



China's Mass Entrepreneurship and Innovation Policy Evaluation

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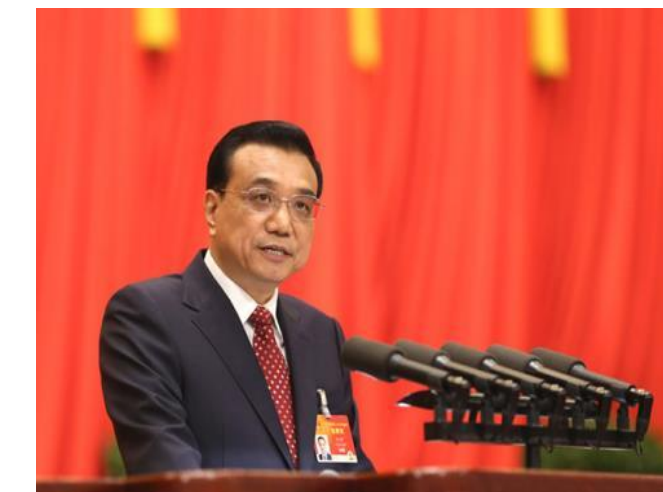
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Research Background

Mass Entrepreneurship and Innovation Policy (大众创业、万众创新政策)

A policy adopted in 2015 by the Chinese government to encourage more people to start their companies.



The policy has:

- Cut taxes and fees for small and micro enterprises
- Establish investment funds to guide entrepreneurship
- And more

Motivation & Research Questions

- Does the policy have real impact? If it does, on what aspects?
- What kinds of people does the policy benefit most?

- Elite individuals (i.e. those with superior human capital)
- Non-elite individuals

- The propensity to found a startup firm
- The speed to raise capital
- The probability to run a successful company

- Is there any regional difference regarding the effect of policy?

- Area with good policy implementation
- Other Areas

Method

Data

Online data from Welian app(微链).

- Welian is a platform in China connects investors and entrepreneurs.
- 2,104 start-ups



Statistical Analysis: DiDiD

Table . Model and Dependent variables used in the research

Aspects	Models	Dependent Variables	Specifications
The propensity to found a firm	Piece-wise hazard model	found	Found, is coded 1 in the founding year; otherwise, it is 0.
The speed to raise capital	Piece-wise hazard model	Event	Event, is coded 1 in the year that it raise capital; otherwise, it is 0.
The probability to run a successful firm	OLS	The amount of capital raised	Log of Money raised in the financial round
	Ordered logit	Employee size	Classify Employee size into three levels: Small, medium and large
	Logistic Regression	Survival	Whether the firm survives until 2018, 1=yes, 0=no

