The London School of Economics and Political Science (LSE)

Essays on Political Economy and Development

Kezhou Xiao

A thesis submitted to the Department of Economics at the London School of Economics and Political Science (LSE) for the degree of Doctor of Philosophy, London, 2021.

This page was intentionally left blank.

Declaration

I certify that the thesis I have presented for examination for the Ph.D. degree at the London School of Economics and Political Science (LSE) is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

I declare that this contains three completed independent research papers over the course of my Ph.D. career at LSE. Online appendix supporting these papers are included in the appendix chapter of this thesis.

Acknowledgement

First, I'd like to express deep appreciation for Philippe Aghion for his kind support and supervision. I'd feel thankful to Tim Besley, who has been strict on upholding academic standards with plenty of his comments. In retrospect, I ought to mark the visit with my parents to Anthony Giddens in the English Parliament after the Msc. degree at LSE a distinctive event for my intellectual development.

Second, I'd like to say thank you to all the participants at the Growth and Development Seminar at LSE, particularly to Gerard Padro i Miquel, Greg Fischer and Maitreesh Ghatak. I deeply appreciate those small nudges and encouragements from Torsten Persson, Ronny Razin, Gilat Levy, Silvana Tenreyro, Ricardo Reis, Thomas Sampson, Ethan Ilzetzki, Francesco Nava, Henrik Kleven, Camille Landais, Johannes Spinnewijn, Erik Eyster, Balazs Szentes, Saul Estrin, Jon Danielsson, and Kent Deng. Administratively, I express my deep gratitude to Mark Wilbor, Judith Shapiro, and Mohan Bijapur.

Third, I ought to pay specific gratitude to Ehtisham Ahmad, who has opened the world of economic policy to me. My joint work with him started with my Master's career (around 2013) and continued at the moment of writing this thesis on another policy project. As of 2018, we have co-edited (with Meili Niu) one policy book (Foreword by Nick Stern), a few papers, and hosted one conference. This friendly mentorship cannot be forged without the introduction from Athar Hussain and Ruth Kattumuri, who offered me an internship experience at LSE Asia Research Centre when I was only a Master student.

Fourth, I owe special intellectual ties to a few names in the United States

of America. At the University of Virginia, my friendship with Brantly Womack made my intellectual life at Charlottesville a unique experience. John McLaren and Leora Friedberg gave me many ideas on Ph.D. programs in Economics. During my transition period at Georgetown University, I had some helpful discussions with Martin Ravallion and Luca Anderlini.

Fifth, during my field trip year at Sun Yat-sen University, Guangzhou China, I have greatly benefited from the socio-scientific circles. Not only have I finished my billionaire paper much earlier than I thought, but the fact that I have been able to present at numerous places throughout the country: Hunan Business School (Nov. 2018, Changsha), Hainan University (Dec. 2018, Haikou), Fudan University (Feb. 2019, Shanghai), Peking University (March. 2019, Beijing), Xi'an Jiaotong University (April. 2019, Xi'an), AMES 2019 at Xiamen University (June, 2019, Xiamen), Industrial Policy Workshop at Sun Yat-sen University (July, 2019, Guangzhou), and Brownbag Seminar at Chinese University of Hong Kong (CUHK) (Oct. 2019, Hong Kong). These ventures will not be possible without the arrangements of fellow scholars: LU Peng (CASS), LAN Xiaohuan (Fudan University), XI Tianyang (Peking University), DAI Xiaoyong (Xi'an Jiaotong University), LIANG Pinghan (Sun Yat-sen University), and SHI Ce (CUHK). The launching of China's Super Rich Persons (CSRP) dataset is one of the highlights in this fieldwork year's enterprising events. I feel fortunate and grateful to be part of this research wave.

Finally I owe deep gratitudes to all those people who have helped me over this long process of thesis completion. I'd like to thank them all, particularly my friends, staffs, and faculties at LSE, and my family members. They make the whole process a learning experience for me.

Abstract of Chapters

This thesis contains three independent research papers on political economy of development with a unified focus on leadership and decision makings within real world environments. The first chapter deals with country-cross experience using authoritarian turnovers, defined as a transition within nondemocratic regimes, as natural experiments. The final two chapters consists of China-based papers within contemporary historical context, i.e., the period since China's reform and opening in the late 70s. The second chapter investigates the wealth creation and accumulating class, pinned down by global billionaires, people who have estimated wealth exceeding 1 billion U.S dollars based on Forbes' database. The final chapter considers a critical theoretical along with a political struggle between two competing views on the interplay between market economy and socialism in the mid 80s. Using Deng Xiaoping's southern talk in 1992 as an ending mark of that grand debate over the future institutional course of China, the third chapter seeks to provide a descriptive study on the effect of political shock on the social composition of super rich class in China, utilizing a database compiled from Chinese Academy of Social Science (CASS).

Chapter 1, *Does Authoritarian Turnover Deliver*, using authoritarian turnovers (ATs) as natural experiments, investigates the institutional transition effects from one nondemocratic regimes to another. I ask the following question: does authoritarian turnover produce on average positive growth effects? Using this exercise, I attempt to provide another test on the nexus between democratization and growth. An emerging idea from this research is that authoritarian turnover is as likely to happen as a transition into democracy. To determine this, a new panel dataset from authoritarian regimes

between 1950 and 2014 was constructed. My estimates suggest that those authoritarian turnovers have an adverse small average growth effect. This implies that by failing to take into account authoritarian turnovers, democratization literature might have underestimated the effect of transition into democracy. From a decomposition analysis, it is determined that transitions into party regimes can once in a while deliver better outcomes than transitions into other authoritarian systems. In general, however, the transition to party regimes on average cannot deliver a better growth outcome than democratization.

Chapter 2, *Becoming Global Billionaires from Mainland China: Theory and Evidence*, studies the the set of billionaires from mainland China, discusses how their social origins affect their financing patterns. Guided by a proposed conceptual framework relating socio-political backgrounds of the billionaire entrepreneurs to their observable financing decisions, I show, under conditions of an open economy, grassroots billionaire entrepreneurs (e.g., Jack Ma) could attenuate political economy as well as financial frictions via capital injections from foreign venture capitalists. Building a unique database, I find, using a human equation, that (i) the politically unconnected billionaire entrepreneurs financed by foreign venture capitalists are more likely to float their companies outside mainland China (mainly in Hong Kong and the U.S), use offshore financing vehicles, and enter into innovative sectors; and (ii) the politically connected global billionaire entrepreneurs, however, are strongly associated with a record of state-owned enterprise (SOE) restructuring.

Chapter 3, *Serving the People or the People's Note: On the Political Economy of Talent Allocation*, discusses the welfare-improving impact of Deng Xiaoping's Southern Talks, through better allocation of talents. An efficient allocation of talents through occupational choice is central to modern economic growth. Removal of developmental barriers unfavorable to entrepreneurship might be a plausible channel for China's superb economic performance. Using a newly compiled data on China's Super Rich Persons (CSRP), the regression kink (RK) design reports supportive evidence on the politically induced structural change in the social compositions of entrepreneurs using as an event shock from Deng Xiaoping's Southern Talks: consistent with pro-

market talent allocation framework (i) the share of super-rich entrepreneur having state sector experience and party membership declines; (ii) the effects on the attributes of the parental father of the entrepreneurs are rather limited.

In short, the three chapters as a whole contribute to a study of political economy of development using real world experiences. At the core of each of the chapter, the central theme of the paper is unified under the interactions between decision makings of leaders, whether they are political or business leaders, and institutional environments. In chapter 1, the average effect of authoritarian turnovers, which by definition are associated with replacement of leaders, could be interpreted as selection effects of leaders in that setting. In chapter 2, the minting of Chinese billionaires is more or less made possible by the institutional innovations offered by an open economy in which offshore vehicles and other sets of financial innovations are available. In chapter 3, the shaping of a wealth creation class could be attributable to a political resolution of competing ideals and plans in a unique historical setting.

Contents

List of Figures

List of Tables

Chapter 1

Does Authoritarian Turnover Deliver?

1.1 Introduction

Modern political economists who have attempted to examine the growth effect of institutions have built a long tradition of studying the long term outcomes of democracy and dictatorship (Barro, 1996). A recent analysis by Papaioannou and Siourounis (2008) reports a 1% increase in annual per capita growth following an event of democratization. As this paper attempts to show, breakdown of authoritarian regimes may not necessarily result in democratization.

A number of observations could be made in light of the political and economic development of Iran. For instance, the left panel in 1.1 plots the GDP per capita of Iran between 1954 and 2014 extracted from Penn Table 9.0, superimposed by vertical lines, which represent leadership turnovers from the Archigos database. The right panel of the same Figure plots the time series of Polity IV score for the same period. The significant dip of Polity IV score in the period 1979-1980 captures the transitional period from pro-American Shah, to new ruling elites of Islam clerics. When the country switches its helmsman from one group to another with opposed ideology, the standard measures of Polity IV can be observed to have remained in the negative region after smoothing (compare the blue with the red line in the right panel, the raw and adjusted Polity IV scores). In a standard cross-country regime transition framework where a binary measure for regime type is coded and

the differences among authoritarian regimes are discarded, regime transition like the Iranian revolution in 1979 would be interpreted as an indicator of a smooth transition. If the end of an authoritarian regime does not lead to democracy, do turnovers like the 1979 Iranian Revolution affect economic and political outcomes? Can mere replacements of authoritarianism deliver hope for a nation's progress? If so, how do these effects relate to varieties and differences within authoritarian regimes?

The standard treatment in the comparison between democracy and dictatorship is to take the latter as being more or less the same, building a binary variable for regime classifications. Besley and Kudamatsu (2008), however, argue that "heterogeneity in the working of autocratic institutional arrangements comes out of a broad of theoretical treatments". In this paper, the conceptualization of regime[1] follows Geddes et al. (2014) by defining it as "basic informal and formal rules that determine what interests are represented in the authoritarian leadership group and whether these interests can constrain the dictator". Therefore, an authoritarian turnover is characterized as a transition of leadership from one authoritarian regime to another regime based on the classification rule from Geddes et al. (2014)[2]. This paper, thus, estimates the impact of authoritarian turnovers and reports that non-significant impacts following ATs on some political-economic measures. By constructing a panel dataset on authoritarian regimes, the study of authoritarian turnovers can, I believe, contribute to knowledge of the varieties of authoritarianism and its impact on subsequent political-economic development.

The structure of the paper is as follows. Section II presents a survey of the literature. Section III discusses the procedure of constructing a new panel dataset. It then documents three case studies among the database regarding

[1]It is noted that the definition of a regime is not unique. Besley and Kudamatsu (2008), along the lines of the democratization literature, define it as "a period in which authority characteristics of a country stay the same, according to the POLITY IV data set." To take a step towards understanding the workings of authoritarian regimes, this work departs from the regime conceptualization from the democratization literature. The conceptualization of Geddes et al. (2014) is more suited to the study of ATs in my context.

[2]To be specific, the classification rule based on "leadership group" is conceptually similar to the idea of the selectorate (De Mesquita et al., 2005).

authoritarian turnovers for conceptual clarification purposes. Within that section, simple OLS estimates of the effect on GDP per capita are presented. Section IV reports a few findings with a dynamic panel analysis. Aided by a dynamic panel estimator, I estimate the average effect of authoritarian turnovers and the decomposition effect among three kinds of regimes for economic growth. Afterwards, I provide brief estimates of the impact on other outcomes. The final section concludes with my findings.

1.2 Related Literature

A body of historians, political scientists and, more recently, economists have tried to answer questions relating to the dictatorship and democracy. Previous papers consider the effect of institutions on economic development using cross-sectional data from multiple countries (Hall and Jones, 1999; Barro and Sala-i Martin, 1992; Barro, 1996; Przeworski et al., 1995). Relying on panel data structure and being clear about identification strategies and statistical robustness, recent studies using democratization as event shocks (Papaioannou and Siourounis, 2008; Acemoglu et al., 2019) report positive growth effects associated with post-democratization (Rodrik and Wacziarg, 2005; Giavazzi and Tabellini, 2005; Persson and Tabellini, 2009).

A different strand of the literature concentrates on a variety of authoritarian systems and how they compare with democratic institutions[3]. Theoretical works that have attempted to explore this comparison (Olson, 2000; Acemoglu and Robinson, 2005) have primarily focused on failure and incapacity of authoritarian regimes to address commitment problems. On the other hand, political and economic vulnerabilities in authoritarian regimes have been underscored in studies that used direct modeling: loyalty-competence trade-off (Egorov and Sonin, 2011), politics of fear (Miquel, 2007), twin problems of power-sharing and control (Svolik, 2012), commitment and credibility problems (Myerson, 2008), and political survival (De Mesquita et al.,

[3]Besley and Kudamatsu (2008) provide a comprehensive survey on the economic effects of autocratic regimes.

2005). Studies on hybrid regimes in the post-cold war era highlights the need to consider "competitive authoritarianism" (Levitsky and Way, 2010) and "electoral authoritarianism" (Schedler, 2002).

The broad effects of institution transitions, however, are not restricted to economic outcomes. Besley and Persson (2011) propose a theoretical framework to capture the idea that measures of state capacity are correlated with and clustered around the level of economic development. Dell et al. (2018) reports a positive impact from a previously strong centralized state in Dai Viet villages through public goods provision and redistribution. Using personnel data from the British Empire, Xu (2019) finds that countries exhibit lower fiscal capacity if they had been exposed to stronger patronage in the colonial period.

Using the information on attempted and successful coups, Meyersson (2015) estimates the effect of coups on economic development for both democracy and dictatorship. Of interest to this paper is Meyersson (2015)'s result that "coups taking place in autocratic regimes show imprecise and sometimes positive effects on growth". This paper, however, incorporates and moves beyond all relatable episodes of coup when a new authoritarian regime has to emerge as an aftermath of the collapse of an old regime.

Papers (Jones and Olken, 2005) on the link between leadership turnovers and economic development are also related to my project. The conceptualization of regimes based on Geddes et al. (2014) distinguishes between regime turnover (AT or democratization) and leadership turnover. Regime turnover (e.g., AT) is accompanied by leadership turnover. Even so, leadership turnover might not result in regime turnover in the sense of Geddes et al. (2014)[4].

[4]This point will be clarified in the case study session.

1.3 The Political-Economic Impacts of Authoritarian Turnovers

This section sets off with a discussion of the processes involved in the construction of a panel dataset of relatable authoritarian turnover events from 1946 through 2010. From this period, three case studies on authoritarian turnovers are selected: Iran (1979); Rwanda (1994); and Algeria (1992).

1.3.1 Data and Descriptive Statistics

The annual panel dataset constructed from various sources consists of 163countries from 1950 to 2010, although not all variables for each country could be accessed for the entire years of focus. In line with the guidelines used by Geddes et al. (2014), I gather the classifications of authoritarian regimes, which specify the exact year of political turnovers. All regimes in the sample are classified three:military, party-based, or personal regimes[5] as recommended by Geddes et al. (2014).

The event of the authoritarian turnover, as a binary, focuses on situations where one authoritarian regime is replacing another for the same country code. When a turnover event occurs, the binary variable switches from zero to one until the new regime meets its eventual end. The unit of analysis is country-year. All democratic country-year units are removed so that the comparison is within the group of authoritarian regimes. Table 1.1 offers a summary view of the country-year events used in the sample from 1946 to

[5]An early paper on classification among authoritarian regimes can be sourced from Geddes (1999). A military regime refers to a dictatorship led by a military body dominated by one particular ethnic group. A party regime is a dictatorship led by a dominant ruling party. A dictatorship ruled by a single person unconstrained either by the military and the party is considered to be a personal regime. Monarchy regime, unlike Geddes et al. (2014), is viewed as a specific form of personal dictatorship for an operation reason. Given that monarchy regimes are infrequent cases many of which occurred before 1945 and that some anomaly cases (e.g, Iran 1979 in Geddes et al. (2014)) have a missing category, this paper groups all those episodes into a remaining category, "the others", used as a base in regime comparison analysis. It is noted that when matched with some controls, these base country-year units might be dropped because of missing information.

2010, which includes data from different regimes across the world from the post-World War II periods[6]. Due to the challenges in gathering available economic variables prior to 1950, this paper focuses on cases in Table 1.1 that can be matched with valid economic variables[7].

As a standard measure of economic performance, I use (log) GDP per capita as my main outcome variable that is drawn from the Maddison Project. A set of country characteristics variables are also collected. A measure of productivity at current PPPs (variable name: CTFP) is taken from Penn World Tables (version 8.1). Giuliano et al. (2013) offers an aggregate measure of reform index to capture the adoption of economic reforms. Standard controls such as (log) total population, gross secondary enrollment, trade share of GDP (export plus import over GDP ratio), and gross capital formation of GDP (investments) are gathered from World Development Indicators.

From the literature on state capacity in fiscal capacity and violence, I gather a few measures. Military capacity is proxied by military personnel (thousands) and military expenditures divided by total population from Correlates of War (COW) Project National Material Capabilities. The tax/GDP ratio used to proxy for fiscal capacity comes from Arbetman-Rabinowitz et al. (2013)[8].

Table 1.2 presents the descriptive statistics separately for those country-year (s) that have experienced turnover and those that have not yet had such an experience. After a turnover, GDP per capita, total factor productivity (TFP), and population increase slightly. Military spending per person rises sharply. Investment, tax, reform index, and trade share as a percentage of GDP drop by a little.

[6] A permanent transition is a situation where the new regime survives by 2010 whereas a temporary transition means that the "new" regime dies before 2010. This paper focuses on the latter transition due to data restrictions. A permanent transition to an authoritarian system has been rare within my time frame.

[7] Events prior to 1950 are dropped from my analysis due to data limitations.

[8] I thank Cullen Hendrix for his quick reply in pointing out this reference for me. The data has been normalized by a factor of one-quarter.

1.3.2 *Three Case Studies*

Historical contexts of turnovers are rich with complexities that manifest themselves in a variety of transitional patterns. In this section, I present three case studies on political turnovers used in my empirical estimation. The objective of using empirical estimation is to distinguish the effect of ATs from democratization, conditional on a break down of an authoritarian regime. It also makes a distinction between the turnover of regimes (ATs) that are used in this paper and the turnover of leaders that are used in the leadership and growth literature. Additionally, it clarifies two kinds of events: event sassociated with the regime (e.g., ATs) and those that are associated with the leader(e.g., the assassination of the leader).[9]

Iran, 1979, *Type of the regime death: peaceful transition in response to massive demonstrations because the Shah fled the country.*

The beginning and the end of the Pahlavi dynasty are classic examples of authoritarian turnover. The regime was founded in 1925 through a military coup that was led by Reza Shah Pahlavi after he deposed the Qajar dynasty. In 1941, Mohammad Reza Pahlavi replaced his father after the British and Soviet forces occupied Iran during World War II and abdicated the previous Shah. It was, however, not until 1953 that Mohammad Reza Pahlavi did manage to gain full control of his government, courtesy of backings from the United States and the United Kingdom. According to the Polity database shown in Figure 1.1, this period was characterized by a negative score in polity IV until the Iranian Revolution in 1979.

The leader of the previous regime, Shah Muhammad Reza Pahlavi overthrew his Prime Minister, Mohammed Mossadegh, and embarked on his rule through a decree in 1953. Muhammad Reza Shah's policy of White Revolution gradually intensified social tensions through a sequence of organized protests and arrests[10]. Such tensions radicalized the Shia opposition, with Ayatollah Khomeini gradually emerging as a prominent leader of the opposition. Forced to leave the country, the succeeding leader of the new regime,

[9]See Jones and Olken (2009).

[10]See chapter 5 of Abrahamian (2008) on the white revolution and how it intensified social as well as political conflicts.

Khomeini, did not return to Iran from exile until thirteen years later.

In 1975, the Resurgence Party(Rastakhiz) was founded, an act that escalated further state control over segments of the society (p.151-154, Abrahamian (2008)). Crippled by political incapacity among mounting protests, the Shah eventually fled the country on 16th, January 1979. Two weeks later,Khomeini returned to Iran from exile. He led Iran into passing a new constitution in December 1979, which marked the start of a new authoritarian regime.

In short, Iran 1979 coded by Geddes et al. (2014) data was seen as a prime example of non-democratizing regime turnover and leadership turnover. The subsequent regime, led by Khomeini, still received a small negative value in the polity score, justifying the concept of an authoritarian turnover.

Rwanda, 1994, *Type of the regime death: external violence as a result of the capture of the capital of the old regime by rebellion forces.*

During, and since World War I, Rwanda became part of the Belgian colony. Belgium had a tradition of using divided-and-rule methods in its colony, such as pro-Tutsi policies, which antagonized the relationship between Tutsi and Hutu groups. The perceived preferential treatment of Tutsi (14%), which was a minority group, over the Hutu majority (85%), contributed to a series of Hutu rebellions in 1959, forcing some 150,000 Tutsis to leave the country. The growing intensity of ethnic animosity, with time, led to the end of the Tutsi Monarch. The end of the Tutsi Monarch, in turn, marked the beginning of an independent republic under Gregoire Kayibanda from the Hutu tribe.

However, the path towards modernization of Rwanda was punctuated with numerous episodes of authoritarian turnovers without democratization. Juvenal Habyarimana, while serving as army chief of Staff, overthrew President Kayibanda through a bloodless coup in 1973, intensifying the ethnic rifts within neighboring Burundi, home to ethnic oppositions of the Hutu group and breeding place for future revolutionaries. From the conceptual distinction, the 1973 coup is an event associated with the leader, not the regime. This is a situation of leadership turnover without regime turnover.

From 1979, the Tutsi refugees and government in exile started setting up

political organizations for a possible return to Rwanda. The Rwandan Patriotic Front(RPF) was thus beginning to gather strength until October1990 when the military force under Paul Kagame and Fred Rwigyema invaded the north-eastern part of the country and triggered the Rwandan Civil War. Neither the incumbent Habyarimana government nor the opposition forces led by RFP were able to gain a decisive victory during the civil war between 1990 and 1994. Neither the Arusha Accords in 1993 bringing democratic institutions to the country nor peace missions from the United Nations could avert the imminent ethnic conflicts[11].

The military regime chaired by Juvenal Habyarimana came to an end when the leader was shot down, along with the president of Burundi, in an airplane by the opposition forces on 6 April 1994. In response to the death of its leader, the Hutu-dominant government retaliated with what came to be known as the Rwandan genocide[12], a massive ethnic cleansing of the Tutsi population along with the execution of military leaders ,sympathizers, and moderates.

The Rwandan Patriotic Front (RPF) under Paul Kagame quickly resumed the civil war, refusing to negotiate with the interim government. Nearly three months later, opposition forces captured Rwanda's capital Kigali, ending the rule of an extremist Hutu government.

After the victory, Paul Kagame, who later became the country's president, served as the vice-president and minister of defence for another six years, despite being known as the *de facto* leader. The switching of hands from one authoritarian Rwandan government to another via a bloody civil war constitutes an episode of authoritarian turnover. This also led to leadership turnover.

Algeria, 1992, *Type of the regime death: internal violence resulting from a military coup against the old regime.*

The political-economic history of Algeria after 1962 has consistently been

[11] Dallaire (2009) gives a personal account from Lieutenant-General Roméo Dallaire, who served as the Force Commander of the United Nations Assistance Mission for Rwanda (UNAMIR) in 1993-1994.

[12] From a historical perspective, Prunier (1997) provides an analysis of the Rwandan genocide. An alternative view is provided by Guichaoua (2015).

plagued by irregular leadership turnovers and regime changes [13]. Before its independence movement led by theNational Liberation Front (FLN), Algeria was a French colony until 1962. Benyoucef Benkhedda, a leader during the Algerian War, left the post of the president of the provisional government a few months after a faction within FLN led by Ahmed Ben Bella challenged his leadership. In 1965, Houari Boumediene, who was the defense minister and a leader of the military faction at the time, deposed Bella and put him under house arrest. Bella had only served for just about three years as the country's president[14].

Boumediene governed Algeria from June 1965 until his death in 1978. Despite his bloodless coup against Bella, Boumediener maintained much of the military influence within the old structure of Algeria. He had ruled the country through aone-party state.

After a brief interim by Rabah Bitat, the acting President following Boumediene's death, Chadli Bendjedid, an army moderate, took over the presidency[15]. During Bendjedid's reign in the 1980s, after a set of policy blunders and failure to deliver the country from a menacing economic crisis, he began to dismantle the political foundation of FLN system in the hope of facilitating a transition into a multi-party democracy.

The opening up of the political system inspired the founding of the Islamic Salvation Front (FIS) party by 1989. FIS later swept more than half of the votes in the local elections within less than a year. As FIS continued to make its progress towards victory in legislative elections, the military intervened in February 1992, ousting Bendjedid, and asked Muhammad Boudiaf, an exiled member from a faction of FLN, to become the chairman of the High Council of State. In less than four months, Boudiaf was assassinated by his bodyguard with Islamist sympathies. In Geddes et al. (2014), tthe FLN one-party regime ended after the resignation of Bendjedid because a one-party regime was given away to a military regime led by a group of Army ocers[16].

[13]See Evans and Phillips (2007); McDougall (2006) for independent historical analysis.
[14]This bloodless coup is also a case of leadership turnover without regime turnover
[15]This is also a leadership turnover without regime turnover.
[16]However genuine or pretentious the subsequent elections the regimes have held; the regime is still characterized by an authoritarian system that is somewhat different from

The subsequent regimes were one way or the other either supported by the military or ruled directly by generals, such as AliKafi and Liamine Zeroual. Throughout the 1990s, Algeria endured a period of political chaos and terrorism. Much of the conflict was between the incumbent government and a number of opposing Islamic groups that emerged after the dissolution of FIS party. Not until the election of Abdelaziz Bouteflika as an independent candidate supported by the army in 1999 did the politics of Algeria stabilize. Since then, Abdelaziz Bouteflika governed the country as the president for four terms before he stepped down in 2019.

Taking stock from the three case studies above, I have demonstrated the interrelationships among regime turnover, democratization, and leadership turnover. In terms of event analysis, I distinguish events that are associated with the regime and those associated with the leadership[17].

1.4 Empirical Results

The empirical results of the paper are presented in four steps. First, the analysis starts with a discussion of simple OLS estimation using the level equation. Second, by pooling all the country-year together without differentiating the types of authoritarian regimes, this paper estimates the pooled average effect of authoritarian turnover using dynamic panel methods. This presentation is followed by consideration of the decomposition effects based on regime type. Finally, the dynamic panel method is applied to other outcome variables as an exploration of potential mechanisms.

the FLN past.

[17]Take coups as an example, a situation where a leadership turnover occurs. Conceptually, there are two kinds of coups: coups without regime change, either democratizing or turnover, and coups that bring down the regime immediately.

1.4.1 The Unconditional and Conditional Impact of Authoritarian Turnovers

The unconditional effects: This section presents the unconditional estimates of the impact of ATs on GDP per capita, using the following formulation, fit by OLS:

$$y_{c,t+j} = \alpha + \gamma T_{c,t} + \eta_c + \delta_t + \epsilon_{c,t} \qquad \text{for} \quad j \in \{0, 1, 2, 3, 4, 5\} \tag{1.1}$$

where $y_{c,t}$ represents GDP per capita and $T_{c,t}$ gives the timing of authoritarian turnover for country c at time t, as described before. δ_t represents the common year effects across the globe. η_c gives the fixed yet unobservable country effects. The remaining shocks belong to $\epsilon_{c,t}$.

Table 1.3, column (1)- (5), reports estimate of equation (1.1), using the full sample (2,473 observations, 163 countries, up to 66 years), giving estimates of time structure of impact from ATs. The result is driven mostly by cross-country variation after controls for common year and fixed country effects. The OLS estimated coefficient γ for contemporaneous effect is a non-significant effect of 1.4% (standard error = 1.7%) in the negative (column 1). The estimated effect of ATs on future one year GDP per capita stays at the same level as immediate impact (column 2). Forward into the future, the two year future effect drops from -1.7% (standard error = 1.8%) (column 3) to -2.6% (standard error = 1.9%) in three years (column 4), to -3.2% (standard error = 1.9%) in four years, and finally to -3.3% (standard error = 1.9%) in five years. The fact that none of the level estimates are statistically significant suggests a small negative effect from ATs from the impacting year up to five years in the future.

