4. t statistics in parentheses and standard errors are clustered at city level. *, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels.

Table C4 Policy Experimentation, Pooled sample of All Regions

<i>Panel A: Regions intensively included in IFVC as treatments</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
	Gov Fund	Private Fund	Gov Deal	Private Deal	Gov IPO	Private IPO
Treatment×Post	0.97* (1.90)	4.74 (1.31)	2.01* (1.77)	1.79 (1.31)	0.07 (0.78)	0.06 (0.82)
Treatment	-0.15 (-1.39)	-1.14** (-2.04)	-0.81 (-0.91)	-1.08 (-1.16)	-0.00 (-0.03)	-0.03 (-0.27)
Post	0.33 (1.14)	2.47 (1.52)	0.83 (1.15)	1.09 (1.14)	-0.05 (-0.89)	-0.07 (-1.56)
Local Programs	0.33 (1.61)	1.22 (1.12)	0.56* (1.95)	0.30 (1.47)	0.11** (2.23)	0.06** (2.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3600	3600	3600	3600	3600	3600
Adjusted R^2	0.186	0.136	0.248	0.232	0.168	0.197
<i>Panel B: Regions included as early trials in IFVC as treatments</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
	Gov Fund	Private Fund	Gov Deal	Private Deal	Gov IPO	Private IPO
Treatment×Post	0.79** (2.06)	3.27 (1.19)	1.86** (1.97)	1.80* (1.65)	0.18** (2.20)	0.19** (2.47)
Treatment	-0.19** (-2.21)	-1.25** (-2.33)	-1.19 (-1.60)	-1.30* (-1.70)	-0.12 (-1.11)	-0.09 (-0.90)
Post	0.24 (0.88)	2.16 (1.33)	0.45 (0.75)	0.64 (0.79)	-0.11* (-1.86)	-0.13** (-2.56)
Local Programs	0.32 (1.54)	1.24 (1.12)	0.57** (2.02)	0.31 (1.57)	0.11** (2.22)	0.05* (1.81)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3600	3600	3600	3600	3600	3600
Adjusted R^2	0.184	0.133	0.249	0.232	0.171	0.200

Note: The table shows regression results of the impact of government guidance fund programs for a pooled sample of all regions. Panels A and B differ in terms of how the treatment group is defined. For Panel A, cities that are located in provinces that are included intensively in the IFVC Program are in the treatment group and other cities are in the control group. For Panel B, cities that are located in provinces that are included as early trials in the IFVC Program are in the treatment group and other cities are in the control group. Dependent variables, independent variables and control variables and their definitions are the same as in Table 4. t statistics in parentheses and standard errors are clustered at city level. *, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels.

Table C5 Supporting Certification as an IV

	(1) #. of Corporate LPs	(2) #. of Corporate LPs	(3) #. of Corporate LPs	(4) #. of New Corporate LPs	(5) #. of New Corporate LPs	(6) #. of New Corporate LPs
Certification1	-0.27 (-0.83)			-0.55* (-2.51)		
Certification2		0.42 (0.52)			0.05 (0.07)	
Certification3			-0.36 (-1.52)			-0.14 (-0.85)
Fund Size	0.12 (1.91)	-0.05 (-0.31)	0.11 (1.57)	0.04 (0.94)	-0.03 (-0.25)	0.03 (0.70)
Fund Life	-0.05** (-3.13)	-0.03 (-1.47)	-0.04* (-2.15)	-0.03** (-3.10)	-0.03 (-1.70)	-0.03 (-1.92)
Province×Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1125	215	910	1125	215	910
Adjusted R^2	0.075	0.316	0.063	0.158	0.304	0.160

Note: The table shows the correlation between certification and the number of corporate LPs for funds in which government LP and their co-LP of a corresponding network distance do not invest. Columns (1)-(3) report results of the number of all corporate LPs in the fund and columns (4)-(6) report results of the number of new corporate LPs in the fund. To have a more comparable sample, the sample in all columns is a subsample of a restricted sample of funds: funds in which government LPs' co-LPs of a network distance three or two invest but government LPs do not invest. But for each column, the sample excludes funds co-LPs of a network distance corresponding to that of the certified LP invest. i.e., the sample of column (1) is the restricted sample, the sample of column (2) is the restricted sample, excluding funds in which co-LPs of a network distance of two invest, and the sample of column (3) is the restricted sample, excluding funds in which co-LPs of a network distance of three invest. The same for columns (4)-(6). Variable definitions are the same as in Table 8. t statistics in parentheses. *, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels.