Results

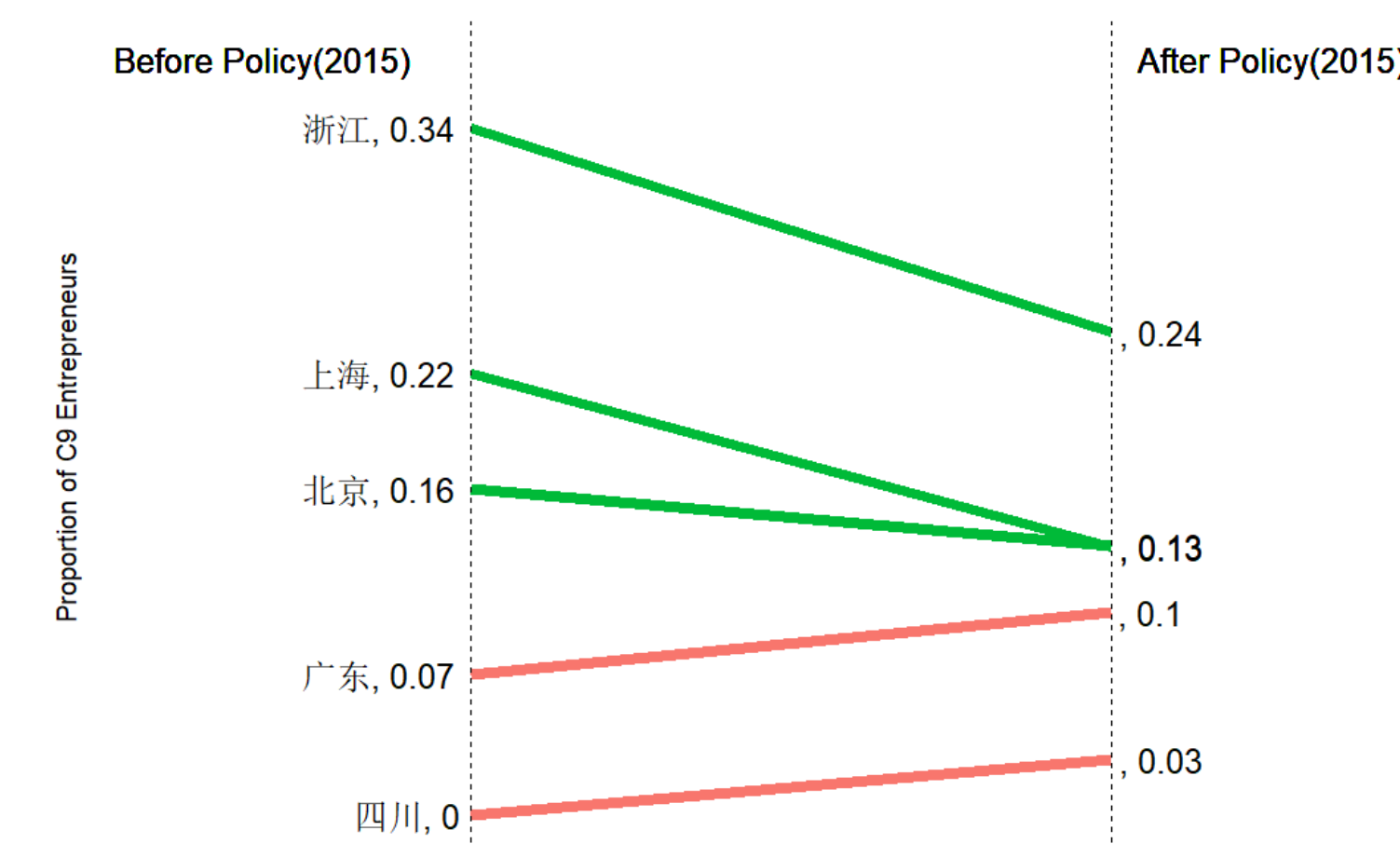
The propensity to found a firm

Table 1. Piecewise hazard model results for the propensity to found a firm

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	Elite-Only	Non-elite only
elite		0.128 (0.079)	0.156 (0.114)			0.332** (0.140)	0.354** (0.166)		
post.reform.elite			-0.051 (0.156)			-0.058 (0.156)	-0.098 (0.229)		
region.pc				0.283*** (0.047)	0.278*** (0.057)	0.299*** (0.059)	0.302*** (0.060)		
post.reform.region					0.008 (0.059)	0.007 (0.059)	0.002 (0.062)		
elite.region						-0.196* (0.106)	-0.224 (0.159)		
post.reform.elite.region							0.050 (0.211)		
post.reform		2.559*** (0.057)	2.563*** (0.057)	2.571*** (0.061)	2.595*** (0.057)	2.588*** (0.078)	2.610*** (0.079)	2.725*** (0.155)	2.574*** (0.062)
Firm Level Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macro environment Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Entrepreneur Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,093	2,093	2,093	2,093	2,093	2,093	2,093	298	1,795

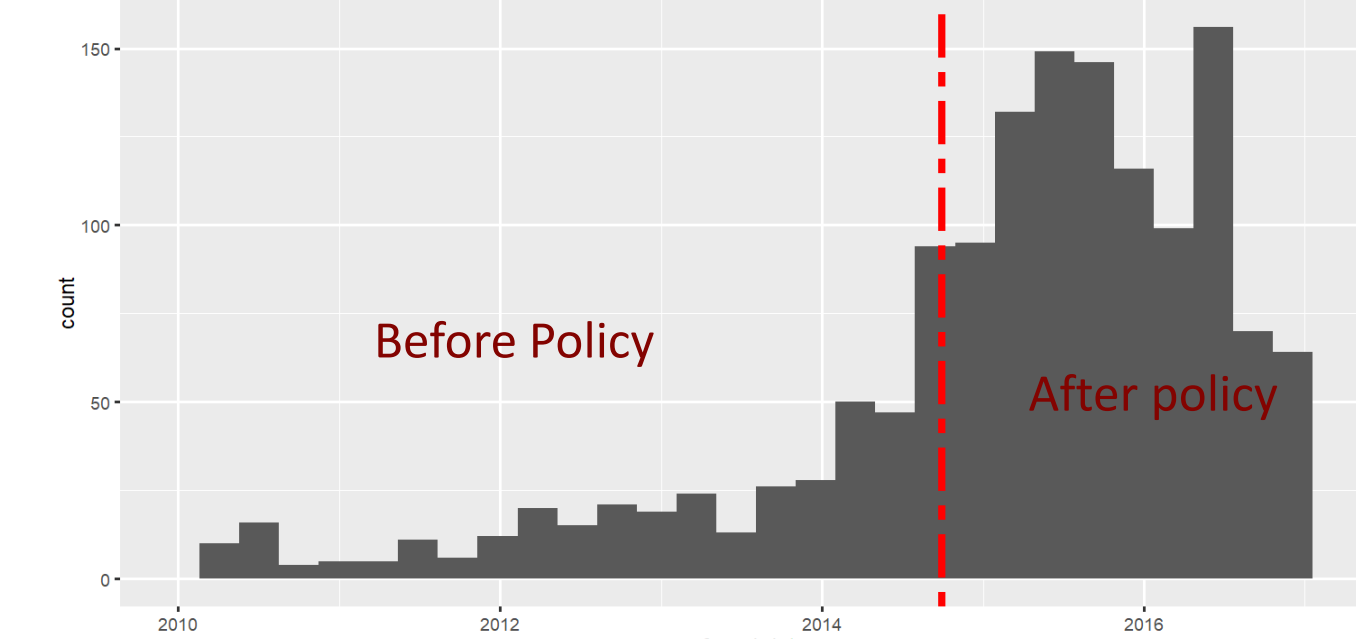
Note: *p<0.1; **p<0.05; ***p<0.01

Figure 3. The change proportion of elite(C9) entrepreneurs for Zhejiang, Shanghai, Beijing, Guangdong and Sichuan