There are several caveats, however, with this result. First, the static model might fail to take into account the historical dependence of GDP per capita. Lagged dependent variables are usually strong predictors of current value. The omission of these lagged terms could result in an omitted variable bias, which confounds the estimation of the turnover effect. The purpose of using dynamic panel techniques is to assess the stability of this result to the

inclusion of lagged dependent variables.

The conditional effects: Beyond unconditional effects using OLS, the following dynamic panel method is applied to estimate the average effect of an authoritarian turnover, taking into account of the conditional convergence effects:

$$y_{c,t} = \alpha + \sum_{j=1}^{p} \alpha_j y_{c,t-j} + \gamma T_{c,t} + \sum_{i=1}^{q} \beta_i x_{c,t-i} + \delta_t + \eta_c + \epsilon_{c,t} \tag{1.2}$$

where $y_{c,t}$ denotes the log of real GDP per capita for country c at year t[18]. $T_{c,t}$ is a binary variable with unity value characterizing the year in which and afterwards an old authoritarian regime is replaced by a new authoritarian regime. $x_{c,t-i}$ characterizes the control variable for country c at year t, with i^{th} lag. Parameters η_c and δ_t stand for standard unobservable country and year fixed effects, respectively. The key parameter of interest in this paper is γ, the authoritarian turnover effects. In the growth and convergence literature, adding lagged dependent variables can induce an estimate of long-run impacts. To do so, I assume that the GDP dynamics for equation (1.2) satisfies the condition for stationary. Thus, the long-run average effect of an authoritarian turnover can be represented by $\theta = \frac{\gamma}{1-\sum_{j=0}^{p} \alpha_j}$.

To achieve a consistent estimation of the turnover effect in the presence of country fixed effects, OLS estimator is known to suffer from a large Nickell bias (Nickell, 1981) particularly when the estimated effects are small. The main results are derived from the standard approach to dynamic panel estimation through Arellano-Bond estimator (Arellano and Bond, 1991)[19]. To caution against misspecification error, I report the results from the AR(2) test for specification checks. To ensure that the "too many instruments" problems can be minimized, I decide no more than eight lags might be a good balance after some experimentation. Finally, three assumptions are

[18]The literature has debated over whether inclusion of a constant is necessary with fixed effects from country and years. In unreported regression, the concern has shown limited impact on the core estimates of the paper.

[19]In the rest of the paper, Arellano-Bond estimator (Arellano and Bond, 1991) is shorthanded as AB estimator. AB estimator uses lagged dependent variables to instrument for the differenced dependent variable in the corresponding equation.

required for consistent estimation and interpretation of my results: (i) the lagged GDP dynamics are predeteremined; (ii) the binary, $T_{c,t}$, is predetermined: $\forall c$, $\mathbb{E}\big[T_{c,t}\epsilon_{c,s}\big] \neq 0$, for $s < t$, but $\mathbb{E}\big[T_{c,t}\epsilon_{c,s}\big] = 0$, for $s \geq t$, and (iii) the control variable, $X_{c,t}$, is predetermined: $\forall c$, $\mathbb{E}\big[X_{c,t}\epsilon_{c,s}\big] \neq 0$, for $s < t$, but $\mathbb{E}\big[X_{c,t}\epsilon_{c,s}\big] = 0$, for $s \geq t$. Simply put, the condition of predeterminedness requires that historical shocks up to the event at time t can be correlated with the binary with which contemporaneous and future shocks are uncorrelated.

In the appendix, I relate the estimates of this paper and compare them with the growth effects of transition into democracy from the democratization literature to enhance the interpretation of the estimated effects.

1.4.2 The Conditional Growth Effect of Authoritarian Turnovers

Table 1.4 presents the pooled conditional dynamic effect from authoritarian turnover. In column (1), I estimate equation (1.2) using the fixed effect "within estimators" without control variables for one lag of GDP dynamics. The standard errors are clustered at the country level. The estimated coefficients of -0.1% (standard error $= 0.6\%$) on authoritarian turnover are insignificant at the level of 5%. Column (2) and (3) augment the specifications with two and four lags of GDP dynamics. The estimated effects are -0.3% (standard error $= 0.6\%$) and -0.6% (standard error $= 0.5\%$), respectively. In each of the three specifications, the within R^2 is high around 0.95.

Starting with column (4) to column (6), I apply AB estimators corrected for heteroskedasticity using one, two, and four lagged dependent variables, respectively[20]. As a check against specification errors, the p-values associated with AR(2) tests should not reject the null hypothesis[21]. This holds for the

[20] In unreported regressions, the number of lags used to instrument the lagged dependent variable in the first-differenced equation is robust to selection of six, ten, and twelve lags.

[21] The test of autocorrelation for the second order is applied to the residuals in differences. In this case, $\Delta\epsilon_{c,t}$ is related naturally to $\Delta\epsilon_{c,t-1}$ via $\epsilon_{c,t-1}$. Therefore, AB type of estimates rely on checking second-order correlation in differences. For a correctly specified AB model, it shall reject the significance of second-order correlation at a given level.

three specifications with values of 0.208, 0.754, and 0.563.

An examination of the coefficients from column (4) to (6) indicates a mixed picture: while specifications (4) and (5) report a non-significant result stronger than 5%, column (6), with four lags of GDP dynamics, however, suggests an average adverse effect in both the short (p = 0.003) and long-run (p = 0.005). In the long run, the gap can be as large as 20% based on AB estimator with four past lags of GDP (column 6, Table 1.4). An effect of −3.1% (standard error = 1%) can be quite large. This evidence is somewhat weakened by Blundell and Bond (1998) estimator. In unreported regressions using BB estimator and four lags (column 6 in Table Table 1.4), the estimated coefficient for turnover is −2% with a standard deviation of 0.5% (p-value = 0.734). Another estimate is offered by Arellano and Bover (1995). In unreported regressions, the estimated coefficient for turnover is −1.1% with a standard deviation of 0.7% (p-value = 0.096). In sum, the magnitude of the estimates using panel techniques ranges from −3.1% to −0.01%.

Since only GDP dynamics are included, the concerns over whether potential time-varying confounding factors could drive the convergence of growth outcome, in addition to past lags of GDP dynamics, are considered. I investigate these threats in the following table.

Table 1.5 (see a similar exercise in Table 3, Papaioannou and Siourounis (2008)) augments the baseline specifications through a number of time-varying controlling variables In each specification, the lagged one of the control variables is included in the specification. In addition, the lagged one of the control variable is assumed also to be predetermined[22].

Each of the specifications has passed the AR(2) test. In column (1) of Table 1.5, the estimated impact is close to 0.0% (standard error = 0.8%) using (log) population controls. The average impact is found to be weakly positive with tax over GDP ratios (column 3) at 0.0% (standard error = 1.1%)

[22]Experiments with not making this assumption find no fundamental change using AB estimator other than (6). In unreported regressions, the p-value on AT by repeating (1)-(5) are: 0.659, 0.960, 0.101, 0.186, 0.779. The last column (6) gives an estimated coefficient of -0.027 with a standard error of 0.010 (p-value = 0.007), a value implying an even larger negative effect.

, and TFP (column 5) at 0.0% (standard error = 1.0%). The negative values are estimated from investment over GDP (column 2) at −0.5% (standard error = 0.9%) and trade of GDP controls at −1.3% (standard error = 1.0%). The only significant estimate comes from military expenditure per capita as a proxy for military capacity in column (6) at an estimated effect of −1.7% (standard error = 0.7%), significant at 5%. In short, the range of magnitude is from −1.7% to less than 0.1%. The result shows that across a range of time-varying control variables, AB estimators report overall that the estimated impact from turnovers is small negative values.

Taking stock from this section, although many specifications present small negative and positive effects that are not reaching 5% benchmark, the average growth effect for ATs appears to a small negative effect (particularly, the estimates from Table 1.5 column 6 using military expenditure as control).

1.4.3 The Role of Regime Type

How does the role of the regime type matter for post-transition development? Here, I proceed by relating the type of authoritarian regimes to political and economic outcomes[23]. In what follows, I investigate the possibility of differences among authoritarian regimes after experiencing ATs. The decomposition exercise captures the effect of transition into a certain kind of regime. There are three kinds of possible types for this analysis: the personal, the military, and the party regime, *using the remaining category as the base*[24]. I consider the following estimators: fixed effect estimator, AB estimator, Blundell and Bond (1998) (shorthanded as BB) estimator. BB estimator generalizes from AB estimator with additional level equations. Additionally Arellano and Bover (1995) estimator, another variant of AB estimator, which applies the forward orthogonal deviation transformation

[23]The classification of varieties of authoritarian regimes originates from Geddes (1999). It is noted here that whether or not personal regimes form a distinct kind of dictatorship has been debated (Cheibub et al., 2010). In the appendix, evidence in support of regime heterogeneity is presented from Geddes et al. (2014).

[24]The base are those country-years which have regime value as the "others" including the monarchy and hard-to-classify ones.

rather than differencing, is considered. For each specification, four GDP lags are still used as predetermined controls.

Table 1.6 presents results on regime heterogeneity. Column (1) using a fixed effect estimator reports that compared with the base, transition into a party regime can generate an increase of GDP per capita by 0.9% (standard error = 0.8%). Contrary to the positive outcome of transitioning into a party regime, the effect of transition into a personal regime is estimated to be negative at −1.6% (standard error = 0.8%). The effect of transition into a military regime is a small negative at −0.1% (standard error = 0.7%).

Each of the specifications in column (2)-(4) has passed the AR(2) test. Overall, these three specifications reach the same overall result using dynamic panel techniques: a small value that cannot reject zero in a significant way for each of the individual estimates. Column (2) using AB estimator finds an overall negative effect for a transition into all kinds of regimes with a transition into the party regime slightly better. BB estimator in column (3) reports an increase of GDP per capita by 0.6% (standard error = 0.5%) by a transition into a party regime. The Arellano and Bover (1995) estimator (column 4) indicates an estimator that lies somewhere in between that of the AB and BB estimators.

Compared with the base, if any of these specifications can detect evidence of regime differences regarding political-economic performance after turnovers, the coefficient associated with the type of the regime could be compared with each other. Digging a bit, although none of these estimated coefficients individually can be significantly different from 5%, the decomposition analysis reports that party regimes have larger values than other kinds of regimes and more chances of getting positive values, compared with the base. For all four specifications, the pairwise test between transition into a personal and party regime gets a p-value of 0.0357 under the fixed effect specification (column 1). Pairwise tests between transition into a personal and military regime cannot reject at 5% across for all the specification. This holds for the pairwise test between transition into a party and military regime.

Can the estimates of conditional growth effects from Table 1.6 be affected

by time-varying factors? To take into account this issue, I repeat my analysis using BB estimator controlling for (log) of the population, investment ratio, the tax share of GDP, the trade share of GDP, measure of TFP, and the share of military personnel in the population. In each of the following specifications, as in the previous section, lagged one of the control variable is included in each of the specifications other than military capacity which uses two measures. All specifications use BB estimators because these estimators use observations more effectively by combining both level and differenced equations. The lagged one of the control variable is assumed, as before, also to be predetermined.

Results are presented in Table 1.7. Each of the specifications has passed the AR(2) test. Column (1) uses lagged (log) population as a predetermined control, the estimate for party regime is significantly positive at 5% compared with the base. It means that compared with the base, transition into a party delivers about 1.1% growth per capita, using lagged (log) population as control. The pairwise test between party regime and the other two regime types are markedly different (p=0.0129 for personal regime p=0.0645 for the military regime)

Using investment ratio as a predetermined control, column (2) reports a rejection from a pairwise test between party regimes and the other two regimes at 10% (p value for military = 0.0724, p value for personal = 0.0674). Across column (2)-(6), the effect of transition into party regimes is a small positive value compared with the base: 1.5% (standard error = 0.8%) for lagged one of investment over GDP, 0.9% (standard error = 0.5%) for lagged one of tax over GDP, 1.5% (standard error = 0.9%) for lagged one of trade over GDP, and 0.8% (standard error = 0.5%) for lagged one of share of military personnel.

Based on a comparative analysis, the decomposition analysis reveals nuanced differences between the transition into party regimes and others, depending on the kinds of the specifications, compared with the base. It appears that the overall negative results from ATs as reported in the previous section are mainly driven by poor growth performance resulting from transitions into personal regimes. Compared with other kinds of authoritarian regimes, tran-

sitions into party regimes might result in good outcomes in some situations. On average, the effect of transition into party regime underperforms that of democratization, from the decomposition exercise in the appendix, through comparisons with estimates from that literature.

1.4.4 Potential Mechanisms

Does authoritarian turnover affect economic development through other outcome variables[25]? In this section, I explore the impact of authoritarian turnovers on other outcome variables as plausible mechanisms, which could affect economic development. The estimator used in this section would be AB-estimator. I consider the (pooled) and decomposition effects of ATs on tax, investment, trade, TFP, the share of military personnel, and reform Index using the following specification.

To take into account the conditional effects of GDP dynamics on other outcome variables, I include four lags of GDP dynamics in each estimation as well as assume them to be predetermined. For each of the outcomes as the dependent variable of interest, only one lag of itself is included, assuming also predeterminedness.

Panel A of Table 1.8 presents the pooled effect of AT. Each of the specifications has passed the AR(2) test. Column (1) reports that on average authoritarian turnover decreases investment share of GDP by 0.3% (standard error = 0.5%). Such effect is accompanied by a decrease in the share of trade over GDP 0.1% (standard error = 2%), and TFP index by 1.1% (standard error = 0.8%). Column (2) finds that the effect of ATs on tax over GDP is on the magnitude of 1.1% (standard error = 0.9%). The small positive effect is also witnessed in the share of military personnel (column 5) and the reform index (column 6).

Panel B presents the decomposition analysis compared with the base on the other outcome variables. Each of the specifications has passed through the AR(2) test. In column (1), compared with the base, transition into party

[25]Some of them might be interpreted as a proxy for state capabilities.

regimes increases investment over GDP by 0.5% (standard error = 0.7%), while transition into military and personal regimes experiences a negative effect, by −0.8% (standard error = 0.6%) and −0.1% (standard error = 0.7%). A pairwise test strongly rejects the equality of effects between transition into party and military regimes (p = 0.0167). The effects on tax over GDP are rather homogeneous across three kinds of regimes (column 2). This is indeed true for the impact on trade over GDP ratio (column 3) where the average impact for all three kinds of regimes, compared with the base, is negative. In column (4), the pairwise tests strongly reject the equality of effects on TFP between a transition into party and military regime (p = 0.0508) and between the transition into a party and personal regime (p = 0.0380). The effect on TFP by transition into a party regime gives an increase of 1.5% (standard error = 10.4%) while the estimated effect on TFP reports a decline of −1.9% (standard error = 1.3%) for a transition into the personal regime and −0.1% (standard error = 0.9%) for the military regime. Column (5) and column (6) report homogeneity of effects for the share of military personnel and the reform index. None of the equality tests in these two specifications can reject at a 5% significance level.

1.5 Conclusion

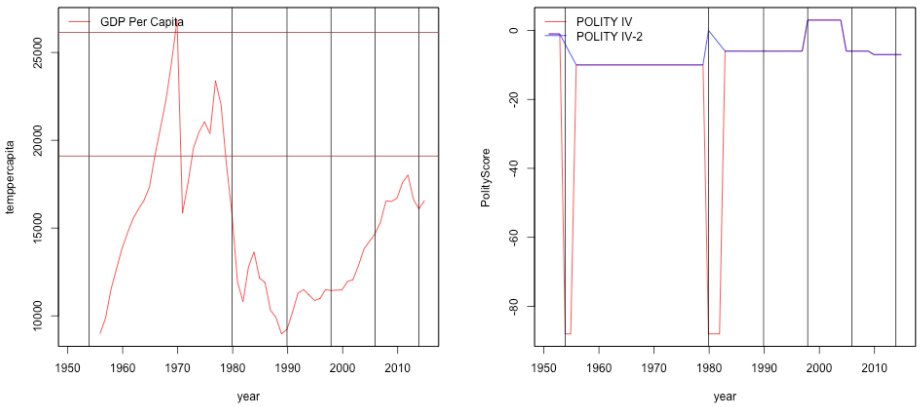
In recent years, there has been a surge of interest in understanding the impact of institutional changes on economic and political outcomes. In turn, a strand of research literature has attempted to look at the nexus between democratization and growth. Correspondingly, other strands have concentrated on leadership and economic growth literature. In using AT as an event shock in this present research, I attempt to differentiate between event shock associated with the regime and those associated with the leader. In addition, I show the need to distinguish between political turnover among authoritarian regimes and democratization in an estimation work.

This paper, therefore, estimates the impact of authoritarian turnovers on growth using a dataset on authoritarian regimes. On average, the growth

effects are mostly small negative values. This could mean that the actual growth effect following democratization is even higher. A decomposition analysis reveals some differences among the types of authoritarian regimes in which party regimes could prevail better in certain situations. Furthermore, my analysis implies that the growth effect of transition into a party regime, in general, cannot surpass that of democratization.

Future follow-up research could benefit from the knowledge of the variety of outcomes identified in this research to illuminate the workings of authoritarian regimes further, in order to compare authoritarian regimes within themselves and those that are institutional hybrids.

Figure 1.1: Economic Development and Polity Score for Iran: 1959-2014



GDP per capita Polity IV Score

Source: GWF, POLITY IV, Archigos, Penn Table 9.0. The vertical line denotes leadership turnover.

Table 1.1: Cases of ATs: 1946-2010

Country	Year	Country	Year	Country	Year	Country	Year
Afghanistan	1973	Cambodia *	1979	Guinea	1984	Nicaragua	1979
Afghanistan	1978	Cameroon *	1983	Guinea †	2008	Niger	1974
Algeria *	1992	Cen African Rep	1965	Guinea Bissau	1980	Nigeria	1993
Argentina	1955	Cen African Rep	1979	Haiti	1956	Pakistan	1958
Argentina	1958	Cen African Rep	1981	Haiti	1986	Pakistan	1977
Argentina	1966	Chad	1975	Haiti	1988	Panama	1982
Armenia *	1998	Chad *	1990	Honduras	1971	Paraguay	1948
Bangladesh	1975	Colombia	1953	Indonesia	1966	Paraguay	1954
Bangladesh	1982	Congo/Congo-Brz	1963	Iran *	1979	Rwanda	1973
Belarus *	1994	Congo/Congo-Brz	1968	Iraq	1958	Rwanda *	1994
Benin	1963	Congo/Zaire *	1997	Iraq	1963	Sierra Leone	1968
Benin	1965	Cuba *	1959	Iraq	1968	Sierra Leone	1992
Benin	1967	Dominican Rep	1962	Iraq	1979	Sudan	1985
Benin	1969	Dominican Rep	1965	Ivory Coast	1999	Syria †	1951
Bolivia †	1946	Ecuador	1972	Ivory Coast *	2000	Syria	1958
Bolivia	1951	Egypt *	1952	Kyrgyzstan	2005	Syria *	1963
Bolivia	1952	El Salvador	1948	Kyrgyzstan †	2010	Thailand †	1947
Bolivia	1964	El Salvador	1982	Laos	1960	Thailand	1957
Bolivia	1969	Ethiopia	1974	Lesotho	1986	Turkey	1960
Bolivia	1971	Ethiopia *	1991	Liberia	1980	Uganda	1971
Burkina Faso	1966	Gambia *	1994	Libya *	1969	Uganda	1979
Burkina Faso	1980	Georgia	1992	Madagascar	1972	Uganda *	1985
Burkina Faso	1982	Ghana	1966	Madagascar	1975	Vietnam South †	1963
Burkina Faso *	1987	Guatemala	1958	Mali	1968	Yemen	1962
Burundi	1966	Guatemala	1963	Mauritania	1978	Yemen	1967
Burundi	1987	Guatemala	1966	Mauritania	2005	Yemen	1974
Cambodia	1970	Guatemala	1970	Myanmar *	1988	Yemen *	1978
Cambodia	1975	Guatemala	1985	Nepal	1951		

Note: This table reports the events of authoritarian regime turnovers given by years and countries, according to Geddes et al. (2014). A notation of $*$ represents a permanent transition to a durable stable authoritarian regime (regime survival as of 2010). A notation † represents removed case for estimation due to lack of economic time series prior to or post-treatment. The whole sample ends in 2010. From 1950-2010, there are 20 and 91 cases of permanent and temporary ATs, respectively.

Table 1.2: Summary Statistics for Main Variables

Variable	Treated Group		Control Group	
	Mean	N	Mean	N
GDP per capita	2004.23	1,439	1449.28	1,034
	(1804.39)		(1241.36)	
(log) GDP per capita	7.295	1,439	7.042	1,034
	(0.761)		(0.645)	
(log) Population	16.125	899	15.858	535
	(1.080)		(1.238)	
Trade over GDP	0.465	994	0.521	601
	(0.302)		(0.343)	
Investment over GDP	0.174	695	0.185	415
	(0.086)		(0.099)	
TFP	0.650	422	0.618	200
	(0.332)		(0.432)	
Average Reform Index	0.290	950	0.327	548
	(0.257)		(0.224)	
Tax over GDP	.205	994	0.213	601
	(0.10)		(0.11)	
Share of Military Personnel	0.006	1,324	0.004	968
	(0.008)		(0.005)	
Military Spending Per Person	40.312	1,324	9.138	968
	(119.934)		(20.041)	
Reform Index	0.290	950	0.329	548
	(0.257)		(0.224)	

Notes: Database compiled by the author through multiple sources including GWF, Penn Tables, Polity IV, and World Bank Development Indicators. Given the research design, democratic country-years are excluded. Treated groups are those country-year (s) that have experienced an AT. Control groups are those country-year (s) that have not yet experienced an AT. The description and source of the variables can be found in the text discussions.

Table 1.3: Unconditional Effects of Authoritarian Turnovers

	(1) t=0	(2) t=1	(3) t=2	(4) t=3	(5) t=4	(6) t=5
	Dependent variable: logGDPpc_t					
AT_t	-0.014	-0.014	-0.017	-0.026	-0.032	-0.033
	(0.017)	(0.017)	(0.018)	(0.019)	(0.019)	(0.019)
Constant	-49.229	30.759	-55.202	-55.171	-58.919	-55.122
	(341.022)	(339.103)	(336.291)	(334.245)	(331.114)	(327.402)
Observations	2,473	2,385	2,305	2,233	2,167	2,103
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
R^2 within	0.874	0.877	0.878	0.880	0.881	0.883

Each column represents one separate regression. Robust standard errors are presented in the parentheses. The dependent variable is (log) GDP per capita. The coefficient on AT_t from column (1) to (6) reports pooled OLS estimates of authoritarian turnovers (AT_t) on growth from a contemporaneous year up to five years in the future.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1.4: The Impact of ATs on Growth: Fixed Effect and Arellano-Bond Estimators

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: logGDPpc_t					
AT_t	-0.001	-0.003	-0.006	-0.015	-0.017	-0.031**
	(0.006)	(0.006)	(0.005)	(0.015)	(0.013)	(0.010)
logGDPpc_{t-1}	0.979***	1.113***	1.063***	0.752***	0.876***	0.852***
	(0.009)	(0.070)	(0.069)	(0.042)	(0.101)	(0.093)
logGDPpc_{t-2}		-0.139	-0.037		-0.072	0.016
		(0.071)	(0.080)		(0.088)	(0.083)
logGDPpc_{t-3}			0.044			0.055*
			(0.029)			(0.027)
logGDPpc_{t-4}			-0.102***			-0.068**
			(0.029)			(0.023)
Constant	-38.118	-52.080	-50.237			
	(24.175)	(27.632)	(26.699)			
Long run effect	-0.042	-0.195	-0.099	-0.061	-0.085	-0.211*
	(0.288)	(0.207)	(0.151)	(0.062)	(0.068)	(0.075)
Method	FE	FE	FE	Arellano-Bond	Arellano-Bond	Arellano-Bond
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,385	2,301	2,147	2,301	2,222	2,074
R^2	0.9553	0.9562	0.9564			
p values for $AR(2)$				0.208	0.754	0.563

Notes: Each column represents one separate regression. The dependent variable is (log) GDP per capita. FE estimators are within effects. AB estimators are implemented with no more than eight lags. For all specifications, country and year effects are included.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1.5: The Conditional Effect of ATs on Growth: Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: logGDPpc_t					
AT_t	0.000	-0.005	0.000	-0.013	0.000	-0.017*
	(0.008)	(0.009)	(0.011)	(0.010)	(0.010)	(0.007)
Method	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond
Number of GDP Lags	4	4	4	4	4	4
$AR(2)$ test p-value	0.471	0.520	0.512	0.160	0.262	0.648
Control	Population	Investment	Tax	Trade	TFP	Military Expenditure
Year Effect	Yes	Yes	Yes	Yes	Yes	Yes
Country Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,163	832	1,243	1,243	482	1,897

Notes: Each column represents one separate regression. The dependent variable is (log) GDP per capita. AB estimators are implemented with no more than 8 lags. In each specification, lagged one of the control variable is included in the specification.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1.6: The Impact of ATs on Growth: A Regime Decomposition Analysis

	(1)	(2)	(3)	(4)
	Dependent variable: logGDPpc_t			
AT_t	-0.016	-0.022	-0.006	-0.017
× Personal Regime	(0.008)	(0.012)	(0.007)	(0.009)
AT_t	-0.001	-0.016	0.001	-0.010
× Military Regime	(0.007)	(0.015)	(0.005)	(0.009)
AT_t	0.009	-0.013	0.006	0.000
× Party Regime	(0.008)	(0.017)	(0.005)	(0.011)
Constant	-49.999			
	(26.578)			
Number of GDP Lags	4	4	4	4
Control Variables	None	None	None	None
Method	FE	Arellano-Bond	Blundell-Bond	Arellano-Bover
R^2 within	0.9567			
Country fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Personal = Military?	0.1285	0.6625	0.3270	0.4798
Personal = Party?	0.0357	0.6126	0.1127	0.2014
Military = Party?	0.2687	0.8736	0.4424	0.4101
Observations	2,147	2,074	2,147	2,088
p values for $AR(2)$		0.666	0.417	0.433

Notes: Each column represents one separate regression. The dependent variable is (log) GDP per capita. AB, BB, and Arellano and Bover estimators are implemented with no more than 8 lags. For all specifications, country and year effects are included. FE estimators are within effects. P-values are reported for testing equality of coefficients between each two of the three types of the regime. The bases are the "others" including the monarchy and hard-to-classify ones.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1.7: The Conditional Effect of ATs on Growth: Robustness with Regime Decompositions

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: logGDPpc_t					
AT_t	-0.007	0.003	-0.003	-0.004	-0.014	-0.005
× Personal Regime	(0.007)	(0.007)	(0.007)	(0.006)	(0.016)	(0.005)
AT_t	-0.000	0.000	-0.000	-0.001	-0.005	-0.002
× Military Regime	(0.006)	(0.006)	(0.006)	(0.005)	(0.010)	(0.005)
AT_t	0.011*	0.015	0.009	0.009	0.015	0.008
× Party Regime	(0.005)	(0.008)	(0.005)	(0.006)	(0.009)	(0.005)
Number of GDP Lags	4	4	4	4	4	4
$AR(2)$ test p-value	0.278	0.643	0.368	0.344	0.287	0.148
Control	Population	Investment	Tax	Trade	TFP	Military Personnel
Method	Blundell-Bond	Blundell-Bond	Blundell-Bond	Blundell-Bond	Blundell-Bond	Blundell-Bond
Year Effect	Yes	Yes	Yes	Yes	Yes	Yes
Country Effect	Yes	Yes	Yes	Yes	Yes	Yes
Personal = Military?	0.3627	0.6287	0.7225	0.7117	0.4497	0.6567
Personal = Party?	0.0129	0.0674	0.1645	0.1587	0.0822	0.0248
Military = Party?	0.0645	0.0724	0.1326	0.1297	0.0678	0.1374
Observations	1,212	881	1,307	1,307	507	1,970

Notes: Each column represents one separate regression. The dependent variable is (log) GDP per capita. BB estimators are implemented with no more than 8 lags. In each specification, lagged one of the control variable is included in the specification. Note that the share of military personnel is used for military capability. The bases are the "others" including the monarchy and hard-to-classify ones.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1.8: Turnovers, Regime Type, and Potential Mechanisms

Dependent variable:	(1) Investment	(2) Tax	(3) Trade	(4) TFP	(5) Share of Military Personnel	(6) Reform Index
	Panel A: Pooled Turnover Effect					
AT_t	-0.003	0.011	-0.001	-0.011	0.0005	0.009
	(0.005)	(0.009)	(0.020)	(0.008)	(0.0004)	(0.019)
Method	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond
$AR(2)$ test p-value	0.185	0.584	0.741	0.255	0.318	0.513
Observations	832	1,243	1,243	482	1,897	1,189
	Panel B: A Regime Decomposition Analysis					
AT_t	-0.001	0.009	-0.014	-0.019	0.0006	-0.005
$\times$ Personal Regime	(0.007)	(0.021)	(0.021)	(0.013)	(0.0004)	(0.018)
AT_t	-0.008	0.009	-0.001	-0.010	0.0002	0.008
$\times$ Military Regime	(0.006)	(0.010)	(0.015)	(0.009)	(0.0004)	(0.015)
AT_t	0.005	0.008	-0.008	0.015	-0.0002	0.013
$\times$ Party Regime	(0.007)	(0.012)	(0.024)	(0.104)	(0.018)	(0.018)
Method	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond	Arellano-Bond
Number of GDP Lags	4	4	4	4	4	4
$AR(2)$ test p-value	0.186	0.515	0.748	0.369	0.336	0.564
Personal = Military?	0.4555	0.9559	0.4476	0.5231	0.2919	0.4139
Personal = Party?	0.5585	0.9219	0.7888	0.0380	0.2193	0.2711
Military = Party?	0.0167	0.9553	0.6972	0.0508	0.5320	0.7750
Observations	832	1,243	1,243	482	1,897	1,189

Notes: Each column represents one separate regression for each panel. The dependent variable is shown in the top row. AB estimators are implemented with no more than 8 lags. The lagged one outcome variables are used for each of the specifications. All specifications include year and country fixed effects. The bases are the "others" including the monarchy and hard-to-classify ones.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Chapter 2

Becoming Global Billionaires from Mainland China: Theory and Evidence

2.1 Introduction

Genuine entrepreneurship can sometimes overcome difficulties imposed by inefficient institutions and bring out smart responses with good outcomes. On May 5, 2013, Jack Ma, the founder of Alibaba Group, made a public speech at an event co-hosted by Alibaba Group and the Regions of Innovation and Entrepreneurship (SPRIE) of the Graduate School of Business at Stanford University[1]. Two things stood out for the newly minted global billionaire entrepreneur. First, Ma claimed, there could never be Alibaba without Silicon Valley. Second, before plunging into the internet industry, Ma was an English teacher from a humble background in a country where success is assumed to be driven purely by political connections.