Internet Appendix

Table C6 Spillovers through LP Co-Investment Networks, Corporate LPs, VC Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number of Corporate LPs				Number of New Corporate LPs			
Gov1	7.04 ^{***} (8.33)	23.33 ^{***} (11.33)			3.02 ^{***} (5.83)	11.12 ^{***} (10.14)		
Gov2	3.69 ^{**} (2.79)		7.38 ^{***} (10.80)		1.65 [*] (2.03)		3.51 ^{***} (8.05)	
Gov3	6.59 [*] (2.56)			-3.12 (-1.00)	5.59 ^{***} (3.54)			-4.06 (-1.49)
VC Age	0.90 ^{***} (9.20)	0.41 ^{***} (3.48)	0.20 ^{***} (4.28)	0.32 ^{***} (3.65)	0.52 ^{***} (8.66)	0.24 ^{***} (3.90)	0.12 ^{***} (4.08)	0.25 ^{***} (3.31)
VC Capital	2.77 ^{***} (25.40)	2.36 ^{***} (18.06)	0.84 ^{***} (6.14)	3.28 ^{***} (9.70)	1.26 ^{***} (18.82)	1.02 ^{***} (14.70)	0.42 ^{***} (4.82)	2.58 ^{***} (8.77)
Observations	2218	1983	1491	1346	2218	1983	1491	1346
Adjusted R^2	0.325	0.234	0.140	0.060	0.221	0.169	0.080	0.036

Note: The table shows the results of LP co-investment network transmission about the number of corporate LPs on the VC level. Variable definitions are the same as in Table 8. *t* statistics in parentheses. *, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels.

Internet Appendix

Table C7 Performance Gap Between Government and Private VCs, NEEQ

	(1)	(2)	(3)	(4)
	NEEQ	NEEQ	NEEQ	NEEQ
Gov VC	-0.16*** (-4.80)	-0.15*** (-4.43)	-0.25*** (-6.14)	-0.25*** (-6.25)
Experience		-0.09 (-1.16)	0.07 (0.73)	0.08 (0.90)
Number of Investors			-0.21*** (-8.27)	-0.21*** (-8.31)
Investment Amount			-17.97*** (-9.96)	-18.23*** (-10.07)
Round			0.76*** (20.68)	0.76*** (20.58)
Industry, Province	No	No	Yes	Yes
Exit Year	No	No	Yes	Yes
Investment Market Conditions	No	No	No	Yes
Observations	7873	7873	7458	7458
Pseudo R^2	0.003	0.004	0.226	0.230

Note: This table shows regression results of the performance gap between government and private VCs using NEEQ as a measurement. The sample is a cross section of portfolio companies that receive their first round VC investment during 1991-2013, excluding those that exit that through IPO. The exit year is during the period of 1995-2017. The dependent variable, NEEQ, is a dummy that equals one if the company is listed on the NEEQ board. The key independent variable and control variables and their definitions are the same as in Table 10. *t* statistics in parentheses. *, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels.

Internet Appendix

Table C8 Robustness Checks: Performance Gap Between Government and Private VCs, Controlling for Portfolio Company Age

	(1)	(2)	(3)	(4)	(5)	(6)
	IPO	IPO	IPO	IPO	IPO	IPO
Gov VC	-0.21*** (-5.83)	-0.15*** (-4.50)	-0.21*** (-6.16)	-0.19*** (-5.05)	-0.19*** (-4.94)	-0.17*** (-3.66)
Portfolio Company Age		0.04*** (13.27)	0.03*** (12.13)	0.04*** (12.63)	0.05*** (13.45)	0.09*** (11.94)
Experience	0.68*** (9.31)		0.73*** (10.58)	0.63*** (8.40)	0.60*** (7.75)	0.61*** (6.74)
Number of Investors	-0.03 (-1.61)				-0.02 (-1.32)	-0.01 (-0.45)
Investment Amount	0.94*** (4.98)				0.75*** (3.48)	0.60** (2.49)
Round	0.08*** (2.81)				0.09*** (3.06)	0.12*** (3.60)
Industry, Province	Yes	No	No	Yes	Yes	Yes
Exit Year	Yes	No	No	Yes	Yes	Yes
Investment Market Conditions	Yes	No	No	No	Yes	Yes
Observations	8801	8173	8173	7889	7889	6423
Pseudo R^2	0.171	0.027	0.042	0.160	0.195	0.217

Note: This table shows regression results of the performance gap between government and private VCs after controlling for portfolio company age. The sample is a cross section of portfolio companies that receive their first round VC investment during 1991-2013, excluding those without information on age. The exit year is during the period of 1995-2017. Dependent variables, independent variables and other control variables and their definitions are the same as in Table 10. t statistics in parentheses. *, ** and *** indicate significance at the 0.1, 0.05 and 0.01 levels.