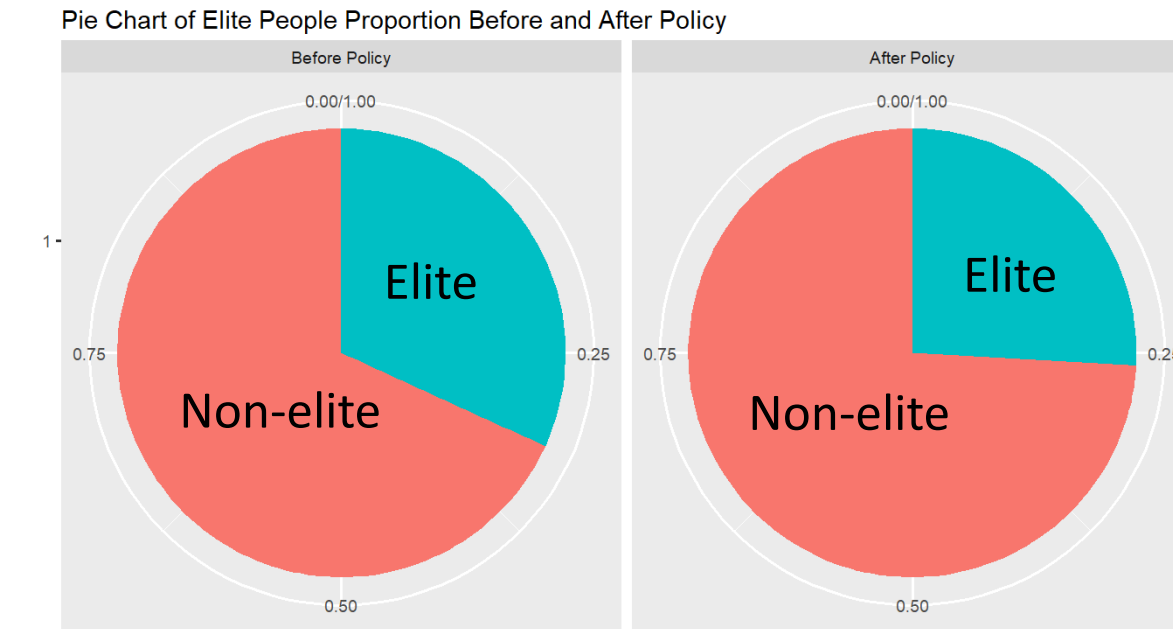
The change of elite proportion for five cities appears different trends.