Studies on Chinese political economy (Pei, 2009; Bai et al., 2014; Shambaugh, 2016) more often than not characterizes the Chinese party-state as a kind of crony state capitalism, in which billionaire entrepreneurs enriched themselves through a cozy partnership with the state. Although this observation is partially consistent with this research in showing that the channeling

[1]Freeman Spogli Institute for International Studies, Stanford University (2013, May 6). *Jack Ma: Ideas and Technology Can Change the World.* Retrieved from http://fsi.stanford.edu/news/jack_ma_ideas_and_technology_can_change_the_world_20130506

mechanism where crony capitalistic factors are prevalent might play a role through SOE restructuring, a key finding of this paper is to document a missing mechanism through which grassroots entrepreneurs could use the foreign financing channel via outside venture capitalists (VC) as a way of attenuating both political economy and financial friction despite financial underdevelopment and political bias within mainland China[2]. By assessing the impact of socio-political backgrounds on financing decisions of the global billionaires from mainland China, the net worth of persons with more than one billion USD according to the World's Billionaires database, Forbes, this paper provides new evidence on the effect of political connections on financial decisions, explicitly taking into account the impact of foreign financing channel, among the set of global billionaire entrepreneurship from mainland.

The analysis of global billionaire entrepreneurs from mainland China is consistent with the ongoing discussions on Chinese entrepreneurs (Djankov et al., 2006; Li et al., 2012)[3]. The existence of self-made billionaire entrepreneurs in internet business[4] from my database - Jack Ma (Alibaba), Pony Ma (Tencent), Robin Li (Baidu), William Ding (NetEase), Richard Liu (JD) and others - highlights the importance of integration with foreign capitalist forces as a critical condition underpinning the economic performance of an authoritarian state (Jiang, 2018). Based on unique data on top of the World's Billionaires, Forbes 2017 version and Hurun 2016 version, this paper reports two core empirical findings: (i) the politically unconnected billionaire entrepreneurs financed by foreign venture capitalists outside mainland China are more likely to list their companies outside mainland China (mainly in Hong Kong and the U.S), use offshore financing vehicles, and enters into innovative sectors and (ii) the politically connected global billionaire entrepreneurs, however, are closely linked with a record of state-owned enterprise (SOE) restructuring.

[2]See Ding (2000) for an early work on offshore business in China.

[3]For more studies on Chinese entrepreneurs and their democratizing potentials, see Dickson et al. (2003); Tsai (2007).

[4]Appendix Table B.4.1 lists a few exemplary internet billionaire entrepreneurs from mainland China, accompanied by short descriptions from the World's Billionaires, Forbes. These are examples of tech-driven entrepreneurs mixed with foreign VCs.

The finding in this paper also adds new content to the literature of political economy of financial development (Rajan and Zingales, 2003; Haber et al., 2008; King and Levine, 1993; Levine, 1997; Rajan and Zingales, 1998). Early contributions from Baumol (1990) expanded the traditional view of entrepreneurship, broadening its conceptual scope by incorporating "bad entrepreneurship" through investments in rent-seeking (Krueger, 1974) activities. One contribution of this research has recorded the ability of politically unconnected billionaire entrepreneurs to overcome the political bias against them (Fisman, 2001; Faccio, 2006) through the systematic application of offshore vehicles, embodied in the use of variable interest entity (VIE) structures[5] as smart responses (Aghion and Howitt, 1992) operating in mainland China[6].

On the basis of these empirical findings, I constructed a political economy model linking social and political factors to financial access in a relevant work (Song et al., 2011), who regarded differentiated financial access as a major friction between private entrepreneurs and state-owned firms. While Song et al. (2011) focused their research on private internal savings as a source for high productivity private firms, my paper emphasizes the possibility of soliciting venture capitalists outside mainland China among billionaire entrepreneurs as a way of alleviating existing credit frictions when the politically unconnected entrepreneurs are excluded from the capital market, prevalently known in the financial development literature (Levine, 2005; Aghion et al., 2005). Relatedly, my paper adds to the discussion of Huang (2008) by stressing urban entrepreneurship financed by foreign VCs. Therefore, the driving assumption underlying framework is motivated by an observation that once foreign VCs financially support a potential grassroots entrepreneur, a fact that is known to the party-state, the risk of asset expropriation becomes approximately zero. The idea that mingling with foreign investors

[5]See next section on the institutional context.

[6]For an example, the VIE structure underpinning Alibaba is shown in Appendix Figure B.1.2. The combination of an offshore holding company in the Cayman Islands and a variable interest entity (knowns as the VIE) within mainland China is one of the major characteristics of the financial structure of Alibaba, a public listed company in New York Stock Exchange (NYSE), outcomes of financing decisions made by these entrepreneurs to attenuate, if not circumvent completely, both the financial and political economy frictions.

could potentially serve as a disciplinary device on the behavior for authoritarian government, with its concern over reputation effect on development commitments can be traced back to the developmental state literature (Amsden, 1992; Wade, 1990; Woo-Cumings, 1999), where the nature of an open economy plays a critical role in the discipline and facilitation of catching-up development (Lee and Lim, 2001).

In recent academic discussions, the intellectual theme of economic growth and innovation under shadows of expropriations has been revived (Aguiar and Amador, 2011). These papers highlight the important role of expropriation risks from political economy and contracting frictions (Johnson et al., 2002). Thus, economic growth in those context can be crony-capitalist (Bai et al., 2014; Pei, 2016) at best, which is a model of economic development driven by a cozy, if not total collusive, relationship between connected firms (Faccio, 2006; Fisman, 2001) and elites from CPC. Although this author does not dispute the importance of property rights and strong institutions to enforce private contracts, the documentation of global billionaires deserves empirical discussions[7].

Other authors might place more emphasis on the crony capitalist nature (Calomiris et al., 2010; McGregor, 2010; Chen and Kung, 2018) of the Chinese party-state. However, was the fact consistent with the reality that Chinese global billionaire entrepreneurs are merely the product of corruption and state capture? If these billionaire entrepreneurs do not create values, but transfer public funds to their accounts, how would Masayoshi Son, a savvy investor from the Silicon Valley, make his bet on Jack Ma? My proposed theory, to some extent, might even imply that it is completely possible to become global billionaire entrepreneurs from a grassroots background without the help of any state-owned banks or foreign VCs as long as the productive side (i.e., cash-generating activities) of her entrepreneurial activity exceeds the associated inefficient costs incurred by an inefficient institution. By establishing ties with global VCs, however, these self-made billionaire entrepreneurs (e.g., Jack Ma) can further attenuate both their exposures to

[7]In some sense, the rise of global billionaires posits itself as one of the "China puzzles"(Xu, 2011; Allen et al., 2005).

political economy and financial frictions by selling their shares to foreign VCs.

The results reported in this paper are not limited to China. Companies all over the world have benefited from political connections (Khwaja and Mian, 2005; Leuz and Oberholzer-Gee, 2006; Cingano and Pinotti, 2013; Akcigit et al., 2020). This paper presents new evidence on how receiving financial support from foreign VCs could overcome political connections and bring about innovation within industries.

While this paper makes a case for considering the role of foreign financing channels, the design and outlook of the analysis are quite preliminary. There are several limitations. First, from the perspective of external research, there is no political connection between the spouses of the entrepreneurs and the state. Two, as regulation over VIEs is being discussed, it is difficult to predict whether this is a particular financial innovation in a given period or how it would evolve and affect financing behaviors of younger generations of entrepreneurs. Third, the treatment of the development stage of the firm is relatively simple. The impact of political connections and foreign financing does work through many different stages of the firm. The focus of paper has been placed on financing rather than advising role of foreign VCs through the knowledge spillover channel. From the data collection perspective, the coding of the "first-scoop of gold" experience could be messy, if not biased. Fourth, as this paper emphasizes, the determinant of foreign VCs supports might be more than social and political factors. The industrial and commercial factor have not been fully explored. Finally, the concerns about comparability and shifting of generations might indicate that the success of Jack Ma type of entrepreneurs could simply be an outcome of the particular historical period with nothing definitive about the future behavior of an authoritarian regime.

The structure of the paper is as follows. Section II outlines the institutional context. The following section describes the simple logic underpinning the story through a conceptual framework. Section IV presents the database and the core empirical findings. Section V provides three case studies using the proposed conceptual framework. The final section concludes.

2.2 Institutional Context: The Role of Variable Interest Entity (VIE)

Figure 2.1 records the empirical facts underlying this paper - the change of the number of global billionaires from 2003 to 2018, by the World's Billionaires database, Forbes. From a headcount of zero in 2003, the number of a global billionaire from mainland China increased to three hundred and seventy-three in 2018, accounting for about 60% of the total of the United States of America. One major contribution of this paper is to examine the space of these billionaire entrepreneurs and how the foreign financing channel fueled their successes. Figure 2.2 shows the geographical distribution of the billionaire entrepreneurs, most of whom are concentrated in the east-coastal provinces and big cities (e.g., Beijing).

Among the rags-to-riches self-made entrepreneurial stories, this paper highlights the systematic application of offshore vehicles, embodied in the use of variable interest entity (VIE) structures. The VIE structure is known to play a crucial role in the listing process of China's first generation of internet companies on the New York Stock Exchanges and NASDAQ[8]. The first-ever documented case on VIE structures was the listing of Sina (NASDAQ: SINA) as early as in 2000. Sohu (NASDAQ: SOHU), another internet company from mainland China, founded by Charles Zhang, Ph.D. in experimental physics at MIT, was also listed in NASDAQ at that time. By the end of 2017, most of the Chinese companies publicly listed on the NYSE, the NASDAQ, and the Hong Kong Stock Exchange, and others were structured with VIE. For the channeling mechanism to work, it is important to describe the working functions of a variable interest entity.

Appendix Figure B.1.1 shows the basic structure for the variable interest entity (VIE), the use of which underpins most of the public listing of Chinese companies overseas, whether in private individuals or public authorities[9]. Public shareholders are investors who hold the equities of overseas-listed

[8] An example of VIE used by Alibaba can be found in the Appendix section A

[9] The politico-economic effects of listings of state-owned enterprises in Hong Kong and elsewhere are understudied.

Chinese companies. The privately listed company usually is incorporated as an offshore company entity (e.g., from the Cayman Islands.). With the exception of the two offshore structures above, the rest components are financial and legal entities within Chinese jurisdiction. WFOE, the abbreviation of wholly foreign-owned enterprise, owned by an offshore entity, is an entity used by multinationals operating in China under the strict regulation. The VIE is a Chinese domestic company owned by a Chinese citizen; usually, the leading man in the company[10]. The establishment of legal contracts is to bind each component into a comprehensive whole.

Underlying the secular growth in the number of global billionaires, Appendix Figure B.1.2 in the introduction represents the operating VIE structure used by Alibaba, derived from the company's Registration Statement to the SEC, an independent agency of the U.S government responsible for the regulation of the securities industry. The VIE structure functions through loan agreements, exclusive call option agreements, and others to bond different legal entities within and outside the Chinese border. There are five major reasons why billionaire entrepreneurs love to utilize a VIE. First, it opens up a way for grassroots entrepreneurs to look for finance outside of China in the global capital market. Second, unlike a foreign-owned company registered with the Chinese government, to some extent, the VIE structure could bypass domestic foreign capital regulations in China, concerning the innovation sector. Third, the users (e.g., the entrepreneurs) of VIE structure can easily leverage these financing vehicles to float the company outside of China's capital market, in the Hong Kong Stock Exchange, the New York Stock Exchange (NYSE), the NASDAQ, and others. Fourth, as of 2017, the stock exchanges of mainland China, Hong Kong, and Singapore Stock Exchange are not allowed to issue dual-class stock, which is common among high tech companies in the United States. By listing themselves on the U.S stock market, these Chinese companies can benefit from the financial innovations unique to America. Finally, most of the high tech companies are backed by non-Chinese venture capitalists, the floating of the whose invested company

[10]When the founder does not hold Chinese passport, the VIE would need to be owned by a trusted employee from the senior management from the Chinese side.

outside China provides for a convenient financial exit for these investors.

The combination of an offshore holding company in the Cayman Islands and a variable interest entity (knowns as the VIE) within mainland China is one of the key features of the financial structure of Alibaba. Given the fact that whether or not these structures have been applied can be observed in the Orbis database[11], this project concentrates on two observable outcomes, including the choice to float their companies publicly outside mainland China or not and the decision to apply offshore entities or not. Unlike cross-country empirical papers on global billionaires (Henrekson and Sanandaji, 2013; Bagchi and Svejnar, 2015), this paper is the first systematic empirical assessment of global billionaire entrepreneurs from mainland China linking social and political determinants with observable financing decisions. The importance of these financing structures as creative human solutions for founding and operation of a mega business in an inefficient environment shall be emphasized.

2.3 A Theoretical Framework: Finance, Entrepreneurship, and Politics

This section provides a conceptual framework driven by a simple logic with an emphasis on the major driving forces linking social and political factors of an entrepreneur with her observable financial decisions. The proposed framework is based on four features: (i) Entrepreneurs are confronted with liquidity needs while planning their optimal investments; (ii) It is an empirical fact in China and many developing countries that liquidity provisions are limited and allocated with reference to social and political factors; (iii) An extra financing option is available from foreign VCs in a global economy context; and (iv) Risk of asset expropriation is superimposed in both closed and open economy environment in addition to financial issues[12].

There are two kinds of entrepreneurs (connected versus unconnected)

[11] Detailed information about Orbis database appears in the empirical session.
[12] The proofs and detailed setups of the model are left to the Appendix.

who maximize the private return of a business projects, the process of which may encounter liquidity needs. In a closed economy, a finite amount of liquidity services are prioritized to the politically connected entrepreneurs via the state-owned banking system. In an open economy, however, the politically unconnected entrepreneurs can circumvent these frictions through financial supports from foreign VCs[13]. Therefore, the conceptual framework is formulated as an optimal investment planning problem of these two kinds of entrepreneurs (connected versus unconnected) under two kinds of regimes (closed versus open). The starting point is to derive the optimal contract of each kind of the entrepreneurs subject to their future investment needs as a result of a heterogeneous liquidity shock. Relating this to two kinds of institutional frictions: (a) it is necessary to pay higher setup costs from the unconnected type due to possible expropriation risks; (b) prioritized liquidity services to connected agents.

It can be seen from (a) that the cost inefficiency from the political economy side went through the differential setup cost through high risks of asset expropriation for the unconnected entrepreneurs. Under this context, only those unconnected entrepreneurs with high liquidity realization can self-finance themselves and sustain the accumulation process. Political economy frictions thus render an underinvestment effect on this group. Regardless of the existence of friction from (a), financial friction from (b) from distorted allocative credit policy creates another layer of inefficiency. This leads to the following situation:

Politico-Economic equilibrium under a closed economy. This section switches off risks of expropriation and focuses solely on liquidity constraints and how it would impact the politically connected and unconnected agents differently in a closed regime. In this context, the liquidity provision behavior for state-owned bank is assumed to be prioritized to connected agents. With abundance of liquidity from state-owned banks, political connection will make no difference for potential entrepreneurs. In the case of

[13]The distinction between politically unconnected and connected entrepreneurs, when married with capital structure view of costly external finance, offers the opportunity to conceptualize Chinese global billionaire entrepreneurs in a simple framework.

liquidity shortage, the allocation rule of state-owned banks discriminates against the politically unconnected entrepreneurs at the expense of economic efficiency. Under extreme situations, the liquidity service fails to even satisfy the full demand from those politically connected entrepreneurs.

An application of this proposition shows that the two extreme cases of liquidity abundance and shortage are unlikely to hold. This implies that the preferential treatment by state-owned banks, whether due to financial underdevelopment or other enforcement issues, generates allocative distortions through liquidity provision among potential entrepreneurs in favor of the politically connected ones.

Under an open economy, a new politico-economic equilibrium arises with the possibility of financing support from foreign VCs. The option to get financing from outside VCs from a foreign country attenuates two major frictions faced by the grassroots entrepreneur: (a) the risk of asset expropriation and (b) the liquidity constraints to reinvestment. However, the sharing of private benefits at future date becomes the cost of using an offshore vehicle. In this situation, only the most productive grassroots entrepreneurs with high liquidity demands would solicit financing from foreign VCs where two major frictions are mitigated.

Innovation and Finance under Inefficient Institutions in Closed and Open Regimes. An open economy provides an improved matching between high return projects and financial resources through better allocative liquidity services to those productive entrepreneurs without emphasizing on political connections. Using a framework relating the political connection of entrepreneurs and their degree of foreign exposure, this framework captures two frictions faced by the politically unconnected entrepreneur in an environment like mainland China: (a) risks of asset expropriation via higher setup costs, and (b) political misallocation of liquidity via state-owned banks. In the context of a closed economy, political and economic frictions would generate inefficient wedges most of the time. In an open regime, however, the most efficient but politically unconnected agents could look for foreign VCs.

The conceptual framework[14] in the flavor of (Baumol, 1990) offers three

[14] Analytically speaking, one type of financing is abstracted away from my conceptual

predictions, which will be tested within an empirical framework:

- **H-1**: The politically connected billionaire entrepreneurs are less likely to solicit outside funding through state-owned banks and less concerned about the risk of expropriation.
- **H-2**: The politically unconnected grassroots billionaires without sufficient degrees of foreign exposures are capable of financing themselves via self-reliance.
- **H-3**: The politically unconnected with some degrees of foreign exposures have a higher tendency of being financed by foreign VCs through an offshore entity to overcome liquidity need and attenuate political economy frictions.

In the following empirical section, this paper also highlights a key channeling mechanism through which a state-owned enterprise (SOE) restructuring event could play a role for these politically connected billionaire entrepreneurs. Indeed, this model is specific to the context within which creative destruction with Chinese characteristics is situated[15].

2.4 An Empirical Implementation

2.4.1 Data

Financing decisions are critically made by entrepreneurs to develop their companies, especially in an environment of political frictions. Thus far, this

apparatus, i.e., the self-help financing through filial and clan networks from the cultural perspective (Zingales, 2015).

[15]In future expositions, a few more assumptions could be relaxed by incorporating more *realistic* features such that the banks might not prioritize the politically connected to the extent that it would dismiss the expected return of a project from an unconnected entrepreneur entirely. To this, two remarks are offered. One, as noted by Huang (2008), the reorientation from small businesses to state-owned enterprises can be understood as a preferential treatment over liquidity provision, which gives a premium to political connectedness. Two, this could lead to a much more complicated story for future research by taking into account the dynamic view of the strengthening of enforcement institutions with economic development.

paper has proposed a new conceptual framework and outlined its underlying political economy and financing logic. The extent to which the conceptual framework can contribute to the explanation of this "China puzzle" on entrepreneurship and innovation depends on the feasibility of experiments. Ideally, the experiment would track a large number of entrepreneurs with different degrees of political connectedness and foreign exposures through various stages of their companies and link their success as well as failure with the interconnectedness between their decisions and the institutional context. However, due to the limitations of the data (such as survival bias), I can only study the superstar performers, who are self-made billionaire entrepreneurs, captured by Forbes and Hurun China's Rich List[16].

To construct a database, I build on two billionaire lists: the World's Billionaires compiled by Forbes[17], Feb. 2017 version, and Hurun's China Rich List, 2016 version from which the name of the entrepreneur, his/her company name, net worth, and industrial information are gathered. Although these two lists adopt different valuation techniques and thresholds on billionaire entrepreneurs, among the top 300 billionaires on the list, the extent of overlapping constitute more than 75 percentage points. The primary sample of interest is based on the 317 billionaires from Feb. 2017, Forbes, to which additional names from Hurun's top 300 are added as sensitivity check against the unique selection criteria used by Forbes. Considering the amount of manual work in constructing this database and fetching information from various sources, it is assumed such that no systematic coding error exists for each variable, although individually there could be coding mistakes.

Main Outcome Variables: Financial and Managerial Decisions

Starting from these two lists, I manually construct a database where key observable financing decisions made by these global billionaire entrepreneurs

[16]Hurun China Rich List has been compiled by Mr. Rupert Hoogewerft, a British businessman and publisher. The China Rich List from Hurun Report, is available from http://www.hurun.net/EN/Article/Details?num=2B1B8F33F9C0. The entry threshold is considerably lower, at about 2 billion RMB (approximately 300 million USD).

[17]The World's Billionaires is an annual ranking by the net worth of the world's wealthiest billionaires by Forbes, an American business magazine. The World's Billionaires database, Forbes, can be accessed via https://www.forbes.com/billionaires/list/. The entry threshold is a net worth of at least 1 billion US dollars.

are located as proxies. In doing so, I employ the Orbis database[18] to track down these billionaire entrepreneurs on the two lists. Careful attention is paid to the choice of listing locations[19] and the incidence of an offshore variable interest entity (VIE) structure[20], two major outcomes of interest. Having coded these two outcome variables, I supplement the database with detailed official website research on the company associated with billionaire entrepreneurs on these two lists. From the history page (usually) of each company linked to the billionaire entrepreneur on the list, I code two dummies to two events: (a) whether or not the company was financed by a foreign VC[21]; and (b) whether or not the company was restructured (i.e., privatized) from a state-owned enterprise (SOE)[22]. Using the original two lists, I construct a dummy variable regarding entry into TMT sectors, the abbreviation for the technology, media, and telecom sector, a term used by market participants. It is worth noting that foreign financing binary has entered into foreign exposure measure.

Measures of Social Origins: Political Connections

To understand the social origins of these billionaire entrepreneurs, I measure political (un)connectedness (i.e., the social origin) of a billionaire entrepreneur using different index. To construct measures on political (un)connectedness from public information, three measurements are constructed: (a) the social

[18] A global companywide database on financial and ownership information, available from https://www.bvdinfo.com/en-gb/our-products/data/international/orbis.

[19] Specifically a dummy variable is constructed for listed companies. For listed companies, whether it is listed within mainland China or outside is a critical variable for the story. A listing entity outside mainland China is counted as *foreign listing*, which includes the following combinations in my sample: Hong Kong/Shanghai, Hong Kong/Shenzhen, Hong Kong/Shenzhen/London/Kuala Lumpur, Hong Kong/Shenzhen/Singapore, New York Stock Exchange, New York Stock Exchange/Shanghai, NASDAQ, Shanghai/Singapore, and Shenzhen/Hong Kong, Shenzhen/Hong Kong/Australia.

[20] The possible combinations of offshore entities in my sample include Australia, Bermuda/Hong Kong, Cayman Islands, Cayman Islands/Hong Kong, Hong Kong only, Singapore, the Virgin Islands/Cayman Islands, and the Virgin Islands/Hong Kong.

[21] This includes financing from overseas Chinese, say an angel investor from Hong Kong. Only pre-IPO foreign investments would enter into the calculation. Coding these variables sometimes requires extensive research beyond the company's website.

[22] A record of SOE restructuring does not necessarily indicate local capture or corruption. This is a mistake made by many authors in this field.

origin/family background[23]; (b) the occupational experience before founding his/her own company[24]; and (c) the first scoop of gold experience[25], which measure at best the root of the business model and reflect the potential type of an entrepreneur[26]. It is based on these considerations that I construct several empirical measures of political (un)connectedness from three factors: family and social origin, job and occupation, and the root of the business model (via the first scope of gold). Finally, all three measures are summarized into an aggregate score[27].

Measures of Foreign Exposures

To capture the degree of the foreign exposures for each billionaire entrepreneur, I searched Orbis database for non-Chinese names on the board or senior management of the company. A binary measure for being able to speak English is coded as a way to gauge foreign ties. Another binary measure captures foreign education binary[28]. Along with financing of foreign VCs, the total foreign score is composed of the sum of four binary measures: oral English, foreign education, the presence of a foreign VC financing event, and the presence of foreign management (as of 2018).

Control Variables and Others

[23]Whether or not the entrepreneur is connected with the top circles of political elites at birth.

[24]This means the degree to which her prior occupation is related to the state and how that job link is connected with her own business. Lower tier, peripheral public sectors jobs are not deemed as "politically connected".

[25]In other words, the degree of which the first scoop of gold is made via political connections. This is a subjective measure based on the author's reading of the career history of the billionaire entrepreneur, given available information

[26]To be clear about my terminology regarding political (un)connectedness the defining criteria is the extent to which the inherited or acquired ties with respect to the communist state are perceptively strong. Take Liu Yonghao (profiled in the appendix B.5) as an example. Before plunging into a chicken farming business with his three brothers, Liu worked as a public school teacher while his billionaire brother and early partner served briefly at the county government. Unlike Wang Jianlin (profiled in the appendix B.5) who served as a manager of a state-owned enterprise before its privatization program, Liu's brothers are peasants of a poor locality with no real public authority even though they might have taken a public job before their entrepreneurship

[27]Each measure of political connectedness is converted into a measure of unconnectedness, with a value of one denoting political unconnectedness, for analytical convenience.

[28]Degrees, excluding honorary degrees, are counted. Foreign education includes degrees from Hong Kong and Macau.

From the company's official website, I collect information about the founding year, founding headquarter, and the current headquarter at the city level. A CEO dummy is coded to distinguish the primary leadership of firm ("the founding CEO") from other co-founders who share the same company-level information. A binary variable for female billionaires is constructed. Information about an entrepreneur's educational achievement is also coded in three ways: (i) whether or not she has a college education; if so, (ii) whether or not she has attended an elite college; and (iii) whether she has a foreign degree. The identification of a communist party organ within the company is coded to finalize data collection at the firm level[29].

Panel A of Table 2.1 summarizes the general information about global billionaire entrepreneur data from Forbes and Hurun China's Rich List. Among 317 billionaires from mainland China, about 95% of them is identified (i.e., the firm and personal level information are complete); while the missing data in the expanded dataset is around 9%[30]. Panel B shows the summary statistics of major variables along with their quartile information. The proportion of politically connected types from family background, job connections, and first scope of gold experience are about 6%, 28%, and 17% respectively. Foreign exposures are relatively low, with an average of 0.24, with a possible maximum of four. Only 2% of them have foreign degrees if they do have college degrees at all. 7% of them are co-founders and investors rather than CEOs of the firm. For about 70% of the firms, this paper reports a party organ within the firm. About 80 percent of the companies are listed companies among which the fraction of listing outside mainland China is around one quarter, a figure similar to the incidence of offshore vehicles. Comparing the Forbes and the expanded dataset, the difference of measurements across variables is rather small.

For graphical analysis, Figure 2.3 presents two heatmap diagrams as a way of visualizing the central message, triangulating social origins, foreign expo-

[29]The existence of such organs can be found via internet search relating the name of the company to "party study groups" events. For those companies whose have party organs within yet conceal their functions for whatever reasons, this method cannot ascertain either their existence or the reasons for such concealments.

[30]Appendix Table B.4.7 gives a short definition of the variables.

sures, and financial decisions. Panel A records the percentage of billionaires using offshore vehicles. At low values of the politically unconnected index (i.e., the entrepreneur is politically connected), increasing foreign exposure does not necessarily increase the chances of public listing outside mainland China, because the ability to finance through state-controlled banks can be generally cheaper than equity financing via foreign VCs. However, the positive relationship between the foreign element and listing outside will be strengthened in the case of higher levels of political irrelevance, which means that only those entrepreneurs who are **both** politically unconnected and have sufficient degree of foreign links are capable of obtaining foreign VC supports (panel B, Figure 2.3).

2.4.2 Empirical Strategy

The ideal experiment would observe losers, less successful entrepreneurs (those who are far below the billionaire benchmark), successful entrepreneurs who deviate slightly from the billionaire benchmark, and those billionaire entrepreneurs at a particular time point. While acknowledging survivorship bias, this paper provides a novel approach to study the relationship between social and political factors regarding the entrepreneurs and the firm-level financing structures. For valid testing of the conceptual framework outlined in the theoretical section, this empirical section discusses the following question: given the fact that these people are successful billionaire entrepreneurs, how do their social and political factors affect their observable financing decisions (e.g., listing and offshore choices) at the firm level?

The main specification follows a probability model as much as possible. The primary outcome variables focus on the determinants of financing decisions at the firm level ($Y^{\text{Firm}}_{e,t,c}$) made by the billionaire entrepreneur (e) at the founding year (t) based in founding city (c)[31] with respect to various

[31]For multiple base, the decision is to use the headquarter as the founding base. This is collected and verified from the website of the company, usually in the history page.

measures of political unconnectedness (P_e) and foreign element (F_e):

$$Y^{\text{Firm}}_{e,t,c} = \text{constant} + \alpha[\mathbf{1}|F_e \geq \delta^f_{threshold}] + \beta[\mathbf{1}|P_e \geq \delta^u_{threshold}] + \theta[\mathbf{1}|P_e \geq \delta^u_{threshold}] \times [\mathbf{1}|F_e \geq \delta^f_{threshold}] + \gamma X_e + \mu_c + \omega_t + \epsilon_{\tilde{c}} \quad (2.1)$$

Where $\delta^u_{threshold}$ and $\delta^f_{threshold}$ are selecting parameters governing unconnected index and foreign exposure index through which the threshold of meeting sufficient degree of unconnectedness and foreign exposure can be allowed to vary. The main coefficients of interest are placed on α, an estimate of the effect of a politically (un)connected entrepreneur on the probability of making certain financing decisions, and β, which relates the foreign elements of an entrepreneur to financing decisions. The interaction term θ, fundamental to the validity of the conceptual framework, captures the effect on firm-level decisions made by those billionaire entrepreneurs who meet both thresholds for being politically unconnected and foreign exposed. The specification corrects for potential confounding bias through the specification of error term structures. Whereas μ_c captures the founding city fixed effects and ω_t controls for year fixed effects, X_e are other control variables related to the entrepreneur (e.g., a dummy for a college degree). I cluster the standard errors, $\epsilon_{\tilde{c}}$, by the city of the current (as of 2017) headquarter ($\tilde{c}$, as opposed to c in the fixed effect) of the company to admit covariance structures within-city levels[32].

By taking financing decisions as a function of the social and political origins of the billionaire entrepreneurs, the empirical strategy can be interpreted as generalized "difference-in-difference" (Bertrand and Mullainathan, 2003) with the two threshold parameters serving as a handler for model selection and sensitivity tests. Since the nature of the question is less placed on causal analysis, the regression results shall be interpreted as descriptive analysis.

[32]Unlike the empirical papers on leadership and growth (Jones and Olken, 2005), my dataset on billionaires consists of co-founders, investors, and minor shareholders, who became global billionaires as the company grows larger. Other than variations in social origins, the co-founders share the same company level characteristics as that of the entrepreneur. To address this concern and focus on the "primary founder", two alternative strategies are considered: (i) remove cofounders and concentrate only on the founding CEOs; (ii) using billionaire net worth as analytical weights in regressions, the results of which are reported in Appendix tables.

This paper now proceeds with its core empirical investigation in four steps. First, it documents the strong association between foreign exposure and financing decisions. Second, it traces the widespread use of offshore vehicles and the action of public listing outside mainland China, which goes back to the social origins and foreign exposures of billionaire entrepreneurs. Third, it links the politically unconnected billionaire entrepreneurs with a certain degree of foreign exposures to entry into the innovative sectors and those that are politically connected with an incidence of state-owned enterprise restructuring. Finally, billionaire entrepreneurs are empirically assigned into categories to test my conceptual framework.

2.4.3 The Foreign Roots of Financing Decisions

In this section, this paper relates the degree of a foreign element of a billionaire entrepreneur to two observable financing decisions - using offshore vehicles and listing outside mainland China. This step aims to get an estimate of α, aside from political and social origins of the entrepreneur. The results of estimating various versions of equation (2.1) based on threshold measures and samples are reported in Table 2.2. Increasing the threshold level, the linear probability model finds that foreign exposure increases usage of offshore vehicles by 50 to 60 percent (panel A, column 1-3) using three different thresholds. Regarding listing outside mainland China, foreign exposures increase the odds ratio by around 5.6 to 8.9 (panel B, column 1-2) based on the thresholds. Notice that using a high cutoff value δ^f destabilizes the logit model (panel B, column 3). In both models, using offshore vehicles and listing outside mainland China are two decisions strongly associated with foreign exposures. Note that using the raw foreign exposure index decreases the effects as a result of an increase in range (column 4). In both cases, additional estimates of standard errors are provided. For the linear model, the results are robust to Huber-White robust standard errors in the bracket; the logistic models are, on the other hand, robust to a multi-cluster method proposed by Cameron et al. (2011) when both current and first headquarters are used.

Additional billionaire entrepreneurs from Hurun 300 are added to the existing sample to address the concerns over Forbes' selecting criteria. The results of the whole sample (column 5) and the CEO sample (column 6) hold up. Another concern is that the existence of party organ within the firms might have diluted the relationship between foreign exposure and financing decisions. Column 7 considers the key empirical specification over the sample of firms that have identified with party organs, showing similar strong relationships. When foreign exposure is represented by financing from foreign VCs, the probability of using an offshore entity increases by 60 percentage points (pp) (column 8). In unreported specifications, English speaking and foreign education are weak predictors of using offshore vehicles, whereby the existence of foreign management increases the chance of identification of an offshore entity by around 20 percentage points (pp). Table B.4.2 in the Appendix, to address concerns about unweighted linear estimates, reports that when stringent threshold of δ^f is dropped in the logit model, the relationship between foreign exposure and these two financing decisions remains valid after using billionaire net worths as weights[33] for all other than one (column 3). Graphical evidence in the Appendix Figure B.3.1 also supports this finding.

Taking stock, this section establishes the empirical foundation that those billionaire entrepreneurs using offshore financing vehicles and listing outside mainland China share common attributes associated with foreign elements, partly confirming the H-3 hypothesis.

2.4.4 The Socio-Political Origins of Financing Decisions: An Interacted Effect

How do foreign elements triangulate with both social and political origins of the billionaire entrepreneurs and certain kinds of financing decisions? To tackle this question, I took two steps: (a) first by proving that being politically unconnected does not increase the probability of using offshore fi-

[33]The literature cautions overusing weights given the fact that nonlinear CEFs and unknown structures for heteroskedasticity might confound weighting parameters (Deaton, 1997; Angrist and Pischke, 2008).

nancing vehicles and listing outside the country; and (b) demonstrating that the source of variability is mostly driven by the interaction between measures of political unconnectedness and that of foreign indexes.

Graphical evidence of mixed entrepreneurship is presented in Figure 2.4, which reports the relationship between political unconnectedness index (based on some thresholds δ^u) and three key financing decisions: the use of offshore vehicles, domestic listing, and offshore listing. Among all threshold values, the coefficients on political unconnectedness dummy remain insignificant, indicative of the existence of mixed entrepreneurship within the group of politically unconnected billionaires. This fact is further supported in Appendix Table B.4.2, which gives the results of a number of logistic models for each particular unconnectedness measure, reveals that coefficients cannot reject the nonzero hypothesis. In other words, the financing behaviors among the politically unconnected grassroots entrepreneurs are pooled concerning choices between outward development strategy and using the burgeoning domestic capital market, unless the level of foreign exposures is taken into account.

Interacting the measures of the foreign index with the social and political factors of the entrepreneurs, Table 2.3 reports the core results of this paper, the interacted effects on financing outcomes, taking an agnostic approach to varying cutoff measures of δ^f and δ^u. Results in Panel A suggests that tightening by $\delta^f = 3$ (column 3) makes the estimating framework meaningless given the problem of multicollinearity. My preferred choice of $\delta^f = 2$ gives a strong positive effect on both using offshore vehicles (panel A) and listing outside (panel B). The fact that the billionaire entrepreneurs pass a certain threshold of political unconnectednsss and foreign element generates at least 80 pp on the outcome of interest gives support to the proposed framework. However, it is worth noting that raising the bar $\delta^u = 3$ destabilizes the outcome. This indicates that the optimal threshold might be $(\delta^f = 2, \delta^u = 2)$. The sizable impact might be driven by a few superstars firm, and billionaires[34].

Once I fix $\delta^f = 2$ and re-estimate equation (2.1) on an expanded dataset,

[34]See discussion on the share of type of billionaires.

$\delta^u = 2$ (row 2) renders an estimate of a range between 56 to 66 pp (column 5-6). The event dummy for foreign financing from VCs gives an estimate of 56 (79) pp with $\delta^u = 2$ (1). Interestingly, the subsample with identifiable party organs turns out some surprising results: either 1) an imprecise estimate or 2) hard-to-interpret outcomes via the interacted term being dropped[35].

There is a similar pattern for the probability of listing outside the country (panel B, column 2, 5-6). For the logit specifications, a method of multiway clustering proposed by Cameron et al. (2011) is provided to ensure the robustness of standard errors. The interaction effects from logit models suggest large positively significant results[36]. The fact that party estimates are imprecise might be a result of multicollinearity problem or the absorbing effects of fixed effects. I investigated this in appendix table B.4.4: removing the multicollinearity term turns out expected estimates of the interaction effects. In the expanded dataset, the estimate (Panel B, Row 2, and Column 6) for CEO subsample is a bit smaller. The interacted effects strongly validate the conceptual framework when the foreign measure is replaced by a financing event from foreign VCs (column 8).

Except for foreign VCs financing the grassroots entrepreneurs, other metrics of foreign exposure are not as good as financing events by foreign VCs in explaining degrees of variations (Appendix Table B.4.5). Median regressions for count data are tested using the method suggested by Machado and Silva (2005)[37]. Another glance at the strength of correlation could be identi-

[35]This might seems to suggest that those firms with an observable party organ and those without might have some qualitative difference where a theory of role of party organizations in innovative firms is needed. Further work is needed to understand the rules on setting up party organs within big private or foreign organization in mainland China and their impacts on firm policies. The section on sensitivity will come back on this question.

[36]An inspection shows that the measure of the foreign element might be highly collinear with the interacted term, leaving a largely unstable estimate. In some (unreported) specifications, the fact that foreign index tends to have a collinear behavior with its interaction with the unconnected index leads to less visually robust results when threshold criteria are applied with fixed effects included.

[37]Using $\delta^f = 2$ and $\delta^u = 2$, my preferred coefficients (standard deviation), $\hat{\beta}(\hat{\sigma}_\beta), \hat{\theta}(\hat{\sigma}_\theta)$, under quantile ($q = 0.5$) regression for count data (Controls are female, college degree, and a constant) are: 0.36 (49.26), 1.68 (0.23) for using offshore vehicles; 0.12(1.88), 1.24 (0.28) for listing outside. The interaction term is robust as well as significant to $q = 0.35$

fied when the raw scores for foreign exposure and political unconnectedness measures are considered as factor variables with continuous interactions (Appendix Figure B.3.3): in addition to those with foreign score as a value of zero, the increase in the degree of political unconnectedness increases the probability of predicting the use of offshore vehicles (panel A) and listing outside the country (panel B)[38].

In short, the result in this section provides factual foundations for hypothesis H-3. I now investigate the behaviors of other kinds of billionaire entrepreneurs.

2.4.5 Potential Mechanisms Through Revealed Choices

In addition to decisions over the public listing and using offshore vehicles, billionaire entrepreneurs revealed other observable decisions along their path to success. In this section, I investigate two potential outcomes and relate them to plausible mechanisms. In this margin of variation, this paper provides evidence of the linkage between foreign exposures on entering into innovative (TMT) sectors and historical records of state-owned enterprise (SOE) restructuring. Higher probability of entries into TMT sectors is governed by outer regions of the *Political Unconnected Index* $\times$ *Foreign Exposure Index* space (panel A, Appendix Figure B.3.4). In contrast, panel B finds that a dense region is associated with SOE restructuring records of those billionaire entrepreneurs who fail to meet the criteria of both the foreign exposure and political unconnectedness.

In lines with the conceptual framework, Table 2.4 uses variants of equation (2.1) to investigate the effect on TMT and SOE outcomes through the interacted impact from foreign and political unconnected measures. In panel A, I find that when the billionaire entrepreneur has a higher degree of the foreign score, the likelihood of venturing into the TMT sector increases. A somewhat puzzling finding is that entry into TMT is mostly driven by those with

---

or 0.75.

[38] In other words, high foreign score combined with the high index of political unconnectedness predicts a higher probability of the presence of offshore vehicles underlying the billionaire entrepreneurs' company.

a high foreign score and *some measure of political connectedness* (i.e., the interacted effects). In fact, this surprise makes sense. Statistically speaking (see next section), given the fact that a large number of unconnected billionaires are self-made from no initial support from the state or foreign VC, here is no strong link between unconnected billionaires and TMT entry, as a measure of innovation. When measuring foreign link is switched to VC financing events, the estimated coefficients support the conceptual framework (column 3-4, panel A)[39]. By contrast, a high politically unconnectedness score tends to decrease the likelihood of SOE restructuring (column 1-4, panel B). Party subsample still imposes multicollinearity problems (column 7). Appendix Figure B.3.1 and B.3.2 provide graphical evidence of the impact on outcomes of political unconnectedness and foreign element using different level measures: while the degree of political unconnectedness predicts unlikely SOE restructuring events, level of foreign elements have no predictive power over both TMT entry and SOE events.

In conclusion, the result in this section provides factual foundations for hypothesis H-1 and H-3, revealing that the politically connected and the strongly foreign-exposed are two different categories. This leaves the remaining kind forming the core of politically unconnected and weakly foreign related kind and its behaviors under hypothesis H-2. The following simple test is a direct check of the validity of conceptual framework.

2.4.6 A Simple Test on the Conceptual Framework

How does the empirical outlook relate to the proposed conceptual framework? In this section, I use a technical rule by setting $(\delta^f, \delta^u) = (2, 2)$ to assign each billionaire entrepreneur to their empirically revealed categories[40].

[39]Conditional on getting foreign VC, the ratio of entering into TMT is 21:11. For those without foreign VC, the ratio is 103:241 on the augmented sample.

[40]Two caveats have to be made: (a) the ideal type to which a billionaire entrepreneur belongs should not be taken as a fixed attribute for the person. Examples of degenerations and alienations are plenty. For example, Huang Guangyu of a peasant origin without a college degree, was a self-made billionaire through the founding of Gome Electrical Appliance, a Hong Kong-listed company, as early as in 1987, becoming one of the largest electrical appliance retailers across the country. His downfall, however, was triggered by charges related to manipulation of stock prices and briberies to officials after being three

First, a connected billionaire entrepreneur (type I), as is designated, meets the criteria that his or her unconnectedness score falls beyond a cutoff of one out of a maximum of three. Second, among the unassigned entrepreneurs, a billionaire of foreign elements (type II) is defined to have equal or higher than two in the aggregate measure of the foreign exposures or having a foreign capital injection before IPO. Finally, exceptions are made to three billionaires (about 1% of the Forbes and expanded Hurun sample), who, although being able to speak English with foreign university degrees, behave very much like the indigenous type (type III), as evidenced by a domestic listing of their companies associated with no observable offshore entities.

Compared with the politically connected type, billionaires with high foreign scores are more than 90% more likely to use offshore financing vehicles and list outside mainland China (panel A, column 1 and 2, Table 2.5)[41]. Unlike billionaires with high foreign scores, connected firms and self-made grassroots tend to list domestically (column 3) or remain private (column 4). As opposed to two categories without foreign exposure, TMT entries are significantly higher than the foreign connected type (column 7-8). This outlook further contrasts with the connected entrepreneurs, who had around 30 pp higher likelihood of an SOE record (column 5-6).

Through close inspection, these pattern reveal the geographical features of innovation with Chinese characteristics. The top five cities measured by entries into TMT sector where the innovation-driven entrepreneurs choose to base their companies (percentage of total TMT related entrepreneurs), are Shenzhen (17.74%), Beijing (16.94%), Hangzhou (9.68%), Shanghai (8.06%),

times the richest man of China, recorded by Hurun's Rich List. For the applicability of the framework, a conceptual distinction would require a separation of Huang's early part, en route to a global billionaire status from his later stages of living as a global billionaire. By focusing on the process of value-creation as his founding company experienced tremendous growth, Huang Guangyu is empirically assigned to type III in the enlarged database because no foreign venture financing was found before his IPO. (b) Even among connected types, the degree to which political connections have been used to fuel individual success and how that degree is crossing the line of legality should best be treated with a continuous level. However, by categorizing billionaires into three broad categories, this paper allows variations within each type, knowing that measuring human relationship can be quite malleable.

[41] Given the consistency and stability of these standard deviation estimators, Huber-White and Cameron et al. (2011) type of estimators are not reported.

and Guangzhou (3.23%). The top three cities, where an SOE restructuring event is associated with a billionaire entrepreneur, are Ningbo (8.62%), Foshan (5.17%), and Shanghai (5.17%). In short, while innovation-driven entrepreneurs are congregated in big cities (e.g., hubs), billionaires who have SOE-structuring events are much more likely to be distributed across the country, especially in lower-tier cities.

Who are the billionaire entrepreneurs of the pernicious kind, the products of crony capitalist regimes, as many authors would argue? Three comments are made to this question. First, the proposed framework empirically relate the (potential) existence of bad entrepreneurs to records of SOE restructuring, a process of which is prone to local capture, authority leakage, and corruption. Second, I briefly discuss two kinds of state-owned restructuring in my sample: an efficient improving exit scheme arranged by the local governments through an agreed management buyout (MBO) and a pernicious state-asset expropriation via insiders and local business and government elites[42]. Third, among the unidentified billionaire entrepreneurs (about 5%, 16 out 317 in total), a detailed case profiling shows the difficulties when the problems of unclear career histories kick in along the wealth accumulation path. It is these billionaire entrepreneurs that defy simple groupings of the proposed conceptual and necessitate a case by case research when new information is available in the future.

Simple as my framework might be, it offers a bird eye's view of the space of global billionaire entrepreneurs: the connected billionaires are products

[42]Let me provide two examples regarding two typical cases of SOE restructuring: (i) Pang Kang (Forbes 2017, net worth: USD 3.8B.), a Guangdong local, joined the state-owned soy sauce factory immediately after college. He moved through the ranks and files in the state-owned factory from a line manager into the chairman of the company before privatization through an MBO deal. He led the company to become the largest manufacturer of soy sauce in the world and went through an IPO in the Shanghai Stock Exchange; (ii) Wang Wenliang (Forbes 2017, net worth: USD 1.2B.) is a classic example of billionaire entrepreneurs who masterfully colluded with key party officials. He bribed the (then) party secretary of Dandong (later put on trial and as of 2018 was serving his sentence) who helped him capture a majority stake in Dadong Port Group, near North Korea, at below the market prices. Stiglitz (1996) on privatization as an illustrative point is applicable to my context, "The problem is the difficulty of distinguishing between those rents that are necessary to promote economic efficiency and those rents that are the reward to unproductive rent-seeking activities within the political process".

of the combination of their rent-seeking activities and real value creations with vast degrees of variations even among themselves, at times crossing the boundaries; the self financiers and supporters are grassroots from lower strata of the society without both foreign venture capitalists and the state to rely on, particularly during their formative periods; and finally the ones who are open to the outside world with a strong willingness to become part of the global business elites are tightly integrated into the global capital market on the shoulders of foreign VCs. As a result of this exercise, among those global billionaire entrepreneurs (317 in total) recorded by Forbes, Feb. 2017, the share of type I, II, and III billionaire entrepreneurs are 20.25%, 7.28%, and 72.78% respectively by subsuming all the unidentified billionaires into the connected category (Type I), consistent with hypothesis H1 to H3.

2.4.7 Sensitivity Tests

This section addresses a number of sensitivity tests and robustness issues associated with the main empirical results. It focuses on three concerns: (i) The validity of empirically constructed types; (ii) the role of party organs and the necessity for a theoretical understanding; (iii) the impact of age structure and issues of comparability; and (iv) the issue of randomness in the data generating process.

Does empirically constructed type of entrepreneurs provide valid conceptual categories?—A test of equality of distributions among different kinds of entrepreneurs.

Concerns over conceptual validity of entrepreneurial types are dealt with in Table 2.6 through Kolmogorov-Smirnov tests. Decisions to use offshore vehicles and listing outside mainland China constitute the major distinction between unconnected billionaires with foreign elements (type II) and other two, a demarcation that extends into TMT entries and founding headquarters. The type of politically connected billionaire entrepreneurs is impugned by a higher probability of SOE restructuring as opposed to the other two categories. However, the presence of party organs does not differ across types, conceptually and statistically.

What is the role party organ—The role of party organ in private and foreign-owned Chinese firms.

According to the organization rule of CPC concerning grassroots organizations[43], it is not surprising to find that a company founded by the global billionaire entrepreneur set up a party organ. Does the presence of a party organ affect firm policies? Table 2.7 reports some preliminary findings of this question: the presence of party organ has a poor explanatory power regarding firm policies. This merits future research on the functioning impact of party organ within firms, especially the relationship with labor unions (Yao and Zhong, 2013).

Does age structure affect comparability of billionaire entrepreneurs? —The role of generational difference.

To check the sensitity against this concern, I re-estimate the preferred specification using different subsamples based on the founding year of the company. Figure 2.8 shows that the main estimates are fairly reliable to these concerns about age structure and generational comparability. It shall be noted that in unreported regressions the multicollinearity issue between foreign measure and the interaction term becomes severe as sample size shrinks[44].

How is the empirical outcome driven by pure chance? —A Placebo and Randomization Test.

One primary concern is that the reported relationship identified as a mapping from social and political factors of a billionaire entrepreneur to his/her financing decisions is entirely driven by random chance, if not noise in measurements or a biased estimate in standard errors (Bertrand et al., 2004). This paper implements a nonparametric permutation strategy testing the effect from interaction term, $\theta = 0$, for the Forbes data, to deal with

[43]The document I am referring to is the *Working Regulation on Grassroots Organs related to CPC and State[zhongguo gongchandang danghejiguan jicengzuzhi gongzuotiaoli], which was initially implemented in 1998 and has been updated in 2010 (the latest version, as of 2018).* This document designates three cutoffs for setting up a party organ ($>$ 3 party member), branches ($>$ 50 party member), and committees ($>$ 100). The strict boundary can be relaxed depending on working needs.

[44]I stop at the year 1992 when Deng Xiaoping made his Southern Talk (ST) with future research (Xiao, 2019b).

this concern. The "placebo" effect consists of a permutation of offshore decisions. After that, this paper re-estimates (2.1), and take the "placebo" offshore outcome as the actual observation. $F(\hat{\theta})$ is defined to be the empirical cumulative distribution function (ECDF) of the placebo effects, the statistic $1-F(\theta^*)$ gives a nonparametric p-value for the null hypothesis $\theta = 0$ when the realized value is θ^*. The idea is that if the effect generated by the actual data is significant ($\theta = 0.96$, from column 2 and row 2, Table 3), then it should be positioned at the high-tail of the ECDF. Because of the nature of a nonparametric test, it does not suffer over-rejection of t-statistics as a result of measurement error. Figure 2.9 illustrates the outcomes from the permutation tests by plotting the ECDF of θ for using offshore vehicles, using 1,000, 2,000, 5,000, 10,000, and 20,000 permutations. The vertical line denotes the actual interaction effect reported in column 2 and row 2, Table 3. The empirical p-values ($1 - F(\theta)$) from these permutations of different size are 0.002 (1,000 permutations), 0.001 (2,000 permutations), 0.0006 (5,000 permutations), 0.0006 (10,000 permutations), and 0.0008 (20,000 permutations).

Implications: A Comment

My empirical analysis under the guidance of a conceptual framework emphasizes the importance of taking foreign financing access channel into serious consideration. Indeed, politically driven billionaire entrepreneurs are likely to take advantage of the opportunity of SOE restructuring as a way of capitalizing on their connections. The results put forth here suggests these tend to be under one out of every five. In short, studies so far either over-emphasizes the crony capitalist elements or failed to take the role of foreign financing channel seriously. In other words, the emphasis, however, should not only be placed on the mere *existence* of bad entrepreneurs with a limited understanding of their behaviors, but also on their *coexistence* with good types, in which interlinkage with foreign investors can be used as a dividing line for the analytical purpose of a conceptual apparatus. It is this *coexistence* of good and bad entrepreneurs that supports to my conceptual framework.