Figure 1. The number of firm founded before and after policy



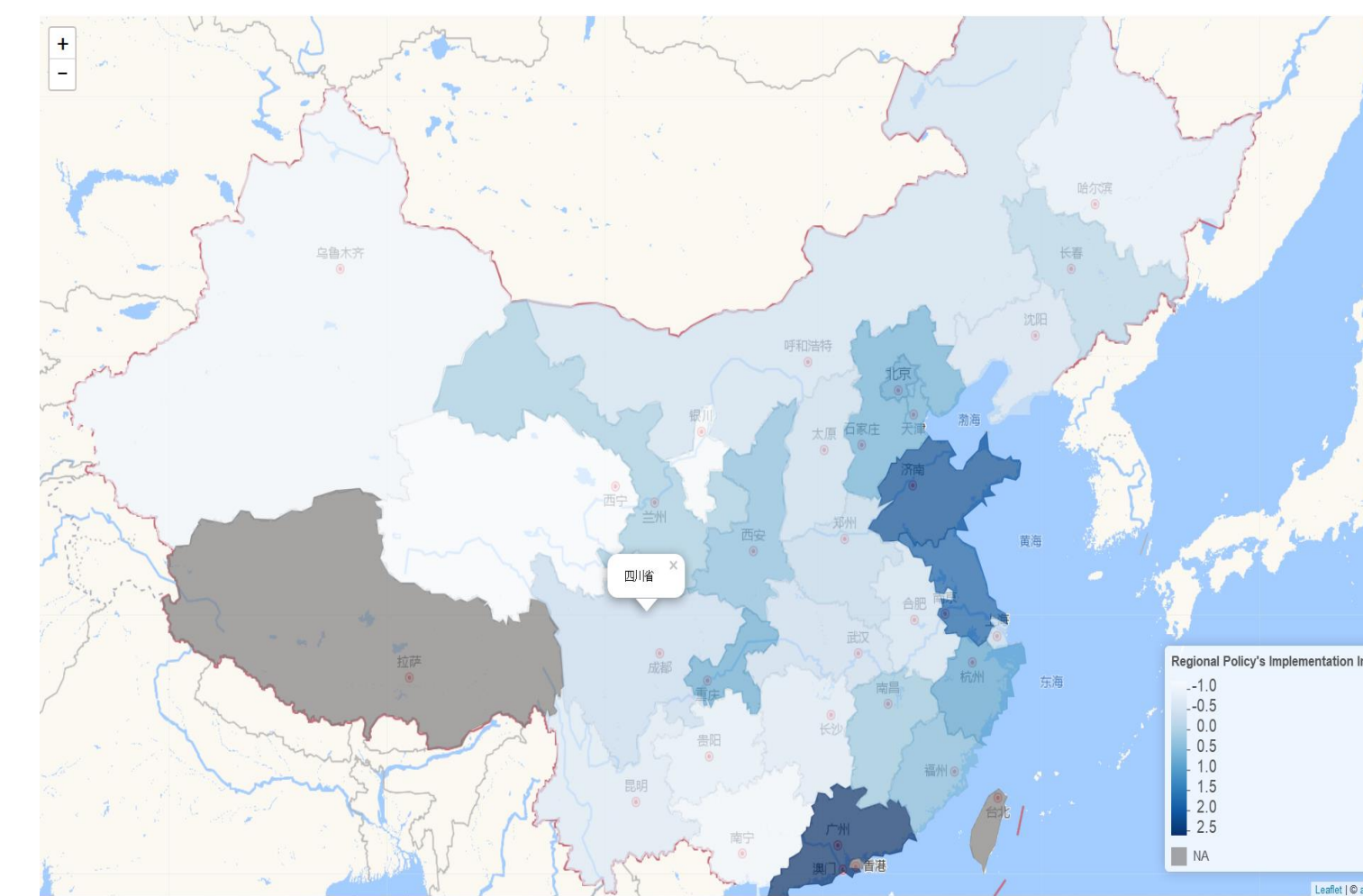
There are more firms founded after the policy

Figure 2. The proportion of elite people before and after policy



After the policy, the proportion of elite entrepreneurs declines, which indicates that more and more non-elite people begin to start their firms. (not significant in the regression)

Figure 4. Regional Policy's implementation Index (Maker Space)



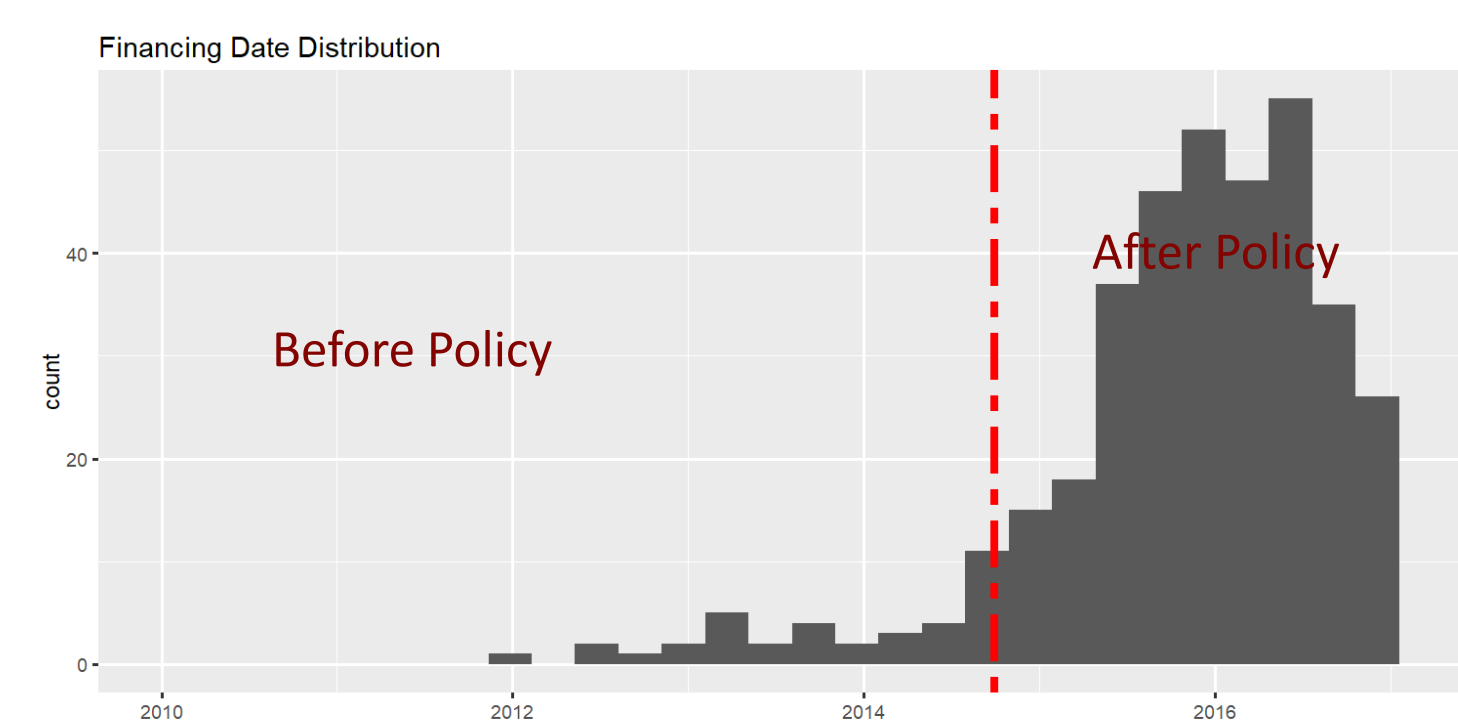
When adding this regional policy's implementation index to the model, we found that in places where the policy is better implemented, the more people may want to found firms. However, there is no significant effect for interaction terms