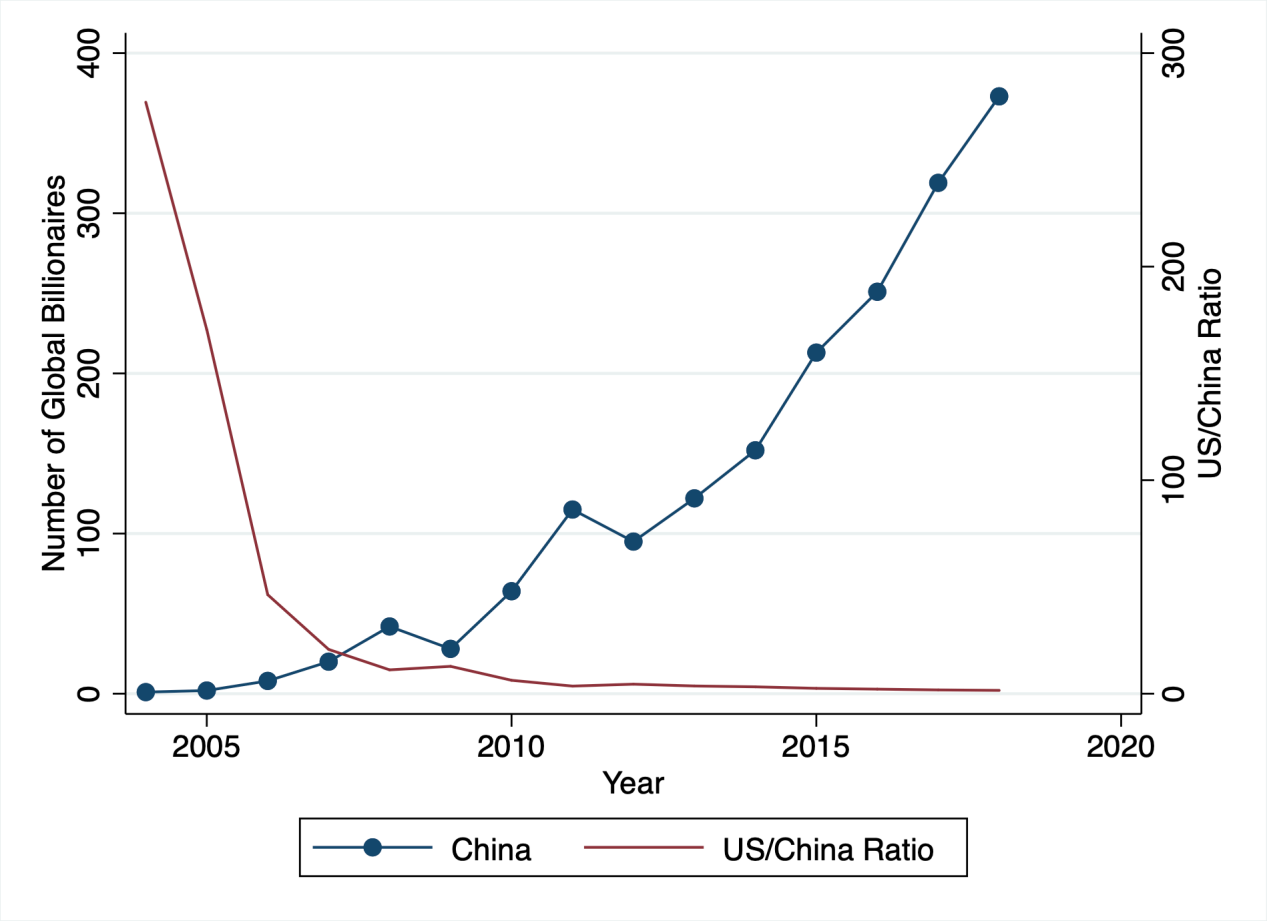
2.5 Conclusion

This paper has documented the growth of the number of global billionaire entrepreneurs from mainland China over recent years. Using a politico-economic framework, I have proposed a few measures to understand the interacted impact of political connection and foreign elements. In doing so, this is the first paper to link observed financial structures to human factors in an empirical assessment of billionaire entrepreneurs from mainland China. There are two key findings: (a) the role of foreign financing channeling cannot be ignored, and (b) the evidence shows that in addition to the politically connected rent-seeking billionaires, the existence of entrepreneurial billionaires cannot also be ignored. These findings might be surprising but rationalizable within a suitable framework.

In addition, this research shows that entrepreneurs who use offshore vehicles[45] could partially circumvent some of the obstacles imposed through inefficient institutions. The conclusion and results of this paper may include three different areas of future research. First, this paper proposes the need to understand the financial decisions by entrepreneurs in a financially underdeveloped environment. Second, in the context of the literature on globalization, this paper provides evidence that financial market imperfections might be partially offset by ingenious choices made by entrepreneurs within given policy framework. Future research might explore how linkages between financially developed and underdeveloped countries could open up new space for global innovation. Finally, in the context of the political economy of development, this paper suggests a potential role for a developmental state in shaping the course of financial development. The degree of success or disaster of these state-led policies in promoting entrepreneurship could be explored in the future.

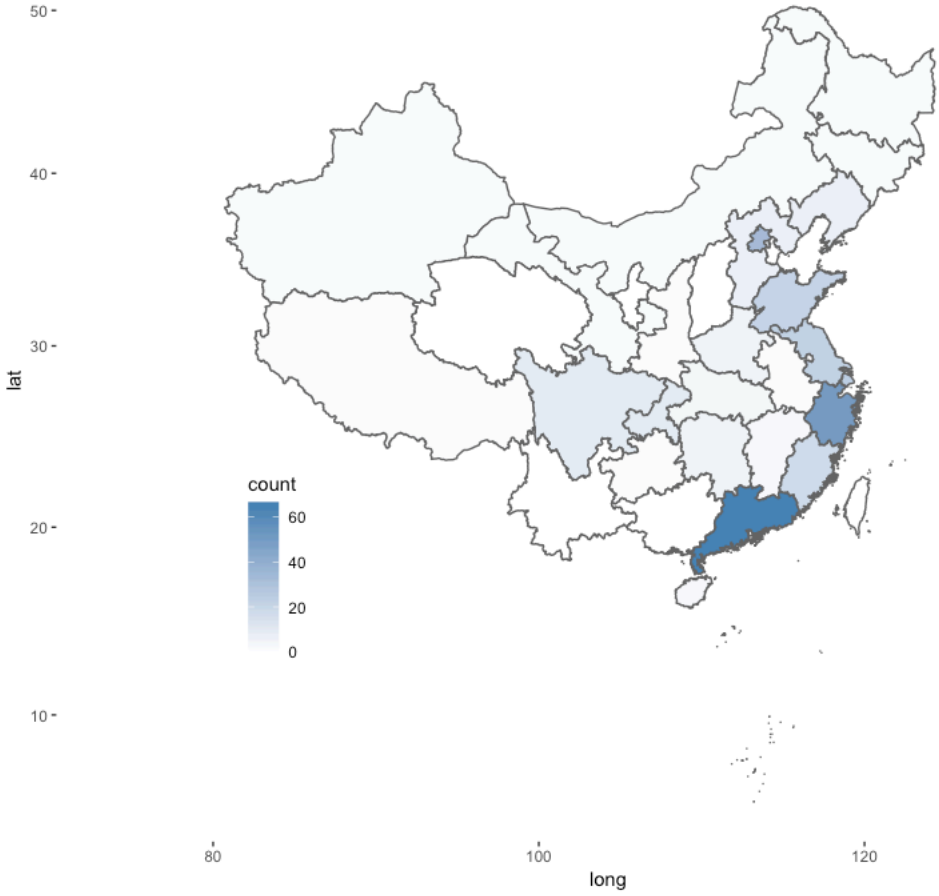
[45] I do not, however, claim this channel, albeit an important one, to be the only one channel underlying the increase in the number billionaire entrepreneurs from China. Future work can explore other channels and mechanism as heterogeneous responses under inefficient institutions.

Figure 2.1: Evolutions of Numbers of Global Billionaires: Mainland China versus the United States, 2003-2018



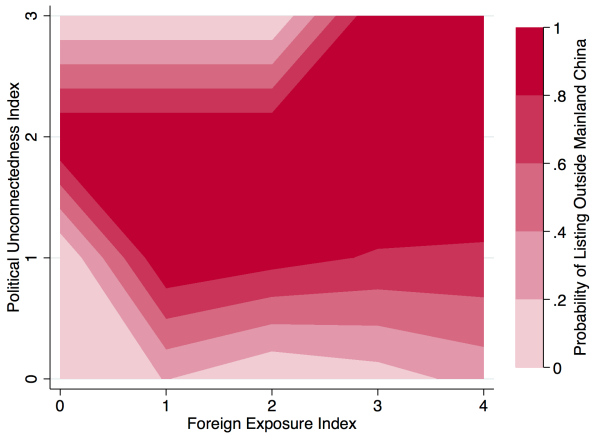
Notes: Global billionaires is defined as a person exceeding a net worth of 1 billionaire US dollars for that year. Data: the World's Billionaire Database, Forbes.

Figure 2.2: Geographical Distributions of Billionaires from Mainland China

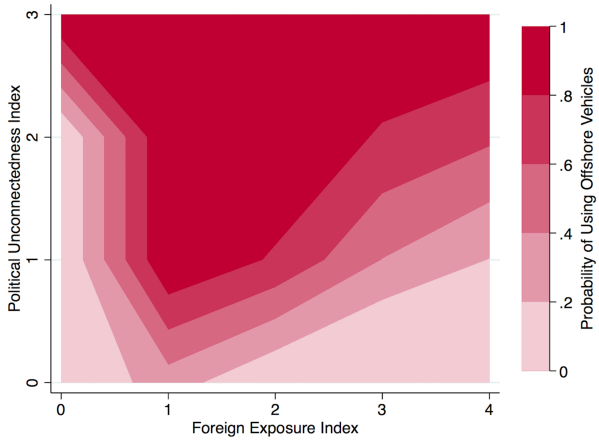


Notes: Global billionaires is defined as a person exceeding a net worth of 1 billionaire US dollars for that year. Data: the World's Billionaire Database, Forbes.

Figure 2.3: A Heat Map Representation: Social Origins, Foreign Exposures, and Financial Decisions



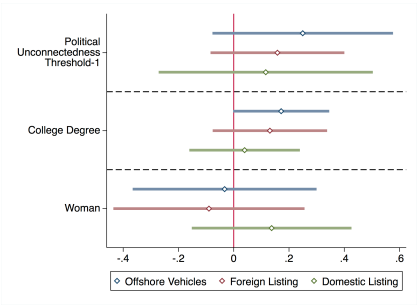
Panel A: Public Listing outside Mainland



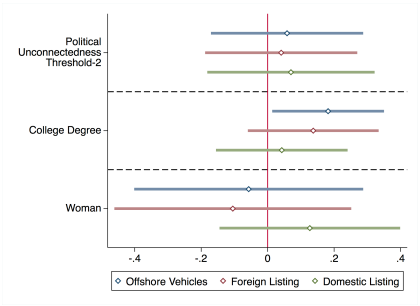
Panel B: Using Offshore Vehicles

Note: Foreign exposure and political unconnectedness are two aggregate measures, summed up from the Author's database. The dependent variables are observable financing decisions: listing outside mainland China and using offshore vehicles.

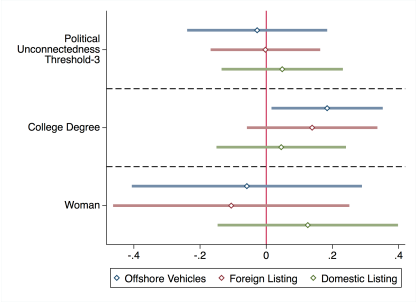
Figure 2.4: Evidence of Mixed Entrepreneurship: Political Unconnectedness and Financing Decisions



Panel A: Threshold Value $\delta^u = 1$



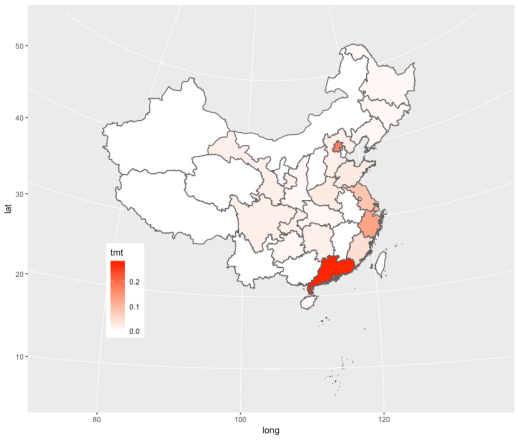
Panel B: Threshold Value $\delta^u = 2$



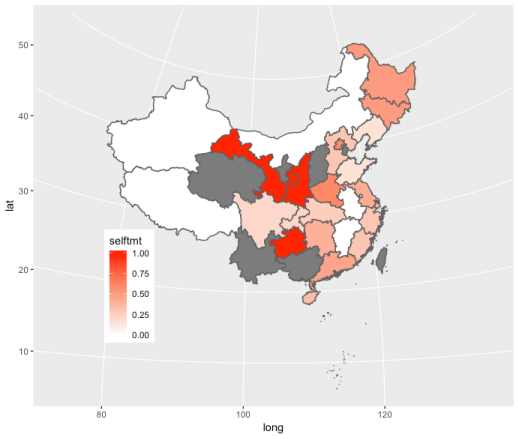
Panel C: Threshold Value $\delta^u = 3$

Source: Author's database. Estimated Coefficients and 95% *CI on Forbes sample. In addition to the three reported coefficient, the linear probability model controls a constant, cofounding year and headquarter fixed effects.*

Figure 2.5: Geography of Entry into TMT



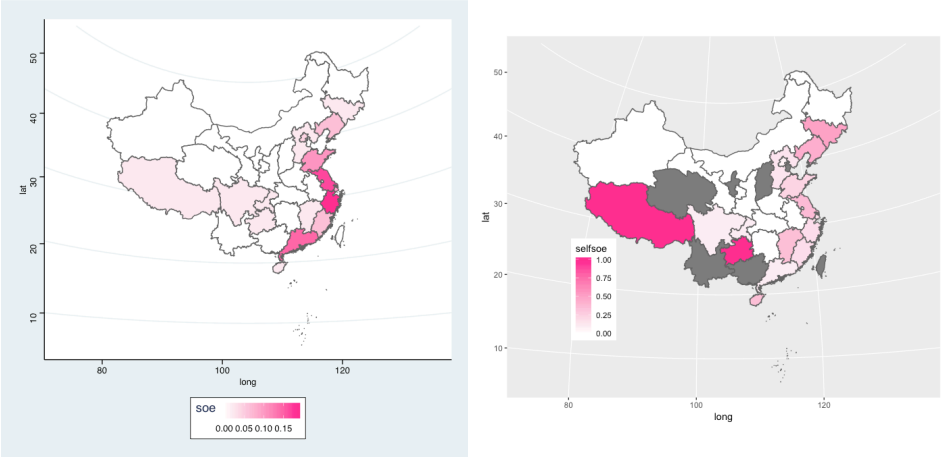
Panel A: Share Across the Nation



Panel B: Share Within the Province

Note: this figure provides geographical distribution of entry into TMT sectors. Panel A plots the nationwide share of billionaires entering into TMT sector. Panel B plots the fraction of billionaires entering into TMT sector for a given province. For provinces with fewer billionaires, the latter measure can be imprecise.

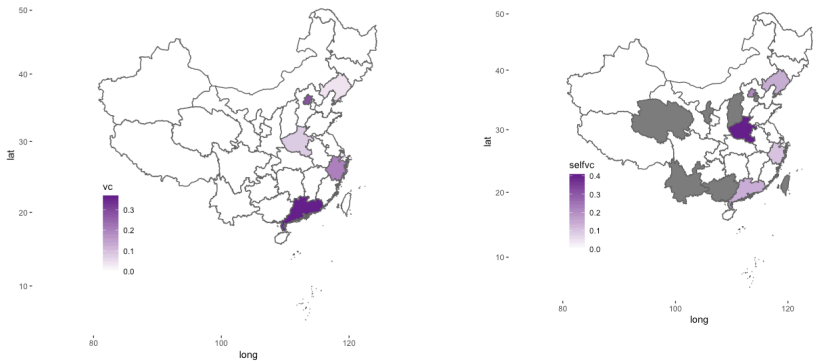
Figure 2.6: Geography of SOE Restructuring



Panel A: Share Across the Nation Panel B: Share Within the Province

Note: this figure provides geographical distribution of SOE restructuring. Panel A plots the nationwide share of billionaires with SOE restructuring experience. Panel B plots the fraction of billionaires with SOE restructuring experience for a given province. For provinces with fewer billionaires, the latter measure can be imprecise.

Figure 2.7: Geography of Using Foreign VCs

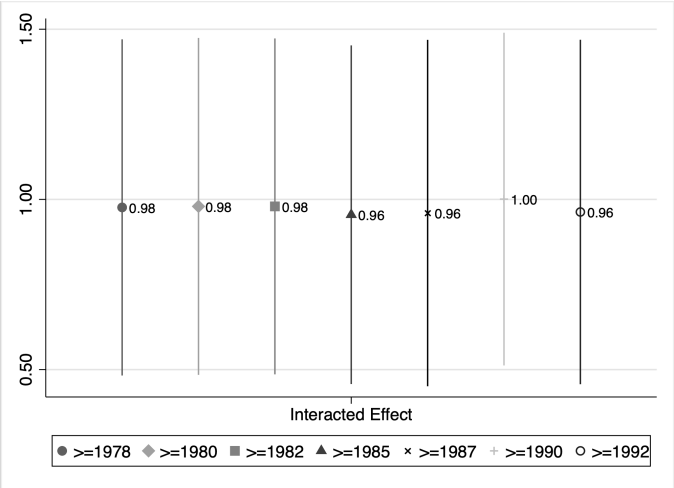


Panel A: Share Across the Nation

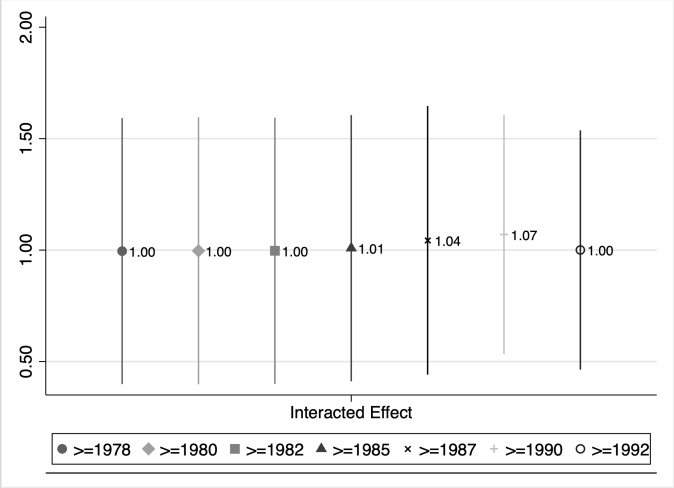
Panel B: Share Within the Province

Note: this figure provides geographical distribution of using foreign VCs. Panel A plots the nationwide share of billionaires with foreign VCs. Panel B plots the fraction of billionaires entering with foreign VCs for a given province. For provinces with fewer billionaires, the latter measure can be imprecise.

Figure 2.8: Age Structure and Subsample Estimation



Panel A: Using Offshore Vehicles



Panel B: Public Listing outside Mainland

Note: These two graphs present estimated interacted coefficients from a linear probability model by setting $(\delta^f, \delta^u) = (2, 2)$*. Each line represents one regression controlling FE and binaries for female and college degree. Each year presents founding year of company.*

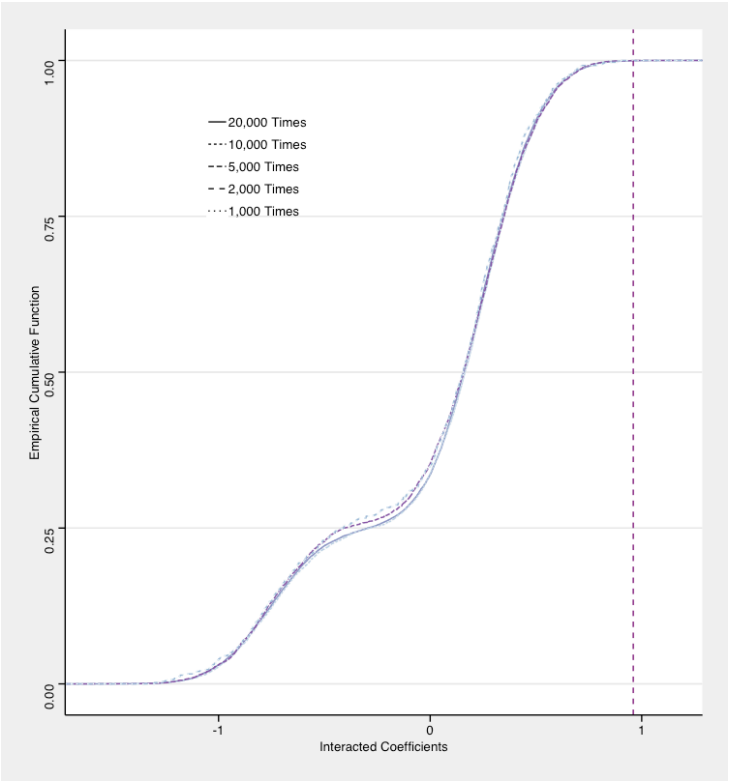


Figure 2.9: Distribution of Placebo Estimates: Using Offshore Vehicles

Notes: This figure plots the empirical distribution effects (F) for using offshore vehicles. The empirical CDF is constructed from 1,000, 2,000, 5,000, 10,000 and 20,000 estimates of θ by setting $(\delta^f, \delta^u) = (2, 2)$ using specification from column 2 and row 2 of Table 3 from permutations of observed offshore vehicles. The vertical line shows the estimated interaction term reported in that cell. Dataset: Forbes.

Table 2.1: Variables and Summary Statistics for Global Billionaires from Mainland China

Panel A: Database Information: Forbes (Augmented by Hurun Top 300)
Total number of billionaire entrepreneurs: 317 (413)
Identified Billionaire Entrepreneurs: Forbes (Augmented by Hurun Top 300): 301(376)
Percentage of Unidentified Billionaire Entrepreneurs: Forbes (Plus Hurun Top 300): 5.04% (8.96%)

Panel B: Summary Statistics for Forbes (Plus Hurun Top 300).

Variable (Range/Type)	Mean	SD	1^{st} Quartile	2^{nd} Quartile	3^{rd} Quartile
Family (un)connectedness (0-1)	0.94 (0.94)	0.24 (0.24)	1 (1)	1 (1)	1 (1)
Job (un)connectedness (0-1)	0.72 (0.73)	0.45 (0.45)	0 (0)	1 (1)	1 (1)
First scoop of gold (0-1)	0.83 (0.83)	0.38 (0.38)	1 (1)	1 (1)	1 (1)
Unconnectedness index (0-3)	2.49 (2.50)	0.82 (0.83)	2 (2)	3 (3)	3 (3)
English speaking (0-1)	0.05 (0.06)	0.22 (0.24)	0 (0)	0 (0)	0 (0)
Foreign education (0-1)	0.02 (0.03)	0.15 (0.18)	0 (0)	0 (0)	0 (0)
Foreign financing (0-1)	0.08 (0.09)	0.28 (0.28)	0 (0)	0 (0)	0 (0)
Foreign management (0-1)	0.09 (0.07)	0.28 (0.26)	0 (0)	0 (0)	0 (0)
Foreign exposure index (0-4)	0.24 (0.26)	0.69 (0.72)	0 (0)	0 (0)	0 (0)
College education (0-1)	0.53 (0.54)	0.50 (0.50)	0 (0)	1 (1)	1 (1)
Elite college (0-1)	0.27 (0.30)	0.44 (0.46)	0 (0)	0 (0)	1 (1)
CEO (0-1)	0.93 (0.93)	0.26 (0.26)	1 (1)	1 (1)	1 (1)
female (0-1)	0.06 (0.06)	0.24 (0.24)	0 (0)	0 (0)	0 (0)
Listing (0-1)	0.79 (0.76)	0.41 (0.43)	1 (1)	1 (1)	1 (1)
Foreign listing (0-1)	0.25 (0.26)	0.44 (0.44)	0 (0)	0 (0)	1 (1)
SOE restructuring (0-1)	0.16 (0.15)	0.37 (0.36)	0 (0)	0 (0)	0 (0)
Offshore vehicle (0-1)	0.26 (0.26)	0.44 (0.44)	0 (0)	0 (0)	1 (1)
Party organ (0-1)	0.69 (0.64)	0.46 (0.48)	0 (0)	1 (1)	1 (1)
TMT sector entry (0-1)	0.36 (0.33)	0.48 (0.47)	0 (0)	0 (0)	1 (1)

Data source: Forbes' the World's Billionaire List, Feb. 2017 version. Hurun's China Rich List, 2016 version.

Notes: Although these two lists are based on different valuation techniques, the variations among top 300 billionaires are quite small. Measures of political connection are converted into *unconnectedness index* where a value of one is coded for not having strong political ties.

Table 2.2: The Impact of Foreign Element on Offshore Financing and Outside Listing

Sample	Forbes (n:301)				Hurun's Expanded Sample (n:375)			
	All				All	CEO	Party	All
Cutoff[a] $\delta^{f}_{threshold}$	1	2	3	Raw Score	2	2	2	Foreign VC
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Linear Probability Model; Dependent variable is $Y^{Firm}_{e,t,c}$ *: Offshore=1*								
Foreign Index	0.52	0.58	0.64	0.28	0.44	0.35	0.64	0.60
	(0.08)	(0.13)	(0.21)	(0.05)	(0.13)	(0.12)	(0.21)	(0.13)
	[0.08]	[0.17]	[0.18]	[0.06]	[0.14]	[0.17]	[0.21]	[0.12]
Controls[b]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-city fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	301	301	301	301	375	347	240	375
Adj. R^2	0.17	0.14	0.07	0.21	0.13	0.05	0.12	0.18
Panel B. Logistic Model; Dependent variable is $Y^{Firm}_{e,t,c}$ *: Foreign Listing=1*								
Foreign Index	1.73	3.81	0.00[c]	2.19	3.33	2.81	6.40	3.79
	(0.42)	(0.94)	(.)	(0.29)	(0.97)	(0.77)	(2.78)	(1.17)
	[0.42]	[0.87]	[.]	[0.40]	[0.93]	[0.71]	[2.80]	[1.16]
Controls[b]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-city fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	301	156	145	156	215	194	106	215
Count R^2	0.77	0.77	0.74	0.77	0.75	0.75	0.76	0.74
Adj Count R^2	0.09	0.36	0.36	0.05	0.30	0.25	0.36	0.26

Notes: This table reports regression estimates of impact of foreign exposures on the probability of using offshore vehicles and listing outside mainland China using variants of equation (2.1). Column 1-3 uses different values of the cutoff to generate the binary measure of foreign element. Column 4 represents the effect of the foreign index score. Fixing the threshold cutoff at 2, column 5-7 use the augmented Hurun data, CEO subsample, and Party organ subsample respectively. Column (8) considers only foreign VC financed event as a measure of exposure. Robust standard errors in parentheses are clustered at the level of current headquarters (city level). For panel A, the Huber-White robust standard errors are reported in brackets. For panel B, a method suggested by Cameron et al. (2011) is reported in the bracket using both current and first headquarters as multiway clusters.

[a] *The numbers (percentage) of billionaires selected given threshold values (1-3) are 41(13.6%), 24 (8.0%), and 5 (1.7%) for Forbes sample respectively.*

[b] *Controls are binaries for female and college degree.*

[c] *Dropped from estimation.*

Table 2.3: The Interacted Effect of Foreign Elements and Social Origin on Financing Decisions

Sample	Forbes (n:301)				Hurun's Expanded Sample (n:375)			
	All				All	CEO	Party	All
δ^f	1	2	3	Sum Index	2	2	2	Foreign VC
δ^U	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A. Linear Probability Model; Dependent variable is $Y^{Firm}_{e,t,c}$: Offshore=1							
	0.87	0.80	0.00[a]	0.40	0.63	0.54	0.00[a]	0.79
1	(0.31)	(0.39)	(.)	(0.15)	(0.34)	(0.34)	(.)	(0.31)
	[0.38]	[0.42]	[.]	[0.20]	[0.37]	[0.40]	[.]	[0.36]
	-0.03	0.96	0.00[a]	0.07	0.66	0.56	0.00[a]	0.56
2	(0.72)	(0.26)	(.)	(0.47)	(0.20)	(0.24)	(.)	(0.31)
	[0.51]	[0.26]	[.]	[0.37]	[0.25]	[0.28]	[.]	[0.33]
	0.33	0.77	0.00[a]	0.21	0.55	0.48	0.74	0.18
3	(0.50)	(0.45)	(.)	(0.22)	(0.34)	(0.39)	(0.55)	(0.22)
	[0.32]	[0.37]	[.]	[0.17]	[0.34]	[0.35]	[0.45]	[0.32]
	0.15	0.41	0.00[a]	0.10	0.29	0.25	0.73	0.18
Sum Index	(0.28)	(0.12)	(.)	(0.11)	(0.09)	(0.11)	(0.56)	(0.09)
	[0.17]	[0.12]	[.]	[0.08]	[0.12]	[0.13]	[0.46]	[0.13]
	Panel B. Logistic Model; Dependent variable is $Y^{Firm}_{e,t,c}$: Foreign Listing=1							
	18.48	18.76	0.00[a]	10.06	17.90	16.16	0.00[a]	19.07
1	(3.02)	(3.04)	(.)	(1.44)	(2.40)	(3.20)	(.)	(2.45)
	[3.55]	[3.42]	[.]	[1.69]	[2.44]	[3.35]	[.]	[2.38]
	-0.35	17.83	0.00[a]	1.30	17.10	15.98	0.00[a]	4.68
2	(5.66)	(2.90)	(.)	(2.63)	(1.95)	(2.61)	(.)	(1.94)
	[5.86]	[3.10]	[.]	[2.77]	[2.05]	[2.80]	[.]	[1.93]
	1.99	6.48	0.00[a]	2.22	2.73	1.79	0.00[a]	3.99
3	(3.39)	(3.79)	(.)	(1.85)	(1.88)	(1.92)	(.)	(2.17)
	[3.48]	[3.86]	[.]	[1.92]	([.89]	[1.91]	[.]	[2.23]
	1.05	5.19	0.00[a]	1.09	2.09	1.57	82.59	2.46
Sum Index	(1.88)	(2.98)	(.)	(0.84)	(1.16)	(1.01)	(3.84)	(1.31)
	[1.96]	[3.01]	[.]	[0.88]	[1.17]	[1.04]	[.]	[1.33]

Notes: This table reports regression estimates of the interacted impact of foreign exposures and political unconnectedness on the probability of using offshore vehicles and listing outside mainland China using variants of equation (2.1). Each cell presents the estimated interacted effect from one regression. All specifications contain controls and FE. Column 1-3 uses different values of the cutoff to generate the binary measure of foreign element. Column 4 represents the effect of the foreign index score. Fixing the threshold cutoff at 2, column 5-7 use the augmented Hurun data, CEO subsample, and Party organ subsample respectively. Column (8) considers only foreign VC financed event as a measure of exposure. Robust standard errors in parentheses are clustered at the level of current headquarters (city level). For panel A, the Huber-White robust standard errors are reported in brackets. For panel B, a method suggested by Cameron et al. (2011) is reported in the bracket using both current and first headquarters as multiway clusters.

[a] *Dropped by estimation*

Table 2.4: Potential Mechanisms

Sample	Forbes				Hurun's Expanded Sample			
	All				All	CEO	Party	All
Cutoff $\delta^f_{threshold}$	2	2	Foreign VC	Foreign VC	2	2	2	Foreign VC
Cutoff $\delta^u_{threshold}$	2	2	2	2	2	2	2	Job Tie
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Dependent variable is $Y^{Firm}_{e,t,c}$: TMT=1								
Political Index	0.13	0.16	0.14	0.17	0.16	0.16	-0.00	0.00
	(0.12)	(0.11)	(0.11)	(0.11)	(0.08)	(0.08)	(0.11)	(0.10)
	[0.11]	[0.11]	[0.11]	[0.12]	[0.09]	[0.09]	[0.15]	[0.08]
Foreign Index	0.04	0.81	0.20	0.64	0.86	0.85	0.22	0.47
	(0.10)	(0.12)	(0.07)	(0.17)	(0.14)	(0.13)	(0.19)	(0.30)
	[0.19]	[0.23]	[0.15]	[0.28]	[0.09]	[0.09]	[0.15]	[0.32]
Foreign× Unpolitical		-0.84		-0.50	-0.78	-0.86	0.00[a]	-0.27
		(0.18)		(0.20)	(0.19)	(0.21)	(.)	(0.29)
		[0.31]		[0.33]	[0.25]	[0.28]	[.]	[0.36]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-city fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	301	301	301	301	375	347	240	375
Adj. R^2	0.21	0.22	0.22	0.22	0.21	0.18	0.17	0.20
Panel B. Dependent variable is $Y^{Firm}_{e,t,c}$: SOE=1								
Political Index	-0.34	-0.35	-0.33	-0.33	-0.31	-0.33	-0.44	-0.15
	(0.13)	(0.13)	(0.13)	(0.13)	(0.10)	(0.10)	(0.16)	(0.09)
	[0.10]	[0.10]	[0.10]	[0.10]	[0.08]	[0.09]	[0.12]	[0.07]
Foreign Index	0.03	-0.25	0.08	0.05	-0.26	-0.26	0.10	0.19
	(0.06)	(0.14)	(0.08)	(0.33)	(0.12)	(0.12)	(0.09)	(0.31)
	[0.06]	[0.11]	[0.07]	[0.32]	[0.10]	[0.11]	[0.08]	[0.31]
Foreign× Unpolitical		0.30		0.03	0.32	0.34	0.00[a]	-0.11
		(0.17)		(0.33)	(0.14)	(0.15)	(.)	(0.32)
		[0.12]		[0.32]	[0.11]	[0.12]	[.]	[0.31]
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-city fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	301	301	301	301	375	347	240	375
Adj. R^2	0.52	0.52	0.52	0.52	0.49	0.46	0.63	0.43

Notes: This table reports the estimated impact on entry into innovative sectors (TMT) and record of SOE restructuring using variants of equation (2.1) via linear probability model. Robust standard errors in parentheses are clustered at the level of current headquarters (city level). The Huber-White robust standard errors are reported in brackets. The threshold method is implemented unless a specific measure is used. Controls are binaries for female and college degree.

[a] *Dropped by estimation*

Table 2.5: Relating Empirics to the Conceptual Framework

Sample	Forbes (n:301)				Hurun's Expanded Sample (n:375)			
	All				All	Party	All	CEO
Outcome	Offshore	Foreign Listing	Domestic Listing	Listing	SOE	SOE	TMT	TMT
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Linear Probability Model:								
1|Type I			0.64	-0.29			-0.37	-0.33
			(0.15)	(0.13)			(0.10)	(0.10)
1|Type II	0.95	0.93			-0.24	-0.34		
	(0.14)	(0.16)			(0.09)	(0.21)		
1|Type III	0.05	0.03	0.73	-0.17	-0.30	-0.43	-0.26	-0.21
	(0.12)	(0.11)	(0.12)	(0.06)	(0.09)	(0.16)	(0.07)	(0.06)
Observations	301	301	301	301	375	240	375	347
Adj. R^2	0.24	0.24	0.19	0.10	0.50	0.63	0.20	0.15
Panel B. Logit Model:								
1|Type I	-34.64	-37.75			16.16		-2.10	-1.89
	(1.66)	(3.91)			(2.17)		(0.83)	(0.87)
1|Type II			0.00[a]	45.50		0.00[a]		
			(.)	(2.25)		(.)		
1|Type III	-34.33	-37.71	0.55	0.98	12.00		-1.40	-1.16
	(1.13)	(3.83)	(0.53)	(0.69)	(2.36)		(0.42)	(0.44)
Observations	146	156	160	133	131	30	196	172
Count R^2	0.78	0.76	0.79	0.71	0.91	0.80	0.69	0.70
Adj. Count R^2	0.42	0.34	0.34	0.50	0.17	0.40	0.27	0.25

Notes: This table reports estimates of the difference by entrepreneur type on outcomes using variants of equation (2.1). Robust standard errors in parentheses are clustered at the level of current headquarters (city level). All specifications include year and first headquarter fixed effects.

[a] *Dropped by estimation*

Table 2.6: Comparison Across Different Types of Entrepreneurship

	(1) III vs. I	(2) III vs. II	(3) II vs. I	(4) III vs. I	(5) III vs. II	(6) II vs. I
Sample:	Forbes			Hurun's Expanded Sample		
Offshore	0.02(1.00)	0.66(0.00)	0.68(0.00)	0.02(1.00)	0.62(0.00)	0.64(0.00)
Foreign Listing	0.02(1.00)	0.48(0.00)	0.47(0.00)	0.01(1.00)	0.39(0.00)	0.40(0.00)
Domestic Listing	0.13(0.56)	0.56(0.00)	0.44(0.01)	0.11(0.56)	0.51(0.00)	0.39(0.00)
Listing	0.11(0.73)	0.08(1.00)	0.03(1.00)	0.12(0.46)	0.11(0.86)	0.01(1.00)
Party	0.02(1.00)	0.00(1.00)	0.03(1.00)	0.01(1.00)	0.14(0.67)	0.12(0.91)
TMT	0.06(1.00)	0.49(0.00)	0.56(0.00)	0.06(0.99)	0.37(0.00)	0.43(0.00)
SOE	0.40(0.00)	0.10(0.98)	0.50(0.00)	0.41(0.00)	0.10(0.96)	0.51(0.00)
College Degree	0.00(1.00)	0.37(0.01)	0.37(0.03)	0.11(0.53)	0.38(0.00)	0.26(0.11)
Elite College	0.05(1.00)	0.26(0.12)	0.31(0.09)	0.03(1.00)	0.27(0.03)	0.30(0.05)
Sex	0.05(1.00)	0.01(1.00)	0.06(1.00)	0.03(1.00)	0.02(1.00)	0.05(1.00)
Founding Year	0.12(0.65)	0.57(0.00)	0.56(0.00)	0.10(0.65)	0.51(0.00)	0.50(0.00)
First Headquarter	0.15(0.35)	0.21(0.30)	0.13(0.96)	0.17(0.12)	0.23(0.11)	0.16(0.68)

Notes: This table reports Kolmogorov-Smirnov test for equality of distribution. The number in the table gives combined K-S statistics and the associated p-value (in parentheses) of the two-sample test statistic by entrepreneurial type (I, II, or III).

Table 2.7: The Effect of Party Organ: Explaining Different Outcomes

Sample	Forbes (n:301)				Hurun's Expanded Sample (n:375)			
	All				All	CEO	All	CEO
Outcome	Offshore	Foreign Listing	Domestic Listing	Listing	SOE	SOE	TMT	TMT
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Linear Probability Model:								
1|Party	-0.01	0.05	-0.06	-0.01	0.03	0.04	0.03	0.01
	(0.07)	(0.07)	(0.09)	(0.06)	(0.05)	(0.06)	(0.06)	(0.07)
Observations	301	301	301	301	374	347	374	347
Adj. R^2	0.00	0.00	0.08	0.08	0.41	0.37	0.17	0.14
Panel B. Logit Model:								
1|Party	-0.18	0.42	-0.45	-0.25	0.58	0.62	0.11	0.06
	(0.46)	(0.42)	(0.40)	(0.38)	(0.98)	(1.00)	(0.25)	(0.28)
Observations	146	156	176	133	131	122	196	172
Count R^2	0.75	0.68	0.67	0.79	0.89	0.88	0.71	0.69
Adj. Count R^2	0.33	0.11	0.30	0.15	0.38	0.38	0.31	0.22

Notes: This table reports estimates of the difference by entrepreneur type on outcomes using variants of equation (2.1). Robust standard errors in parentheses are clustered at the level of current headquarters (city level). Both linear probability and logit models control year and first headquarter fixed effects. No other controls are used.

Chapter 3

Serving the People or the People's Note: On the Political Economy of Talent Allocation

3.1 Introduction

Improved talent allocation through occupational choices is central to modern economic performance. Changes in incentive and reward structure affect overall economic performances through mobility across industries and sectors[1]. Removal of developmental barriers unfavorable to entrepreneurship and imposed as a result of ideological reasons interact with labor market adjustments and could potentially bring benign outcomes through better allocation of talents.

This observation resonates with classical work concerning entrepreneurship in an economically backward society when a sudden spurt of development raises important questions for the political economy of development (Acemoglu and Robinson, 2000; Gorodnichenko and Roland, 2017). Using Deng Xiaoping's Southern Talks as an event shock, this paper presents evidence showcasing the impact of the (partial) resolution of political ideologies on the social composition of super-rich persons in China.

One contribution of this paper is to offer evidence of politically induced structural changes in the social composition of entrepreneurs. The empirical work aided by a regression kink design provides an excellent opportunity

[1] See, for example, Hsieh et al. (2019).

for detecting as well as estimating the political shock rendered by Deng Xiaoping's Southern Talks, an event shock happening around January 1992. One novelty of this paper is to estimate the effect of removal developmental barrier from the ideological side (e.g., Deng Xiaoping's Southern Talks) on entrepreneurship and changing social compositions of super-rich persons.

The title of this paper, *Serving the People or the People's Note*, had multifaceted interpretations in this context and requires a few elaborations. The phrase, *Serve the People*, is a political slogan that can be traced back to Mao's era, when the chairman wrote an effusive speech commemorating Zhang Side, a PLA soldier, for his sacrifice to the party's cause. Until this day, this phrase has been officially recognized as a mission statement of the CPC. The other part of the phrase, *the People's Note*, signifies the meaning of the Chinese dollar, Renminbi (RMB), representing the profit-oriented ventures and the market sector. In this paper, the choice of title represents a tradeoff facing elite talents in China around 1992, whether to stay within the party system or join the wave of market reform and become entrepreneurs[2]?

Another contribution of this paper is highlighting the interplay between public and private sectors underpinning economic development, as well as focusing on how resolutions over key ideological issues through elite politics help pave the way for rising private sector (Lardy, 2014). Early work on market transition in state socialism can be regarded as a useful background (Nee, 1989). Applying a framework of occupation choice across sectors, talent allocation and political selection, this paper complements papers on bureaucratic competition and selection in the Chinese context, most of which concentrate on political selection at the local level without a private sector. This research, however, is associated with papers on talent allocation, occupation choice of entering into entrepreneurship, as well as choice of public sector careers (Mattozzi and Merlo, 2008) under democratic regimes. This work resonates closely with a public-private occupation selection in the institutional context of the political economy of development of China. Internationally, this paper

[2] Of course, there is a sarcastic tone of soliciting this question in situations where the government is deviating from its ideal of serving the people and becoming a profiting machine itself.

connects with a host of studies on the social origins of inventors (Bell et al., 2019; Aghion et al., 2017).

Moreover, this study fits into a large number of studies on the Chinese economy and private sector development via the lens of decentralization and federalism (Lau et al., 2000). Despite a large literature on local government competition, there remains limited research on the political economy of talent allocations, especially the interactions between public and private sector talent allocations that account for the politico-economic performance of China (Jia et al., 2015). Relatedly, this paper speaks with the economics of entrepreneurship under the Chinese context (Djankov et al., 2006; Yueh, 2009; Li et al., 2012): whom will become entrepreneurs in developing countries, particularly in the institutional context of uncertainty where capitalist-roaders could be outlawed by socialist ideological shackles? The resulting better talent allocation, through the changing social composition of potential entrepreneurs, to some extent, should be regarded as one of the greatest triumphs in alleviating commitment problems in the context of an authoritarian regime. In some sense, this project is a companion paper of Xiao (2019a) in which the focus has been placed on the foreign financing channel where politically unconnected grassroots could solicit capital injections from foreign venture capitalists. This paper, however, stresses the impact of Deng Xiaoping's political settlement over certain ideological issues and how that rather personal solution attenuates commitment problems and remove developmental barriers for leaping forward.

The remainder of this paper is organized as follows. Section II presents the institutional context, which serves as the background for the debate over cage theory[3] of socialist market economy and its impact on talent allocation in China. Aided by a few predictions, section III introduces a new

[3] This theoretical view is held by Chen Yun during the 80s. To elaborate the core idea of this perspective, I quote an early study on Chen Yun and Chinese politics, "By late 1981 and 1982, Chen devoted more attention to the planned economy. He declared that the relationship between the planned economy and the active economy (i.e., the market) was like a bird and a cage. The plan was the cage and the bird was the market. If the cage was too small, the bird would suffocate. If there was no cage, the bird would fly away. He stressed that planning must continue to govern many parts of the economy, including agriculture" (Bachman, 1985, p. 152).

dataset, China's Super Rich Persons (CSRP). Through the application of a sharp regression discontinuity kink framework, this paper then estimates the impact of the Southern Talks on changing social composition of super-rich entrepreneurs from China. Conclusions are drawn in the final section.

3.2 Institutional Context: Deng Xiaoping's Southern Talks and the Competing Views on Market Socialism

This section outlines the institutional context behind this paper. To briefly summarize Deng's southern trip[4], this paper stresses four major features: (i) the timing of Deng's Southern Talks follows merely one month after the collapse of the Union of Soviet Socialist Republics (USSR), projecting a signal of urgency in the movement of communist parties; (ii) the older statesmen from party conservatives, particularly Deng's rivalry camp, Chen Yun and Li Xiannian, were suffering from health problems near the end of their death[5]; (iii) the Tiananmen's specter had been fading slightly, and finally (iv) the expected forthcoming party congress would be held by the end of the year with a confirmation of old agenda (e.g., return to conservatism or cage theory view of market economy) or announcement of a new political line.

Meeting the imperatives of the party and new situations globally, Deng Xiaoping traveled to Guangdong province, the southern part of the country, where he spent five days in Shenzhen and another six days in Zhuhai, two of his signature cities in the Special Economic Zone (SEZ) exemplified by his reform and opening programs. In each of the places he visited with his family alongside, Deng Xiaoping reasserted the reformist spirit, exhorting local cadres to experiment with bolder steps in order to kill their way out for

[4] Figure C.1.1 in the appendix C.1 offers an event flow of Deng's Southern Talks.

[5] Li Xiannian died half a year following Southern Talks. Chen Yun was invited to join Deng Xiaoping for the Southern Talks as a signal of party unity, yet failed to show up for health reasons. See Ch. 23, Vogel (2011).

a better future. In particular, Deng visualized Shenzhen in the hopes that one day it would speed up its development by catching up with the four little dragons: Singapore, South Korea, Hong Kong, and Taiwan.

The most formidable challenge that faced the party leadership was ideological obstacles, given the collapse of USRR and the tragedy of Tiananmen. The public morale was low and expectations for further crackdowns increased as policy programs of anti-color revolution unfolded. The theoretical issues over whether, to what extent, and how a genuine market economy can be compatible with the ideals and theories of classical socialism were, however, deliberately brushed away, as Deng asserted famously in one of the passages within his Southern Talks, circulated first as a formal party document and crystalized posthumously (circa 1997) as part of the CPC's official ideologies and guiding principles, *Deng Xiaoping Theory*:

> Whether or not to have more planning or market-based economy is not the deciding difference between socialism and capitalism. The planned economy does not equal socialism, and capitalism has planning too. The market-based economy does not equal capitalism either, and socialism can have markets as well. Plans and markets are nothing but economic means. The fundamental aim of socialism is to unleash and develop productivity, eliminate exploitation and economic polarization so as to achieve common prosperity for all[6].

Whilst giving informal sessions to local party officials, reporters from Hong Kong were spreading the notes of Deng Xiaoping's speech, an act that was difficult for the conservatives in Beijing to ignore. Incumbent party secretary Jiang Zemin remained alerted to the reaction of elders and the active shots fired by Deng Xiaoping. Meanwhile, the Hong Kong newspaper

[6]This quote can be found via *The Selected Works of Deng Xiaoping (vol.3)*, the original version in Chinese (The People's Publisher, 1993/2009.11 version). The specific paragraph was excerpted from the article titled "Major points over talks from places like Wuchang, Shenzhen, Zhuhai, Shanghai, and others"[Zai Wuchang, Shenzhen, Zhuhai, Shanghai dengdi de tanhua yaodian] (Jan. 18 - Feb. 21, 1992). The english translation was provided by the author of this paper. For English version, the translated text can be found via Deng (1993).

and television began to spread Deng's message. By the time the Southern Talks ended in January 30, 1992, the official party media was kept silent on Deng's trip to Guangdong as well as making no political announcements as rumors began spread from the southern part of the country. Immediately afterwards, Deng Xiaoping went to Shanghai with his family members to enjoy the Chinese New Year for about three weeks after heading to the capital for a political cleanup, anticipating the outcome of his finale. During the weeks of the Chinese New Year, party secretaries and high officials paid visits to Chen Yun for advice, awaiting the changing winds to arrive. Deng Liqun, a notable party headliner, shot back, clearly reflecting the planner's message, "People who stubbornly cling to their liberal beliefs are using anti-leftism as a pretext to oppose the Communist Party leadership and the socialist system"[7].

However, by then the political tide had shifted entirely in Deng's favor. A notice prepared by Beijing on Deng's talk was circulated to all members of the central committee by the end of February. From the March Politburo meeting, President Yang Shangkun and Party Secretary Jiang Zemin were in full support of Deng's statements. In late May, the party center initiated the implementations of Deng's political spirit into concrete policy packages. Jiang, on June 9, delivered a speech adocating Deng's speech to high-level students at the Central Party School. By then, the reformers had won. As his conservative colleague, Li Xiannian, reached the end of his life, Chen Yun visited Shanghai Pudong and approved further efforts to economic development, despite in his cautious tone. As Deng Xiaoping consolidated his victory with his political agenda, the 14th Party Congress held between October 12-18, put into the party's politico-economic agenda as a striving goal: to build a socialist market economy.

Unlike previous analysis on this topic, this paper offers an alternative theory of institutional adaptation: a combination of elite-driven policy debates with entrepreneurial responses at the grassroots. Fighting over Maoist and quasi Maoist ideologies (e.g., Hua Guofeng), Deng fought back to high-level politics through a Maoist critique of Maoist errors - seeking truth from facts.

[7]Re-quoted from Ch. 23, Vogel (2011)

Reigning in party liberals - Hu Yaobang and Zhao Ziyang, two successors, handpicked by him - Deng Xiaoping scapegoated them for failing to handle strategically criticisms that had been hurled against the party as a consequence of liberating policy over the course of reformist path[8]. In the case of Hu Yaobang - a good-hearted comrade by all accounts, Deng considered him to be too lenient on the party's political enemies, who not only disagreed with the fundamental lines of the party but also cannot be reasonably convinced. For Zhao Ziyang, the failed pricing reforms almost invalidated the "dual-track" approach[9] by escalating student protests and public anger over profiting from the gap between "planned price" governed by state quotas and market prices. The moment the policymakers were viewed as both promoters and beneficiaries of reform, the political logic as well as moral appeals crumbled into tears.

The tragedy of Tiananmen and the subsequent reassertion of power by the party conservatives (Chen Yun and Li Xiannian), not to mention the promotion of Jiang Zemin, Shanghai party chief, seemed to have scored for the conservatives: the markets are allowed but would be kept small. This is where Deng Xiaoping's Southern Talks came in, taking on the conservatives when the two elders were ailing (Li Xiannian died in 1992 and Chen Yun 1995). How Deng Xiaoping turned around a losing game into a stunning victory for the reformist spirits amid a pessimistic and depressing mood following the Tiananmen tragedy and capitalized on that political victory through formal party documents was a major historical event for CPC. It capstone the phrase, "market economy", firmly into the ideology of Socialism with Chinese Characteristics, eventually sidelining the theoretical debate over the relationship among capitalism, socialism, and markets. This could be what Deng sincerely meant by saying that "China must watch out for the

[8]Speaking from the lens of socio-scientific perspective of the political economy analysis, any policy reform entails naturally an uneven set of gainers and loser in absolute as well as relative levels, if not rates. The size of gains and losses among gainers and losers can be quite diffused.

[9]Economists (Lau et al., 2000) seem to applaud that as a success, which this author cautiously disagrees. The dual-track approach to reform could have undermined the party's legitimacy, had not full transitions to socialist market economy been enshrined into the party's constitution.

Right, but mainly defend against the Left." (Baum, 1996, p. 341)

In short, from the perspective of leadership initiated institutional change, Deng's South Talks was recognized as a critical watershed event not only because of political content within the Southern Talks, but more importantly, how the battle of ideas paved the way for a final consolidation of a political victory over the competing vision proffered by the cage theory of market socialism. With Deng Xiaoping and Chen Yun leaving the political podium, China's institutional transition into full-fledged market socialism became the outcome of an inevitable end to a set of conflicting ideological battles of the 80s, an era of catching up development.

3.3 An Empirical Exercise

In this section, I outline the economic logic that lays the groundworks for Chen Yun and Deng Xiaoping's visions. This can be formalized via a model. Let's consider an economy with three different kinds of occupations (agents): the public servants, the private firm owners (entrepreneurs), and the workers. In a simple form, each person carries with them with a different measure of ability and motivation to serve the public. In this economy the individual agent can choose his or her occupation. The public servants receive public wages, ego rents, and other forms of compensations. The private firm owners maximize the profit of his firm. The workers can choose between the public or the private sector. Define a static equilibrium to a a situation where no agent can improve his or her welfare by changing occupation. Consider two situations in this model economy: one with a strict limit on hiring workers for the private sector (i.e., the cage economy)[10] and the other without such limits[11].

I consider a transition from the cage economy to a market economy without cages. Consider two measures for comparison: extensive margins, defined as the number of private firms in the economy, and intensive margins, de-

[10]This is more or less consistent with Chen Yun's vision. Empirically, China has witnessed a period of reform where labor hiring for the private sector has quantitative limits.

[11]This coincides with Deng's vision of market economy.

fined as the average value of top private firms associated with the super rich entrepreneurs[12]. The study of super rich persons in China is more closely related to intensive rather than extensive margins. However, empirically, both margins of the private sector increased since Southern Talks. Figure 3.1 plots two curves presenting the changing numbers of private firms and small owner firms (getihu) during China's reform era, documented by National Bureau of Statistics. Since Deng's Southern Talks, both curves witnessed an upward trend.

As an imperfect measure of intensive margins, Figure 3.2 offers a series of box plots depicting the wealth dispersions from the fifties super-rich Chinese persons from 2000 to 2018 in a great transformation (Brandt and Rawski, 2008). Initially, the gap amongst the wealthiest persons was small before 2007, nonetheless that dispersion rose to a situation where a few superstar billionaires outpaced each other within the group of super-rich persons in our database.

Therefore, the role of Deng's Southern Talks served the purpose of deviation from Chen Yun's cage theory and paved the reformers' way to carrying out Deng Xiaoping's version. Essentially, by lifting the cage bars on hiring labors would ultimately increase the size of the private firm and allow ambitious entrepreneurs to fulfill their dreams, resulting in an increase of entrepreneurial surplus. Next, with an expected gain in the private sector, the most capable people would leave the public sector, decreasing competitions within the highly motivated political elites. Finally, a larger size of the private sector would then in turn boost the base of government revenue, creating a countervailing effects to the loss of talents within the public sector.

Following this logic, this paper advances the thesis that the removal of developmental barriers imposed for political economy reasons (Chen Yun's cage, in this case), could offer several explanations/predictions for the empirical work:

1. The private sector expands in both intensive and extensive margins,

[12]Other measurements are possible. For example, intensive margins can be defined as the average labor hirings or tax payments for the top private firms associated with the super rich persons.

consistent with Figure 3.1 and Figure 3.2.

2. High ability people are leaving the public sector (especially around the kink) and starting to become entrepreneurs. This can be detected by the fact that the social compositions of the entrepreneurs (especially around the kink) begin to change.

The empirical part of the paper concentrates on the second point of the prediction. To move further, a few caveats are needed. The empirical difficulty in assessing the predictions of the model outlined in the previous is to find a credible source of political shocks and identify the response from the entrepreneurial side. This is further complicated by two issues, mostly driven by data: studies on political economy tend to use either local source of variations to identify the impact of decentralized competition, or private enterprise surveys, at often times missing the interaction between the two. In this paper, using Deng Xiaoping's Southern Talks as an exogenous political shock with credibly commitment impacts, I assess the changing social composition of the super-rich persons in China - focusing on the superstars. This novel approach has a number of benefits. First, in contrast to local variations, the regression discontinuity kink design exploits a nationwide shock as a way to gauge evidence for any plausible structural changes. Second, the regression discontinuity kink design offers some insights over the prediction of the models and addresses a challenge to Xiao (2019a): the role of generation shifts in changing the composition of super-rich persons. The idea is to offer evidence confirming the impact of a politically-induced structural change on the set of persons joining entrepreneurship and becoming superstar wealth creators. In the absence of the event of Southern Talks (i.e., with cage imposed), the effects from mere generation shifts possess the possibility of being smaller than what is realized and predicted by the proposed framework. Thirdly, this project relates the changes in the social composition of super-rich entrepreneurs to the impact-driven by Southern Talks, which is critical for the subsequent generation shift.