The speed to raise funding

Table 2. Piecewise hazard model results for the speed to raise funding

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	Elite-Only	Non-Elite Only
elite		0.583*** (0.111)		0.720*** (0.135)		0.716*** (0.191)	0.845*** (0.203)		
region.pc			0.039 (0.082)	0.104 (0.091)	0.117 (0.097)	0.139 (0.098)			
post.reform.elite				-0.389* (0.230)	-0.391* (0.231)	-0.852** (0.368)			
post.reform.region					-0.174 (0.107)	-0.181 (0.110)	-0.246** (0.117)		
elite.region						0.010 (0.155)	-0.137 (0.180)		
post.reform.elite.region							0.572 (0.341)		
post.reform		0.783*** (0.099)	0.795*** (0.099)	0.777*** (0.100)	0.894*** (0.114)	0.919*** (0.132)	1.088*** (0.145)	0.529** (0.208)	0.899*** (0.115)
Firm Level Control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macro environment Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Entrepreneur Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,864	1,864	1,864	1,864	1,864	1,864	304	1,560	

Note: *p<0.1; **p<0.05; ***p<0.01



There are also more funding events happens after policy

Figure 5. Boxplot of the speed to raise funding before and after policy for elite and non-elite people

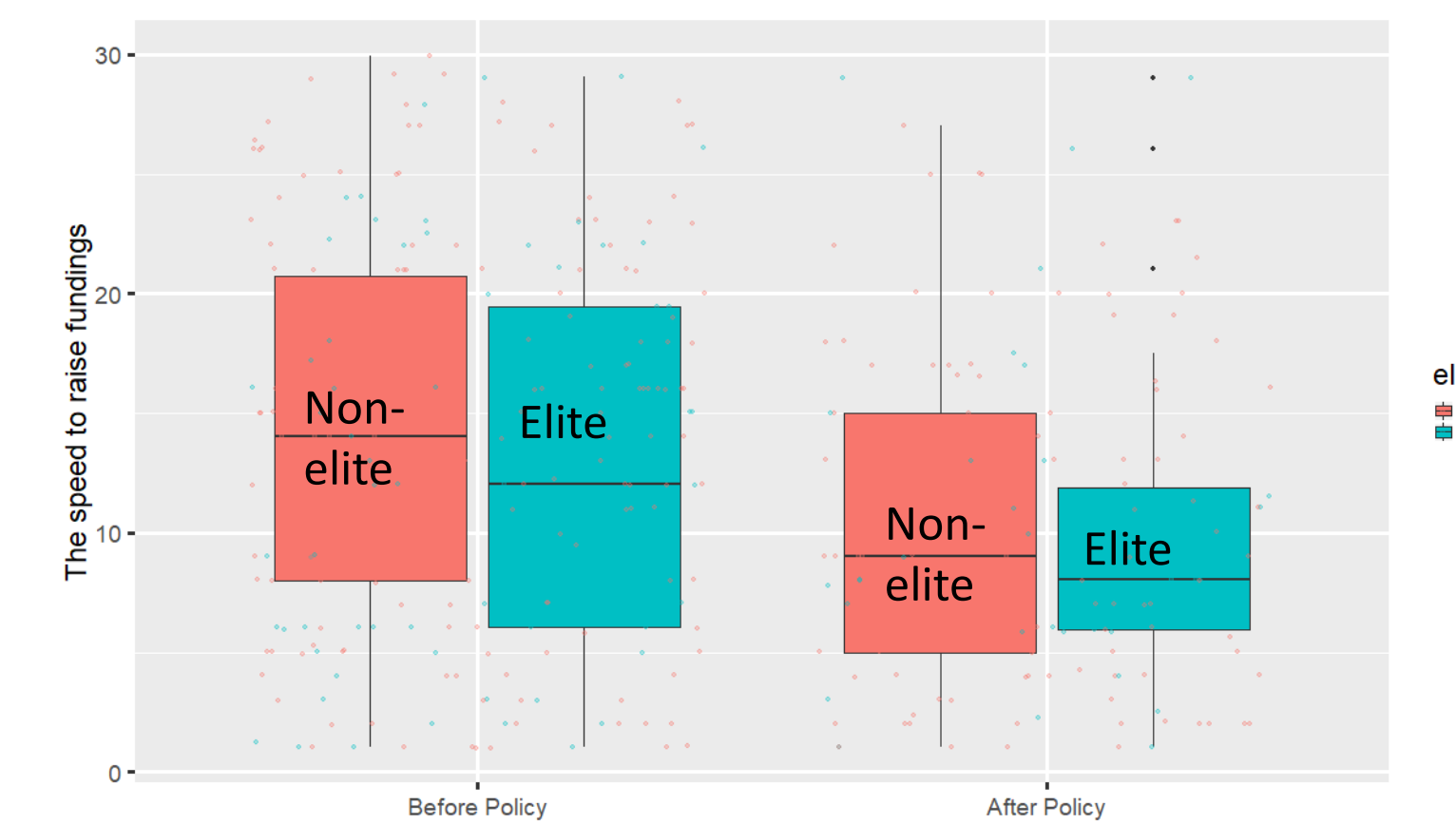
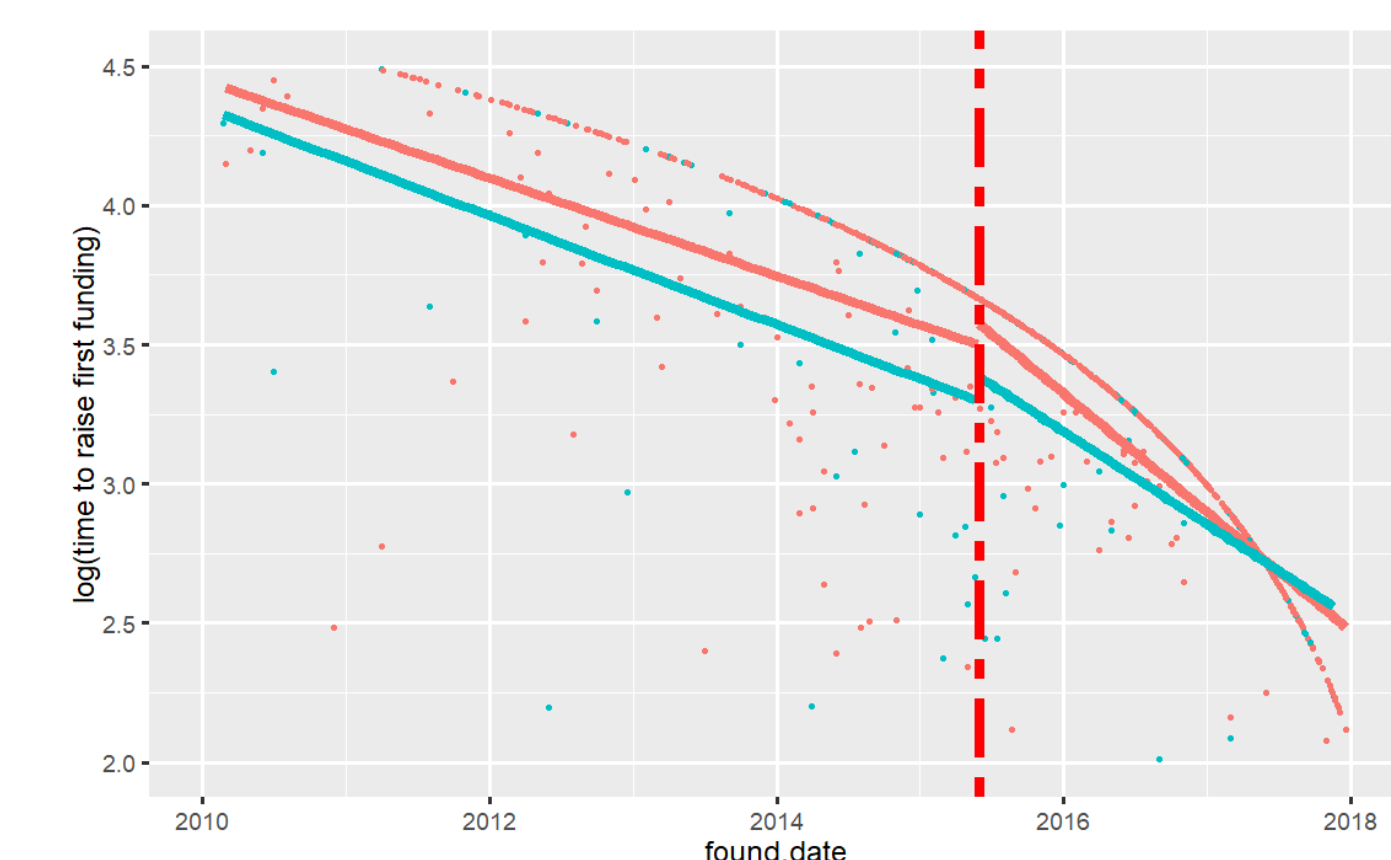


Figure 6: Pre and post trend of the time to raise first funding for elite and non-elite people.



Both boxplot and trend plot tell us that:

- Elite people raise funding faster than non-elite people
- After the policy, this human capital gap narrows down

Discussions

The probability to run a "successful" firm

- The amount of the capital raised
- Employee size
- Survival of firm

Figure 7. Ordered logit model for DV employee size: elite grows faster

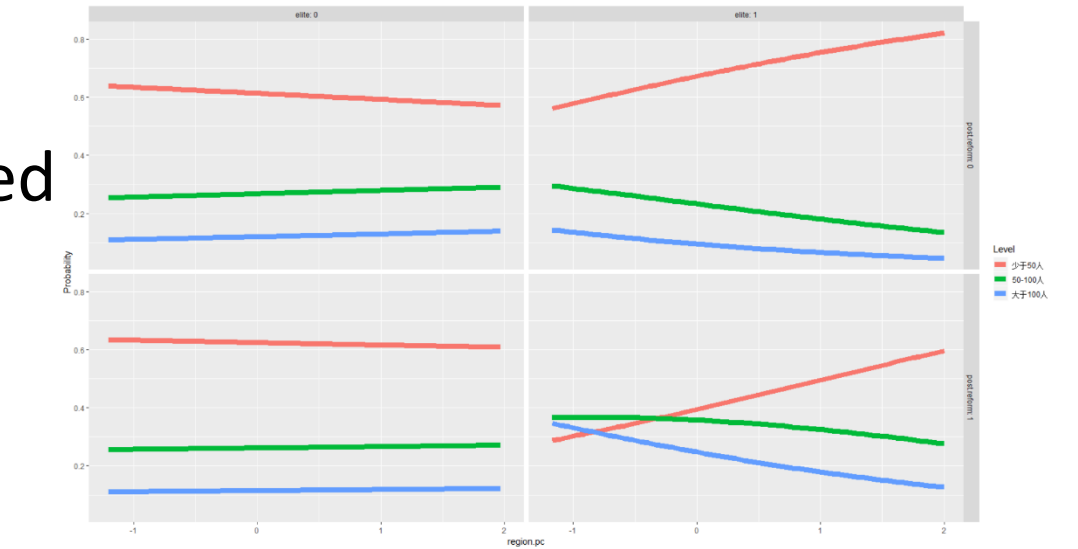
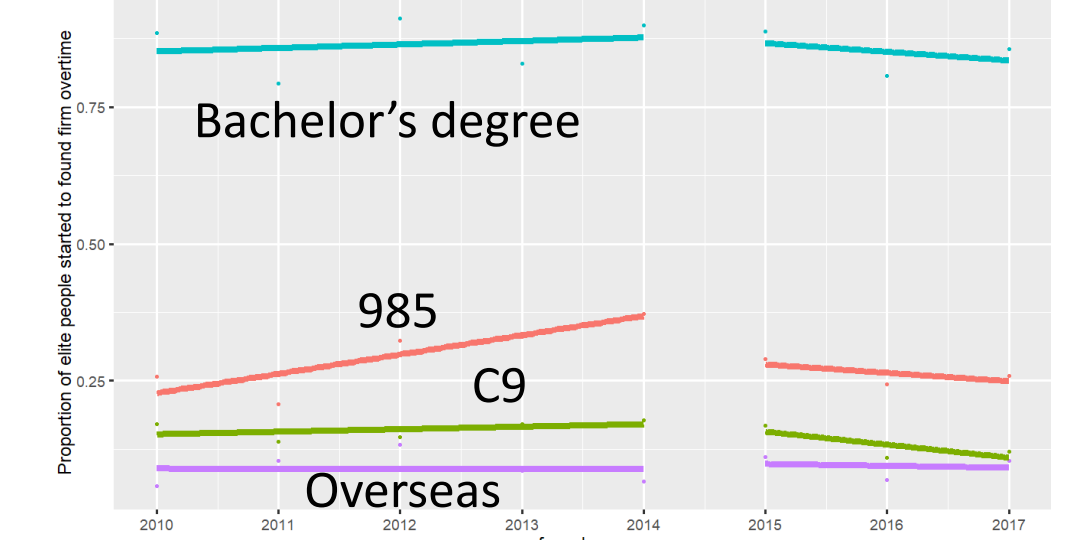