3.3.1 Empirical Framework: Regression Kink Design

The research design using an event shock like the Southern Talks suggests an empirical strategy based on a regression discontinuity kink design using semi-parametric techniques:

$$y_{ipc} = \alpha + \rho_1 T_i + \rho_2 T_i \times f(\text{time distance}_i) + Z_i'\beta + f(\text{time distance}_i) + \Phi_{pc} + \epsilon_{ipc} \tag{3.1}$$

Where y_{ipc} is the outcome of the research interest for a super rich person i based in province p with cohort c, and T_i is an indicator variable equal to one if the person i entered into entrepreneurship after Southern Talks, with zero otherwise. The founding year of the company by person i, a running variable, is used to determine whether it has been affected by Southern Talks. Z_i belong to a set of socio-economic variables (i.e., characteristics of the entrepreneur) independent of the assignment variable T_i. $f(.)$ is the regression discontinuity polynomial function, controlling for the shape around the neighborhood of discontinuous shock. Lastly, Φ_{pc} is a set of interaction terms between province and cohort fixed effects. In some specifications, Φ_{pc} is simply modeled as $\Phi_{pc} = \theta_p + \gamma_c$.

Regression discontinuity design has been used widely in spatial models (Dell, 2010; He et al., 2020) and election studies (Lee, 2008). In practice, $f(.)$ represents a polynomial function of the gap to the year of Southern Talks, 1992. The treatment assignment variable, $T_i \equiv 1(\text{Found Year}_i > 1992)$, designates the post Southern Talks binary[13]. The treatment impacts, ρ_s where $s \in \{1, 2\}$, capture the impact of Deng Xiaoping's Southern Talks on the set of entrepreneurial composition, under the assumption that the suitable window offers the right comparison. If $\rho_1 = 0$, then the regression discontinuity design captures the structural change induced by Southern Talks. If $\rho_1 \neq 0$, not only the outcome of interest changes following Southern Talks but also jumps at the discontinuous point[14].

[13] In the appendix section C.3, anecdotal evidence is provided to support this characterization. In short, Deng's Southern Talks gave rise to a cohort of billionaire entrepreneurs who previously held state sector jobs.

[14] To ensure against treating regression discontinuity as regression kink, both regression discontinuity design and regression kink design estimates are considered (Angrist and

The estimating framework based on sharp regression discontinuity design relies on two critical identifying assumptions (Card et al., 2015). One, the assignment variable, the time location to Southern Talks cannot be fully controlled by those choosing entrepreneurship before Southern Talks yet affects later comers. This implies that the suitable choice of the window for the comparison between those entrepreneurs joining prior to Southern Talks and immediately following the design afterward approximates a good experiment. Formally speaking, let y_{i1} and y_{i0} denote two potential outcomes under treatment and control. The entry year of an entrepreneur i determines not only the value of T_i, but also the time distance$_i \equiv$ (*the year of entry into entrepreneurship*$_i -$ 1992) from Southern Talks. This value can be used as inputs for $f(.)$. The running variable in the context can thus be the time distance defined above, or the raw year of entry by an entrepreneur. Identification requires at the discontinuous threshold, conditional expectation function (CEF) for $E[y_{i1}|td_i]$ and $E[y_{i0}|td_i]$ are continuous for an approximately good random assignment.

To assess the above concern, I examine the summary statistics table (see Table 3.1) of two groups separated by the Southern Talks with a suitable choice of windows: full sample, 1980-2000, and 1985-1995[15]. Across the five target measure of the social compositions, none of them are significantly different in terms of difference-test and distributional test across the three window periods. Thus, this could be taken as a confidence check for a plausibly good random assignment[16]. Amongst full sample and the window period of 20 years (1980-2000), the level of education has increased significantly, which could be indicative of strong generational change, consistent with significant changes in distribution. Yet, column (9) of Table 3.1 showcases that the changes are less significant in a narrow window. This signal of evidence could be supportive of the story: Deng's Southern Talk has somewhat facilitated generational changes by increasing the share of college graduates.

Pischke, 2008).

[15] Other datasets and settings might be capable of performing a bandwidth selection. In this particular context, the bandwidth selection is decided by these three window periods.

[16] To ensure against treating regression discontinuity as regression kink, both regression discontinuity design and regression kink design estimates are considered (Angrist and Pischke, 2008).

In addition, the continuity of the running variable at the kink needs to be ensured against manipulation. To make an assessment of the validity of the assumptions underlying the regression discontinuity and regression kink design, Figure 3.3 offers the histogram and kernel density reflecting the entering year of the first job (Panel A) as opposed to becoming an entrepreneur (Panel B). Most of the super-rich persons in our database were employed far earlier than the time of Southern Talks whereas the timing of becoming an entrepreneur was shown to be rather balanced across the two sides of Southern Talks. Notably, the entry years of the super rich persons seem to be concentrated around the timing of Southern Talks and gradually fade out, suggesting that the high chances of becoming super rich are somewhat associated with a small window period around Southern Talks.

Manipulation testing for falsification of regression discontinuity design requires that those entrepreneurs could delay their investment projects knowing that Deng Xiaoping would do something to overturn the gloomy mood in the midst of the post-Tiananmen. This situation was rather unlikely because it requires the knowledge of the timing of USRR's collapse as well as the response given by Deng via Southern Talks. To address this concern, I falsify the continuity assumption of the running variable around the cutoff using a variant of McCrary (2008). Appendix Figure C.3.1 presents a density continuity test near the cutoff (Cattaneo et al., 2018). A local polynomial density estimator by Cattaneo et al. (2019) turns out a robust T value of 1.3304 with an associated p-value of 0.1834, suggesting that manipulation of entry was rather unlikely.

3.3.2 The Impact of Southern Talks on the Social Composition of Entrepreneurs

In this section, the impact of Southern Talks on the changing social composition entrepreneurs is estimated under the evaluation of a number of measures. The dataset applied in this paper is compiled by the author and his coauthors via CSRP project, funded by a research grant proffered by National Social Science Foundation of China (18ASH003) under the title "Research

on New Generation of China's Private Entrepreneurs: Social Composition, Attitude, and Actions".

In short, the overarching aim is to look for plausible structure turning points as well as immediate impacts as induced by Southern Talks. While the presence of generation shifts does provide a threat to my identification strategies, this lurking factor coevolves with the documented structural changes rather than becoming a contributing factor to it at a particular time. In other words, despite shifts in generational characteristics, Deng's Southern Talks as a politically exogenous event facilitates the changes in these variables that are plausibly detected by the regression kink design. In all graphs and regressions, cohort fixed effects are included to minimize the unobservable generational shifting factors.

Graphical Evidence:

I begin my discussion by plotting three outcome variables for the CSRP against the running variable, as shown in Figure 3.4. These are binned scatterplots, a non-parametric method of plotting the conditional expectation function, through absorption of unobservable provincial and cohort level fixed effects. Among CSRP, Panel A documents a piece of evidence revealing that the share of college degree holders continuously increases up until the South Talks, an event which marked promising opportunities for wealth making, then gradually declines as the corresponding window of opportunity fades out. This is consistent with the picture of Panel C where those well-educated persons having state sector jobs leaving their careers around that window of opportunity. Panel A and C thus provide visual evidence of high ability, highly educated state sector former employees leaving their careers and venturing into entrepreneurs, eventually making to the top. In both cases, the highest share is reached at the time of Southern Talk. Panel B shows that the share of party members do not change drastically before and after the Southern Talks.

Accordingly I plot these three measures respectively for the parental father of the CSRP in Figure 3.5[17]. The picture is less clear. The share of

[17] A recent paper on entrepreneurship in China has tackled the question of social

party membership does not change significantly before and after the Southern Talks (Panel E). The share of college degree for the parental father seems to have reached a low point while that share for the individual has climbed to a climax point (Panel D). In panel F, the trend of a declining share for the parental father of CSRP does not stop after the Southern Talks.

Another binned scatterplot is provided by Figure 3.6 on the age structure (Panel A) and gender composition (Panel B) of the entrepreneur. Panel A documents a slight change in the age structure of entering CSRP: the cohort becomes younger on average following Southern Talks with a flatter slope. By contrast, the share of female entrepreneurs in the CSRP reversed from a growing trend to an experience of declination.

Regression Estimates:

Table 3.2 reports the regression kink estimates for the changing social composition of super-rich persons following Southern Talks, with standard errors clustered at the provincial level and cohort level. Across all specifications, the estimated coefficients for the jump (ρ_1) is inadequate in significantly rejecting zero. Three specifications using second-order polynomials (column 2, 5, and 8) do not increase explanatory power, giving credence to an underlying linear trend. The kink effect (ρ_2) on share of college degrees (column 1, 2, and 3) offers an estimate between -0.027 and -0.037, confirming that the graphical evidence of panel A of Figure 3.4. This could mean that the share of college degree holders amongst the CSRP drops by about 10% in three years' time from South Talks, absence of other changes. The fact that a large number of highly education persons joining entrepreneurs, among which a few stand out, suggests that the existence of this specific window opportunity around the Southern Talks mentioned earlier. The fact that these highly educated people have flocked into the trend of founding their own business around that window period is coupled with another fact: quite a few of these career switchers have previously served in the state sector. Based on the specification (7) and (9), the estimated kink effect is approximately -6%. Ultimately, both values reach close to the top of their values at or

determinants of self-employment (Jia et al., 2019).

nearby the event of Southern Talks. This is a strong supportive evidence for the anecdotal evidence of an existence of the 1992 cohort of entrepreneurs[18]. Given the magnitude of the effects, the event of Southern Talks significantly affected the intensive margin of China's private sector, as measured by the composition of super rich persons.

The kink effect on the share of party membership is somewhat less effective, as shown in panel B of Figure 3.4. The kink effect is estimated to be nonsignificant, failing to indicate that this value reached the peak during the event of Southern Talks. In other words, this statistic in particular is less strongly related to the share of college degree holders and that of state sector experience among CSRP sample.

Table 3.3 reports the estimated kink effects for the parental father of these super-rich persons following Southern Talks using the same outcome variables as for the persons themselves. Following results from column (2), (5), and (8), the estimated effects on the second-order polynomial, as in the previous case, fail to generate meaningful results. Across all specifications, the estimated jump effects and the kink effects cannot significantly reject the zero threshold. This meant that during the window of money making opportunity around the Southern Talks parental characteristics among CSRP were only marginally related to the core story. Those people who flocked into entrepreneurship with college degree and prior state sector experiences were having all sort of parental fathers, making detectable changes regarding these attributes less visible. To put it differently, the window of opportunities surrounding the Southern Talks can be viewed as a fair race open to all children of family backgrounds.

The following exercise tests that the core storyline holds true among various kinds of window periods and remains robust against control variables. Table 3.4 deals with issues regarding multiple windows since the regression kink design seeks to capture local effects. Restricting the sample to a window of 1980-2000 (column 1 and 3), the estimated kink effects remain robust to the magnitude for the share of college degree and the share of state employment at -3% and -6% respectively. Further shrinking the sample size to a window

[18] Appendix C.3 provides more detailed information.

period of 1985-1995 (column 2 and 4) seems to coincide with the window of opportunity unleashed by Southern Talks. None of the estimated kink effects can significantly reject zero at 5%, indicative of a period known as "sea jumping" that defines the instance when state employees switched their jobs to become entrepreneurs as their expectations over return prospects (adjusted for risk preference) began to shift in the midst of the grand debates over planned economy versus market economy[19].

Table 3.5 examines this consistent relationship against two control variables: gender and ethnicity. Using full sample, the kink effect for the share of college degree stands at 3.7% in the negative for both variables (column 1 and 2). Similarly, under the full sample, the kink effect for the share of state employments is estimated to be at 6.7% in the negative for these two controls (column 3 and 4), showing that the variability of ethnicity and gender is small compared with the main effect.

One could possibly argue that the year of Southern Talks may not have been the "correct" shock year for a regression kink design. Table 3.6 examines the timing of the kink effects using four alternative timing indicators. Looking at panel A and B as the timing of event "moves" one and two years ahead respectively, the kink effects on the share of college degree holders remain at the right magnitude but with larger standard errors. On the other hand, the magnitude on the kink effect inflates. One explanation of this inflation is that the share of college degree holders, the statistic, has reached its peak earlier than that of state employment, another statistic. In addition, following the Southern Talks, those with state employment jobs continue to flow into the private marketplace, thus delaying the peak for that particular value. As a result, the kink estimates becomes larger in absolute values. This explanation is consistent with the estimated coefficient shown in panel C an D when the timing of the event "moves" backwards first in one year and then two. The kink effects on the share of college degree holders go up in absolute terms from the original 3.7% (column 3, Table 3.2) to 4% (Panel

[19] Appendix Table C.1.1 considers a non-parametric and data-driven estimation method based on Calonico et al. (2014). Across three methods (conventional, bias-corrected, and robust), the share of state-employment declined significantly by 6% per year for the super-rich persons after Southern Talks.

D, Table 3.6). The estimated coefficient on the share of state employment remain roughly the same at around 6% in absolute values.

Holistically, the presented evidence indicates that the timing of 1992 is one of the major impacting point consolidating the political vision. The window of opportunity might have already opened up prior to 1992, perhaps going back to 1985-1988. That is the reason why those individuals eventually becoming super rich persons utilizes that window period of opportunity, confirming the concentration of entrepreneurial entries in panel B of Figure 3.3. Viewed from the sample of CSRP, Deng's Southern Talks facilitates and consolidates the trends that have already been lurking in the late 80s, had it not been abruptly interrupted by the Tiananmen Tragedy.

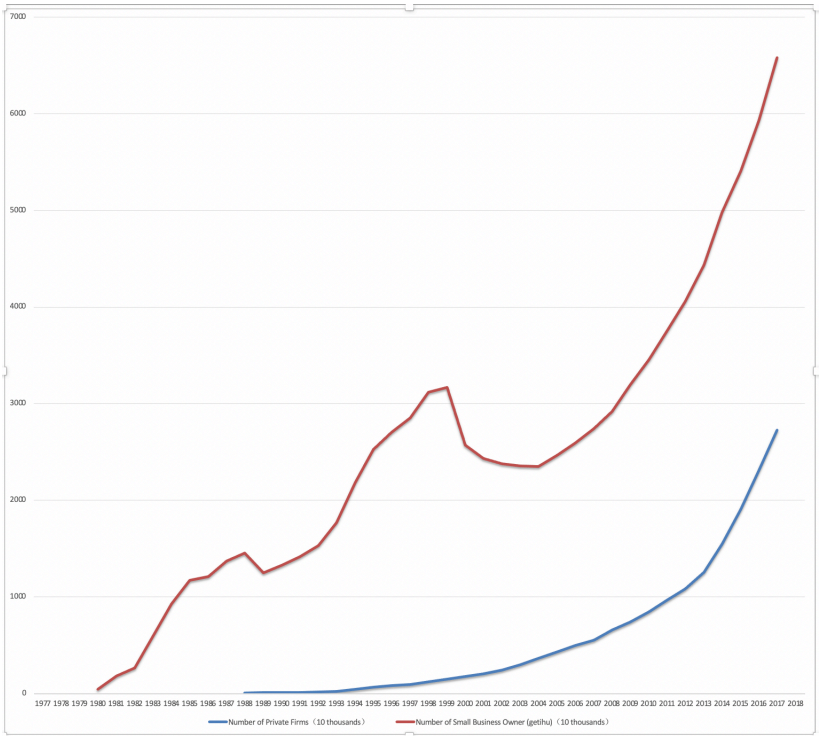
3.4 Conclusion

Using Deng Xiaoping's Southern Talks as a historical event, this paper applies the estimations from the kink eects of an exogenous political shock on the social composition of successful entrepreneurs. The paper's analysis shows that a number of the most intelligent and highly educated former state employees have understood Deng's message and captured that window of opportunity around the period of his Southern Talks, eventually joining the small population that consist of super rich persons in China. The regression kink estimates report a 3% decline in the share of college degree holders and 6% decline in the share of state-employment history amongst the sample of super rich Chinese persons, revealing the fact that highly educated persons with state sector experiences have understood the messages of Southern Talks and utilized that window of opportunity to their advantages. By highlighting the channel of talent allocation, this paper attempts to offer another plausible channel underpinning China's economic success through the perspective of political commitments.

Based on a dataset gathering the fifty richest persons in mainland China, this paper presents suggestive evidence that underpin the impact of Southern Talks on the social composition regarding this set. However, the reported evidence is still primitive. Indeed, the evidence reported here can only be ex-

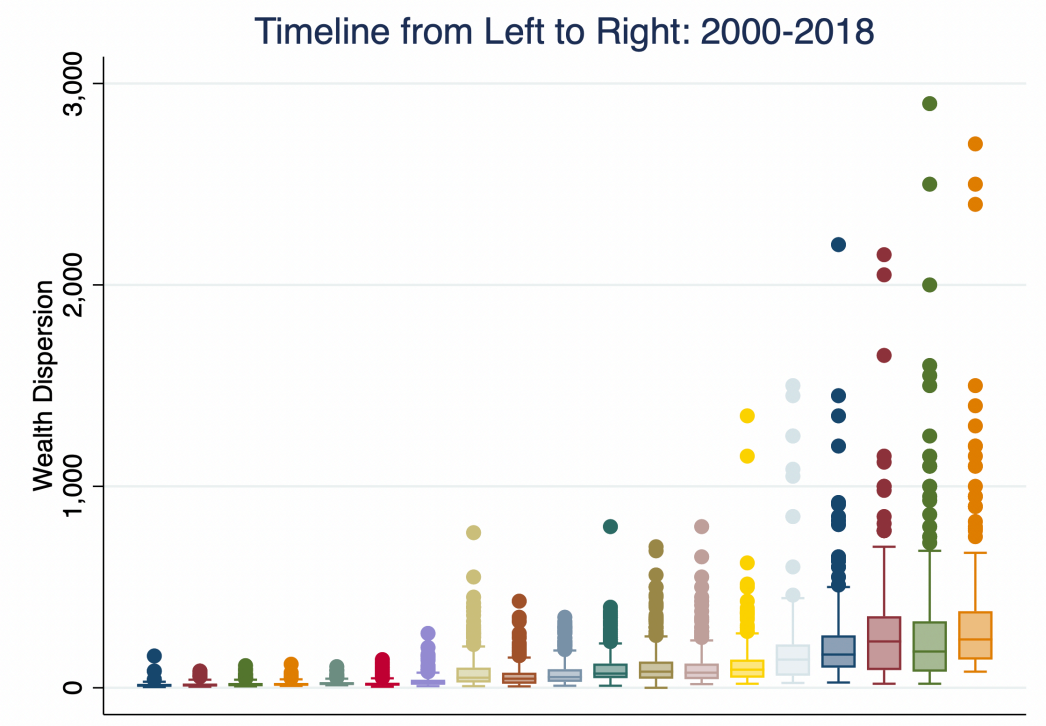
plorative and experimental future research could trace the impact of Southern Talks on many different layers of Chinese political economy. Lack of comprehensive personal history data on the super rich people who marginally fell behind top 50 could biases the estimate of effects. Therefore, the results reported here at best complement studies like (Fan and Lu, 2019 (2017) in its application of career histories and multi-year private enterprise surveys.

Figure 3.1: Two Measures of Extensive Margin: Number of Private Firms and Small Owner Firms (Getihu)



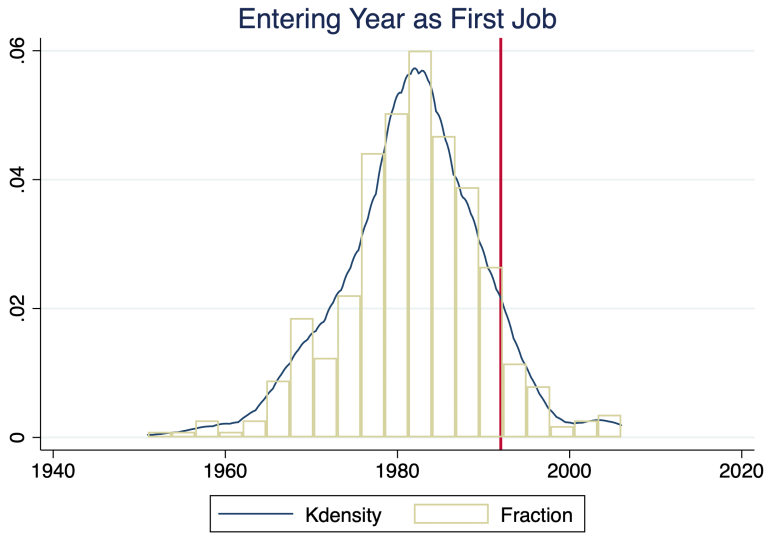
Notes: The red curve represents the evolution of the number of small owner firms (getihu) and the blue curve represents the evolution of the number of private firms. The source of the data comes from National Bureau of Statistics, available at `data. stats. gov. cn`.

Figure 3.2: Wealth Distribution of the Super Rich Chinese Persons: An Imperfect Measure of Intensive Margin

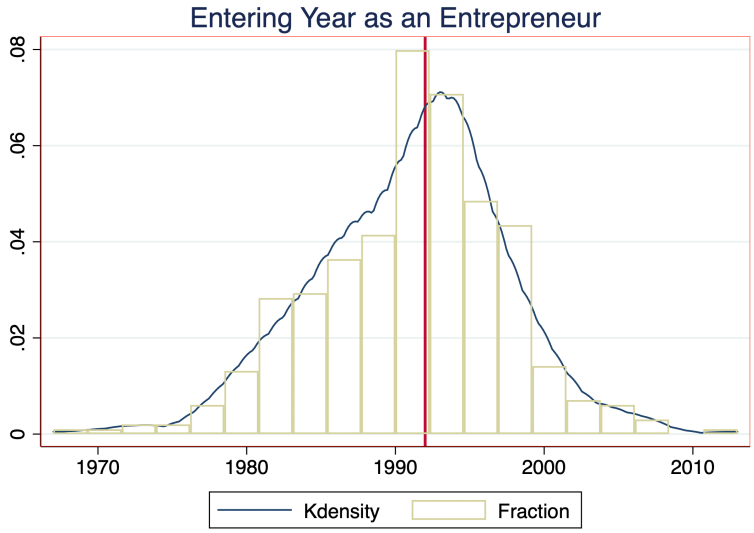


Note: This plot graphs the evolution of wealth distributions of the super rich persons in China from 2000 to 2018. For each boxplot, the dispersion is shown for a particular year. Dataset: CSRP (Lu et al.).

Figure 3.3: Histogram and Kernel Density: Entering Year of First Job and Becoming an Entrepreneur



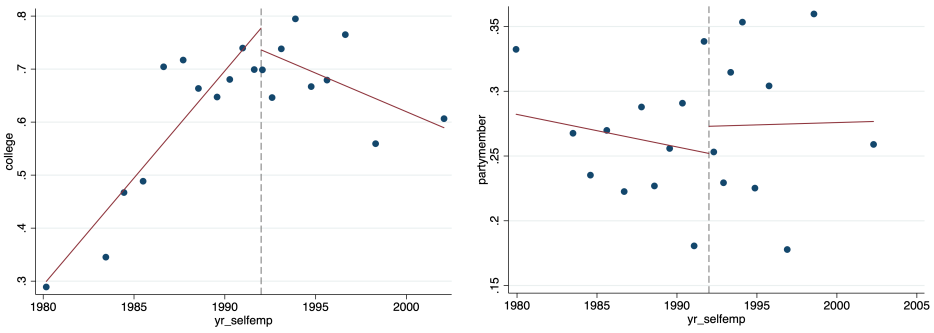
Panel A



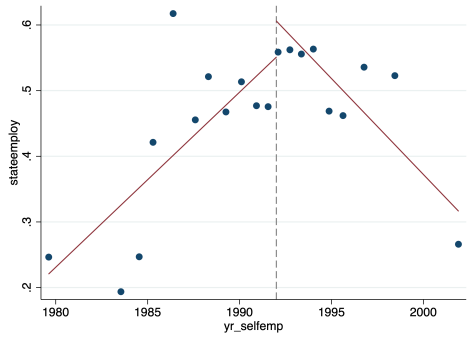
Panel B

Note: Panel A depicts the histogram and kernel density of the entering year of first job. Panel B depicts the histogram and kernel density of entering year as an entrepreneur. The red vertical line denotes year = 1992 when Deng Xiaoping made his Southern Talks. Dataset: CSRP (Lu et al.).

Figure 3.4: Graphical Evidence: The Impact on The Person's Attributes



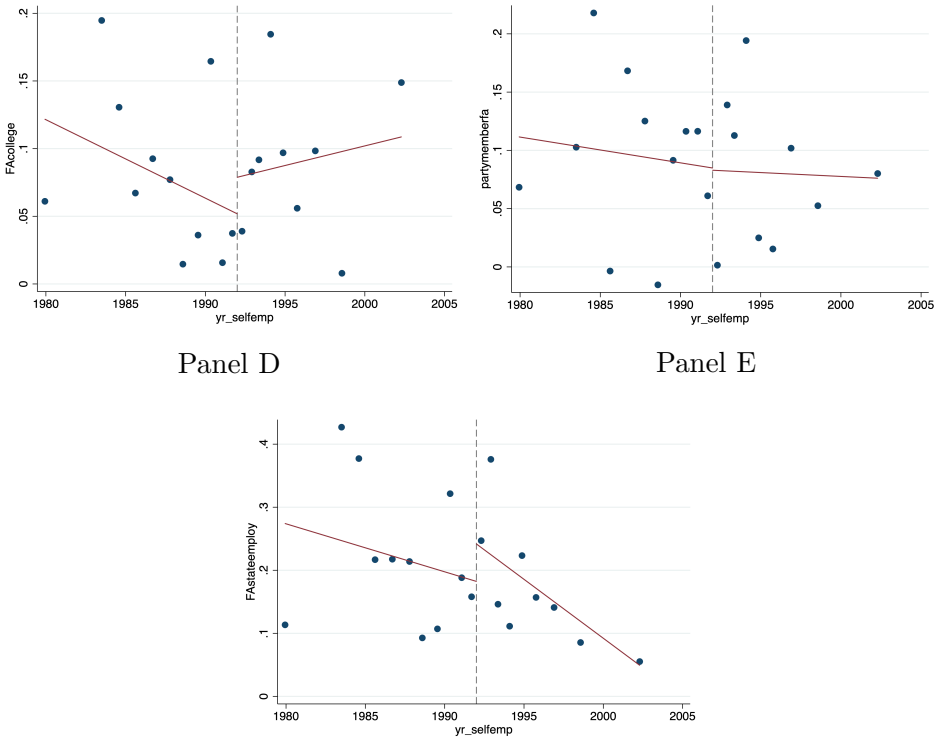
Panel A Panel B



Panel C

Note: This plot provides the regression discontinuity plot based on binned scatterplots, after absorbing provincial and cohort fixed effects. Outcome variable of interests from Panel A-C: the share of college degree, the share of party membership and the share of state sector experience by the entrepreneurs. The red vertical line denotes year = 1992 where Deng Xiaoping made Southern Talks. Dataset: CSRP. (Lu et al.)