Figure 8. The change of proportion of elite people overtime

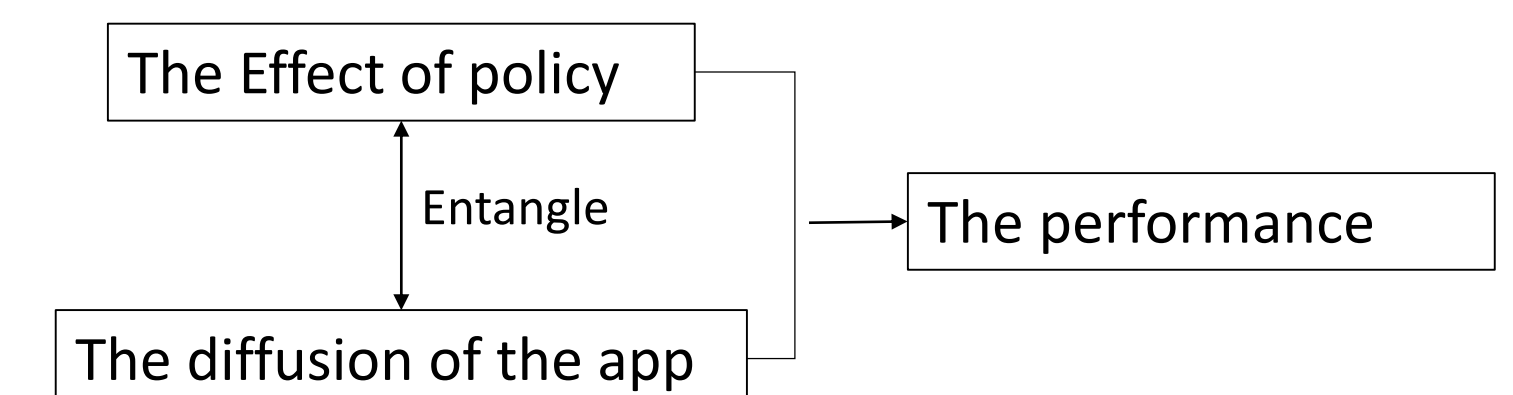


Pre-trend test

- To test the effect of policy, we need to see the pre-trends before the policy between groups.

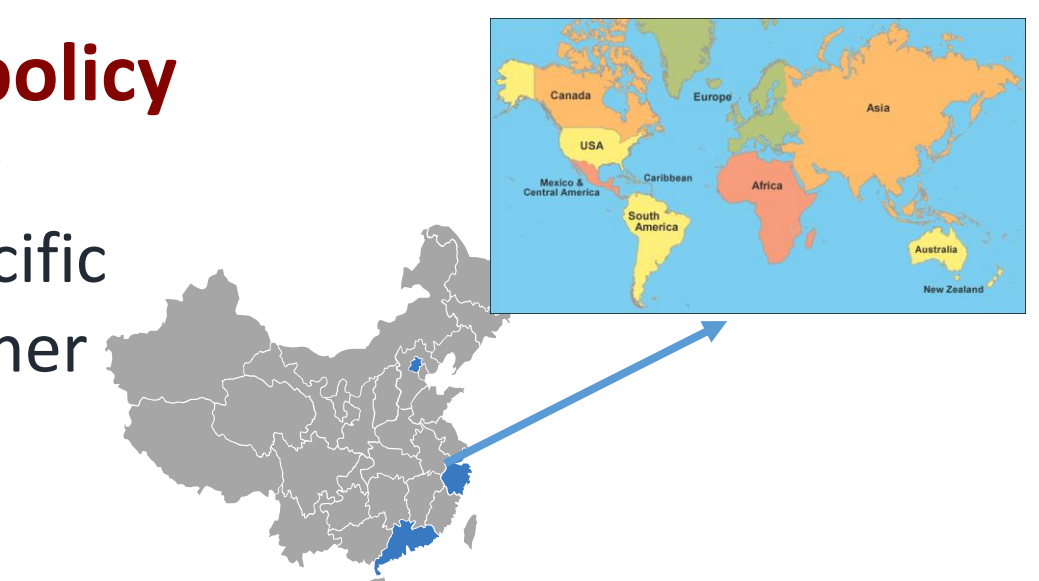
Sample bias issues

- Disentangle the effect of diffusion of the app over time from the effects of the policy.
- One possible solution: Compare sample to other representative samples



The generalized ability of this policy

- It would be interesting to further explore whether this China's specific policy could be generalized to other institutional changes.



Conclusions

Effects on the propensity to found a firm

- Main Effect: After Policy > Before Policy
- Human Capital: Non-elite > Elite (not significant)

Effects on the speed to raise capital

- Main Effect: After Policy > Before Policy
- Human Capital: Non-elite > Elite
- Regional Policy Implementation: Human Capital Gap narrows down in better implemented regions

Effect on the probability to run a successful firm

- Employee size: Elite people benefits more on employee size from the policy

References

- [1] Robert N. Eberhart, Charles E. Eesley, Kathleen M. Eisenhardt (2017) Failure Is an Option: Institutional Change, Entrepreneurial Risk, and New Firm Growth. Organization Science
- [2] Charles Eesley (2016) Institutional Barriers to Growth: Entrepreneurship, Human Capital and Institutional Change.

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