Figure 3.5: Graphical Evidence: The Impact on Father's Attributes



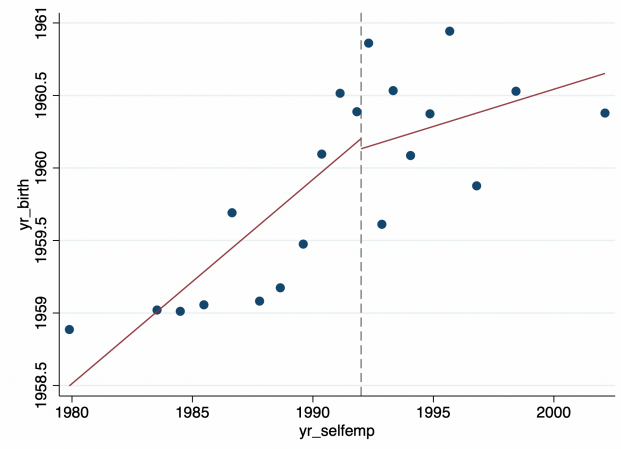
Panel D

Panel E

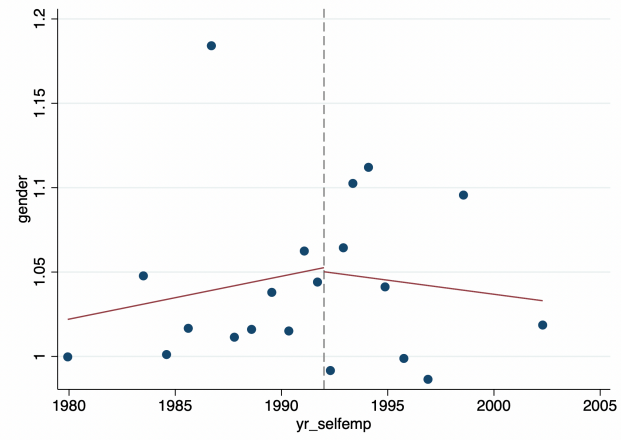
Panel F

Note: This plot provides the regression discontinuity plot based on scatterbins, absorbing provincial and cohort fixed effects. Outcome variable of interests from Panel D-F: the share of college degree, share of party membership, share of state sector experience by the entrepreneurs by the father of the entrepreneur. The red vertical line denotes year = 1992 where Deng Xiaoping made Southern Talks. Dataset: CSRP. (Lu et al.)

Figure 3.6: Graphical Evidence: Other Covariates



Panel A



Panel B

Note: Panel A and panel B provides binned scatter plot of the age of the entrepreneur and gender composition (male = 1). The red vertical line denotes year = 1992 when Deng Xiaoping made Southern Talks. Dataset: CSRP (Lu et al.).

Table 3.1: Summary Statistics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Full Sample			*1980-2000*			*1985-1995*		
	ST = 0	ST = 1	Diff-test	ST = 0	ST = 1	Diff-test	ST = 0	ST = 1	Diff-test
College degree	0.549	0.738	(0.0001)	0.579	0.739	(0.002)	0.638	0.731	(0.148)
	(0.499)	(0.440)	[0.002]	(0.495)	(0.440)	[0.028]	(0.482)	(0.446)	[0.740]
Party membership	0.290	0.234	(0.185)	0.277	0.251	(0.568)	0.265	0.292	(0.638)
	(0.455)	(0.424)	[0.883]	(0.449)	(0.435)	[1.000]	(0.442)	(0.457)	[1.000]
State employment	0.450	0.463	(0.799)	0.460	0.494	(0.534)	0.519	0.506	(0.836)
	(0.499)	(0.500)	[1.000]	(0.500)	(0.502)	[1.000]	(0.501)	(0.503)	[1.000]
Father's College degree	0.076	0.093	(0.519)	0.072	0.093	(0.457)	0.088	0.083	(0.892)
	(0.265)	(0.291)	[1.000]	(0.260)	(0.292)	[1.000]	(0.284)	(0.278)	[1.000]
Father's Party membership	0.088	0.098	(0.736)	0.091	0.094	(0.928)	0.082	0.083	(0.978)
	(0.284)	(0.297)	[1.000]	(0.288)	(0.292)	[1.000]	(0.276)	(0.278)	[1.000]
Father's State employment	0.231	0.176	(0.150)	0.241	0.170	(0.086)	0.247	0.177	(0.188)
	(0.422)	(0.381)	[0.887]	(0.429)	(0.376)	[0.712]	(0.433)	(0.384)	[0.925]
N	238	205		220	171		170	96	

Data source: CSRP (Lu et al.). Column (1)-(3) represents the whole sample. Column (4)-(6) represents the subsample where entry into entrepreneurship was made between 1980 and 2000. Column (7)-(9) represents the subsample where entry into entrepreneurship was made between 1985 and 1995. Column (3), (6), and (9) give t-test in parentheses and distributional test in square brackets.

Table 3.2: The Impact of Southern Talks on the Social Composition of Super Rich Persons

	(1) college	(2) college	(3) college	(4) partymember	(5) partymember	(6) partymember	(7) stateemploy	(8) stateemploy	(9) stateemploy
T	0.042	0.042	0.011	0.061	0.082	0.079	0.043	-0.119	0.055
	(0.086)	(0.100)	(0.088)	(0.075)	(0.091)	(0.079)	(0.065)	(0.096)	(0.085)
	(0.093)	(0.046)	(0.102)	(0.032)	(0.081)	(0.033)	(0.053)	(0.043)	(0.057)
TD	0.026	0.023	0.035	-0.001	-0.005	-0.011	0.030	0.045	0.032
	(0.008)	(0.018)	(0.009)	(0.009)	(0.018)	(0.010)	(0.007)	(0.011)	(0.007)
	(0.005)	(0.014)	(0.008)	(0.005)	(0.013)	(0.013)	(0.008)	(0.014)	(0.012)
TD × T	-0.032	-0.027	-0.037	-0.006	-0.009	0.001	-0.060	-0.012	-0.067
	(0.014)	(0.033)	(0.014)	(0.010)	(0.018)	(0.014)	(0.012)	(0.028)	(0.013)
	(0.014)	(0.020)	(0.023)	(0.006)	(0.015)	(0.013)	(0.010)	(0.028)	(0.019)
TD Squared		-0.000			-0.000			0.001	
		(0.001)			(0.001)			(0.001)	
		(0.001)			(0.001)			(0.001)	
TD Squared × ST		-0.000			0.001			-0.006	
		(0.001)			(0.001)			(0.002)	
		(0.002)			(0.002)			(0.002)	
Province FE	YES	YES		YES	YES		YES	YES	
Cohort FE	YES	YES		YES	YES		YES	YES	
Interaction FE			YES			YES			YES
N	372	372	372	428	428	428	393	393	393
R^2	0.183	0.183	0.253	0.242	0.243	0.331	0.173	0.183	0.281

Notes: Standard errors in parentheses are clustered at the provincial level and cohort level. T stands for incidence of Southern Talks in 1992. TD refers to the time distance to Southern Talks. An unreported constant is included in each specification. Column (1)-(3) use the person's college degrees as binary dependent variable. Column (4)-(6) use the person's party membership employment as binary dependent variable. Column (7)-(9) use the person's state employment as binary dependent variable.

Table 3.3: The Impact of Southern Talks on the Social Composition of Parental Father of the Super Rich Persons

	(1) FAcollege	(2) FAcollege	(3) FAcollege	(4) FApartymember	(5) FApartymember	(6) FApartymember	(7) FAstateemploy	(8) FAstateemploy	(9) FAstateemploy
T	-0.017	0.027	-0.032	-0.018	0.021	-0.014	-0.053	0.050	-0.051
	(0.031)	(0.056)	(0.037)	(0.059)	(0.071)	(0.070)	(0.045)	(0.061)	(0.052)
	(0.039)	(0.022)	(0.052)	(0.055)	(0.048)	(0.053)	(0.065)	(0.051)	(0.082)
TD	-0.003	-0.007	0.002	-0.003	0.005	-0.001	-0.003	-0.012	-0.004
	(0.002)	(0.008)	(0.003)	(0.004)	(0.011)	(0.005)	(0.006)	(0.015)	(0.006)
	(0.002)	(0.005)	(0.004)	(0.004)	(0.015)	(0.003)	(0.004)	(0.006)	(0.008)
TD × T	0.009	-0.002	0.004	0.006	-0.027	0.005	-0.003	-0.034	-0.001
	(0.011)	(0.020)	(0.013)	(0.011)	(0.020)	(0.014)	(0.013)	(0.025)	(0.015)
	(0.006)	(0.018)	(0.005)	(0.011)	(0.015)	(0.009)	(0.010)	(0.009)	(0.012)
TD Squared		-0.000			0.001			-0.001	
		(0.000)			(0.001)			(0.001)	
		(0.000)			(0.001)			(0.000)	
TD Squared × ST		0.001			0.001			0.003	
		(0.001)			(0.001)			(0.001)	
		(0.001)			(0.002)			(0.001)	
Province FE	YES	YES		YES	YES		YES	YES	
Cohort FE	YES	YES		YES	YES		YES	YES	
Interaction FE			YES			YES			YES
N	428	428	428	428	428	428	428	428	428
R^2	0.059	0.062	0.122	0.087	0.095	0.173	0.072	0.081	0.154

Notes: Standard errors in parentheses are clustered at the provincial level and cohort level. T stands for incidence of Southern Talks in 1992. TD refers to the time distance to Southern Talks. An unreported constant is included in each specification. Column (1)-(3) use the parental father's college degrees as binary dependent variable. Column (4)-(6) use the parental father's party membership employment as binary dependent variable. Column (7)-(9) use the parental father's state employment as binary dependent variable.

Table 3.4: Robustness Checks: Multiple Windows

	(1) college	(2) college	(3) stateemploy	(4) stateemploy
T	0.008	-0.108	-0.011	-0.179
	(0.109)	(0.208)	(0.117)	(0.160)
	(0.035)	(0.203)	(0.049)	(0.045)
	[0.103]	[0.174]	[0.103]	[0.177]
TD	0.033	0.040	0.039	0.028
	(0.017)	(0.017)	(0.009)	(0.015)
	[0.011]	[0.022]	[0.007]	[0.031]
TD × T	-0.030	0.028	-0.061	0.040
	(0.028)	(0.096)	(0.022)	(0.047)
	[0.018]	[0.096]	[0.012]	[0.069]
Interaction FE	YES	YES	YES	YES
Window	1980-2000	1985-1995	1980-2000	1985-1995
N	339	234	357	242
R^2	0.243	0.277	0.293	0.301

Notes: Standard errors in parentheses are clustered at the provincial level and cohort level. The standard errors in the brackets are based on the Huber-White robust errors. T stands for incidence of Southern Talks in 1992. TD refers to the time distance to Southern Talks. An unreported constant is included in each specification. Column (1)-(2) use the person's college degrees as binary dependent variable. Column (3)-(4) use the person's state employment as binary dependent variable.

Table 3.5: Robustness Checks: Control Variables

	(1) college	(2) college	(3) stateemploy	(4) stateemploy
T	0.009	0.010	0.055	0.069
	(0.088)	(0.089)	(0.086)	(0.085)
	(0.100)	(0.104)	(0.058)	(0.060)
	[0.090]	[0.090]	[0.089]	[0.089]
TD	0.034	0.034	0.032	0.032
	(0.009)	(0.009)	(0.007)	(0.007)
	(0.008)	(0.008)	(0.013)	(0.012)
	[0.009]	[0.009]	[0.009]	[0.009]
TD × T	-0.037	-0.037	-0.067	-0.067
	(0.014)	(0.014)	(0.013)	(0.014)
	(0.021)	(0.023)	(0.020)	(0.020)
	[0.016]	[0.016]	[0.015]	[0.015]
Interaction FE	YES	YES	YES	YES
Window	Full Sample	Full Sample	Full Sample	Full Sample
Controls	Gender	Ethnicity	Gender	Ethnicity
N	372	372	393	393
R^2	0.258	0.253	0.281	0.291

Notes: Standard errors in parentheses are clustered at the provincial level and cohort level. The standard errors in the brackets are based on the Huber-White robust errors. T stands for incidence of Southern Talks in 1992. TD refers to the time distance to Southern Talks. An unreported constant is included in each specification. Column (1)-(2) use the person's college degrees as binary dependent variable. Column (3)-(4) use the person's state employment as binary dependent variable.

Table 3.6: Further Examination of the Kink

	(1) college	(2) college	(3) college	(4) stateemploy	(5) stateemploy	(6) stateemploy
			Panel A: Year = 1993			
Kink Effect	-0.035	-0.035	-0.035	-0.073	-0.073	-0.074
	(0.029)	(0.028)	(0.029)	(0.016)	(0.016)	(0.016)
Control	No	Gender	Ethnicity	No	Gender	Ethnicity
R^2	0.253	0.258	0.253	0.282	0.277	0.287
			Panel B: Year = 1994			
Kink Effect	-0.039	-0.039	-0.039	-0.090	-0.090	-0.091
	(0.029)	(0.028)	(0.029)	(0.007)	(0.007)	(0.007)
Control	No	Gender	Ethnicity	No	Gender	Ethnicity
R^2	0.251	0.256	0.252	0.288	0.288	0.300
			Panel C: Year = 1991			
Kink Effect	-0.038	-0.038	-0.038	-0.065	-0.065	-0.064
	(0.020)	(0.019)	(0.020)	(0.021)	(0.022)	(0.022)
Control	No	Gender	Ethnicity	No	Gender	Ethnicity
R^2	0.254	0.259	0.254	0.280	0.280	0.291
			Panel D: Year = 1990			
Kink Effect	-0.040	-0.040	-0.040	-0.063	-0.063	-0.062
	(0.018)	(0.017)	(0.018)	(0.022)	(0.023)	(0.023)
Control	No	Gender	Ethnicity	No	Gender	Ethnicity
R^2	0.255	0.260	0.255	0.278	0.278	0.287

Notes: Standard errors are clustered at the cohort level. All regressions use interacted fixed effects. Kink effect refers to estimated coefficient ρ_2 in equation (3.1). An unreported constant is included in each specification.Column (1)-(3) use the person's college degrees as binary dependent variable. Column (4)-(6) use the person's state employment as binary dependent variable.

Appendix A

Does Authoritarian Turnover Deliver?

A.1 Additional Information

Authoritarian Turnover in a Regime Transition Framework and Its Relationship with the Democratization Literature.

Papers on political transition and development are often concerned with a binary coding scheme for democracy and dictatorship, an analysis that might overemphasize the effect of changing institutional rather than the selection of leaders. My contribution to pinpointing ATs offers an estimation opportunity by focusing on part of the democratizing effects. Technically speaking, this paper proposes a decomposition of previous effect, which captures the democratization effects, defined as $\mathbb{E}(\Delta y^s_{ct}(1) - \Delta y^s_{ct}(0)|D_{ct} = 1)$, following a transition to democracy on GDP s period after time t for country c, after democratization at time t for country c ($D_{ct} = 1$). My analysis is split into two parts: the effect of ATs, which measures the effects from authoritarian turnovers, and transitional effects from democratizing.

To see this, define $T_{ct} = 1$ if an old authoritarian regime for country c breaks down at time t. Either one of the two possible scenario, barring civil war or other anomalies, must occur: a transition into a new authoritarian regime with leadership turnover or democratizing. The new formulation below:

$$\Delta^s = \underbrace{\mathbb{E}(\Delta y^s_{ct}(T=1) - \Delta y^s_{ct}(T=0)|T_{ct}=1)}_{\text{average effect from political turnover}} + \underbrace{\mathbb{E}(\Delta y^s_{ct}(D=1,T=1) - \Delta y^s_{ct}(D=0,T=1)|D_{ct}=1,T_{ct}=1)}_{\text{democratising effect}} \quad \text{(A.1)}$$

The first line expresses effects from ATs, the average effect from authoritarian turnovers, conditional on the breakdown of an old authoritarian regime, the expected changes in growth rate between countries that experienced turnovers and those without turnovers. The second line captures the democratizing effect as a premium: conditional on regime breakdown, the expected difference on changes in growth rate between democratization and creation of a new authoritarian state. The novelty of using ATs eliminates the democratizing effect and offers an estimate of regime turnover effects.

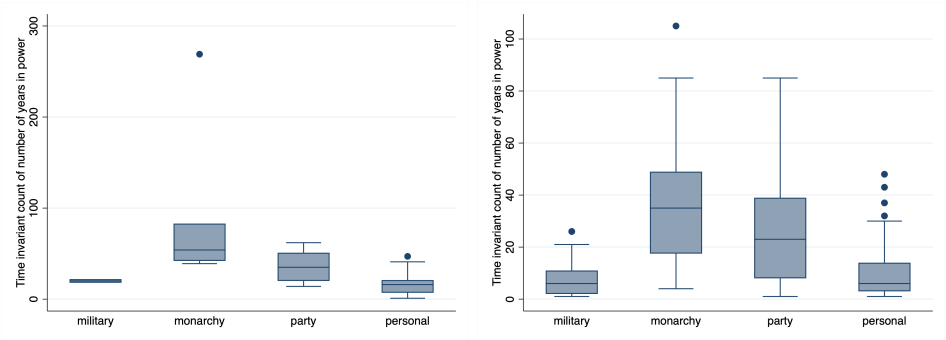
Additional Information on Regime Heterogeneity.

Figure A.1.1 shows a box plot of the duration of regimes by 2010, separating into two cases: those that are still alive and those that are deceased. Conditional on survival, monarchical systems have persistent longevity and have more extended governing periods as compared to others. Military juntas have both the smallest surviving years and variability among them. Party regimes, in general, outperform personal regimes, as shown in panel A of Figure A.1.1.

Variability among deceased regimes follow a similar pattern and yet differ in terms of the variability. (panel B of Figure A.1.1). Military juntas scored poorly on the metric of regime duration in both those that are alive and decreased by 2010. Furthermore, a significant fraction of personal and military regimes cannot outlive an "average" party regime. In each of the categories, a few outliners are noticeable. In both panels, it appears that the probability of turnover is related to the type of prior regime.

Conditional on the breakdown, authoritarian regimes fare differently based on the type of the previous regime, as shown in the number of deaths during

Figure A.1.1: Authoritarian Regimes and Durations

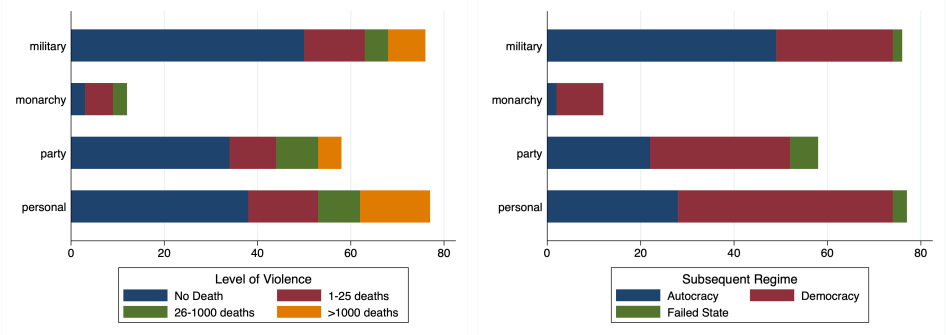


Panel A: Type of Surviving Regimes by 2010

Panel B: Type of Deceased Regimes by 2010

Source: Geddes et al. (2014).

Figure A.1.2: Authoritarian Regimes and Transitions



Panel A: Level of Violence during Transition

Panel B: Type of Subsequent Regime after Breakdown

Source: Geddes et al. (2014).

the transition as a proxy to the level of violence (panel A of Figure A.1.2) and the type of subsequent regime (panel B of Figure A.1.2). Personal regimes have the highest chance of having more than 1,000 deaths during the transition, the second being by military regimes. Monarchies, on the other hand, experienced the most peaceful transition in terms of the number of deaths

and the number of failed states after the transition. Panel B of Figure A.1.2 shows that apart from the monarchy regime, which has a disproportionate probability of democratization, the probability of having turnovers is about as high as democratization.

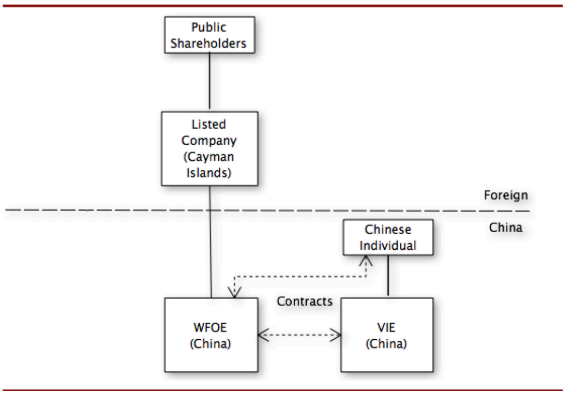
Appendix B

Becoming Global Billionaires from Mainland China

B.1 Supporting Materials for Variable Interest Entity (VIE)

Figure B.1.1 represents the basic structure for the variable interest entity (VIE).

Figure B.1.1: The Basic Structure of a Variable Interest Entity (VIE)



Source: Gillis (2012)

Figure B.1.2 represents the operating VIE structure used by Alibaba.

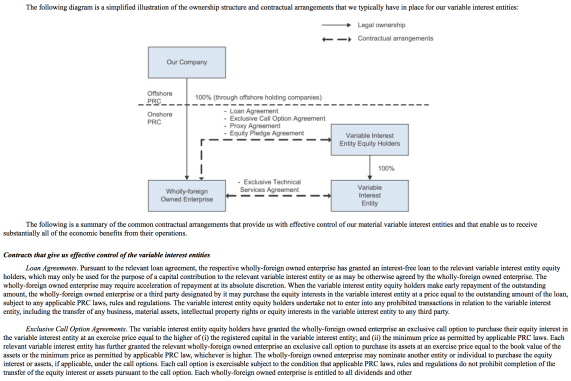


Figure B.1.2: Alibaba's Variable Interest Entity (VIE)

Source: Securities and Exchange Commission (2014, May 6), Alibaba Group Holding Limited, Retrieved from https://www.sec.gov/Archives/edgar/data/1577552/000119312514184994/d709111df1.htm

B.2 Theoretical Appendix

The four features of framework establishes three core hypothesis on which the empirical tests are conducted to verify. They define an optimal investment problem within the context of the political economy of development. Beginning from an equilibrium allocation of entrepreneurship under a closed economy, this paper points out that liquidity is inefficiently allocated to the politically connected entrepreneurs via state-owned banks, as a result of either higher setup costs (e.g., the risk of expropriation) or preferential treatment to the politically connected entrepreneurs[1]. Then I consider the impact of an open economy on the allocation of liquidity to potential entrepreneurs. My research show that even though there is a certain financing cost to transfer a portion of the equity to foreign venture capitalists involves a financial cost, the politically unconnected entrepreneurs could attenuate both their exposures to financial and political economy frictions afterward, a result in an equilibrium that constitutes a better matching between projects and financing. By comparing these two equilibria, this paper discusses how the option of getting finance from foreign VCs opens up new possibilities and its relations to mixed entrepreneurship (Baumol, 1990).

The timeline of the financing game involves three dates, as in Holmström and Tirole (2001): date 0, date 1, and date 2. First, each entrepreneur decides whether or not to pay for setup costs of a project. Second, when a liquidity shock kicks in, each entrepreneur submits his or her preferred liquidity demands. Third, a state-owned bank decides to allocate its liquidity, taking into account that the politically connected entrepreneurs can access liquidity in a preferential order over the unconnected ones because of the assumed behavior of state-owned banks. Fourth, the reinvestment stage yields a private benefit to entrepreneurs of all types, depending on differentiated productivity.

This paper is based on Holmström and Tirole (2001). I expand their

[1]Such *de facto* preferential treatments to the politically connected entrepreneurs can be driven by many factors, not necessarily of political origin. For example, the state-own banks might not have reliable technology to differentiate and monitor the unconnected entrepreneurs and would have to rely on a social network of trust.

framework by relating the setup cost of project and liquidity provision to the social and political origin of an entrepreneur. This part is divided into several subsections. The timeline and structure of the game follow from the examples in Holmström and Tirole (2001) with a few simplifying assumptions to start with. At date 0, the entrepreneur pays a setup cost $I > 0$ and decide liquidity L in the following date 1. At this stage, the setup cost, I, is assumed to be a small $I > 0$ to distinguish frictions from liquidity needs and barriers to entry given the nature of political unconnectedness for some the entrepreneurs. At date 1, a realization of random income x from distribution $G(x)$ is drawn. Instead of assuming that a distribution $G(x)$ continuous in x on $[0, \infty)$, I consider a two-point realizations of $\{x_H, x_L\}$. For further simplification, this paper assumes $x_L = 0$ and x_H high enough without the need to seek for a financial intermediary (see below and proof of Lemma 1). The probability of x_H occurring is p. At date 1, the entrepreneur can decide over whether to increase an additional amount $y \geq 0$ to generate a payoff of $by - y^2; b > 1$ at date 2, a risk-averse representation. As in Holmström and Tirole (2001), none of the period 2 is pledgeable so that the only possible and complete contract is through date-1 income x. The market imperfection is driven by the incompleteness through the non-pledgeability of income on date 2, as in Holmström and Tirole (2001). Investors (banks as well as VCs from outside mainland China) have a risk-neutral preference with zero discount rate to make easy calculations. To meet liquidity needs in the next date, at date-0, the entrepreneurs of all types would have to purchase liquidity technology L at a price q, which by definition $q - 1$ represents the premium. When q exceeds one, it indicates a shortage of liquidity for the entrepreneur.

First, this paper repeats a result from Holmström and Tirole (2001) on the basis of a simplifying assumption. Secondly, it shows that under conditions of a closed economy, only two types[2] of entrepreneurs are admissible. This situation is destabilized under an open economy with the possibility of foreign VC financing. Finally, this paper concludes with a brief discussion of welfare considerations.

[2]This corresponds to the two types of firms as in Song et al. (2011).

The liquidity constraint for each realization of $x \in \{x_H, x_L\}$:

$$y(x) + t(x) \leq x + L \tag{B.1}$$

$t(x)$ denotes the payment to entrepreneur at date-1. In my optimal contract, I follow Holmström and Tirole (2001) in searching for one with $t(x) = 0$ for $x \in \{x_H, x_L\}$.

The next condition represents a date-0 non zero profit condition:

$$p[x_H - y(x_H) - (q-1)L] + (1-p)[x_L - y(x_L) - (q-1)L] \geq I \tag{B.2}$$

To solve this simplified model, I are looking for an optimal contract $\{L^*, y(x_H), y(x_L)\}$ such that date-0 return of the entrepreneur can be maximized:

$$\max p[by_H - \frac{y_H^2}{2}] + (1-p)[by_L - \frac{y_L^2}{2}] \tag{B.3}$$

subject to non-negative profit condition and liquidity constraints.

Lemma 1 (Holmström and Tirole (2001))**.** *There is an optimal liquidity need L^* such that when $\bar{L} > L^*$ (if and only if $q = 1$) the entrepreneur does not have a binding liquidity constraint. When $\bar{L} < L^*$, there is an exogenous shortage of liquidity such that $q > 1$.*

Proof of Lemma 1:

Let μ be the shadow price associated with the balance equation (B.2).

$$\begin{aligned}&\max_{y(x_H), y(x_L), L} p[by_H - \frac{y_H^2}{2}] + (1-p)[by_L - \frac{y_L^2}{2}] \\ &+ \mu[p[x_H - y(x_H) - (q-1)L] + (1-p)[x_L - y(x_L) - (q-1)L] - I]\end{aligned} \tag{B.4}$$

First order-condition with respect to $y(x_H), y(x_L)$ yields for unconstrained L: $y(x_H) = y(x_L) = b - \mu = y^*$ Given the assumption in the text, when $x_H > y^*$ happens, $y(x_H) = y^* = b - \mu$. When $x_L = 0$ happens, $y(x_L) = L$, the amount of carried liquidity. Plug in $y(x_H)$ and $y(x_L)$ into the constrained

problem, choose L to maximze:

$$\max_{L} p[b(b-\mu) - \frac{(b-\mu)^2}{2}] + (1-p)[bL - \frac{L^2}{2}] \\ + \mu[p[x_H - b + \mu - (q-1)L] + (1-p)[-L-(q-1)L] - I] \quad \text{(B.5)}$$

Assume that $L > 0$, the first condition condition yields:

$$L^* = b - \mu[\frac{q-p}{1-p}] \quad \text{(B.6)}$$

As a special case of Holmström and Tirole (2001), when $q = 1$, there is no liquidity demand, so there is no need to carry extra liquidity. Therefore, it is feasible to implement first-best outcome $L^* = b - 1$, with $\mu = 1$ even in the state of x_L. When $q > 1$, the liquidity need is binding ($\mu > 1$), and the date-1 reinvestment is invalid as a result of shortage of liquidity.

When a finite amount constrains the total liquidity offered by the state-owned banks, $\bar{L}$, the optimal investment for a second-best contract would need to be compared with the exogenous supply of liquidity offered, in this case, by state-owned banks in a closed economy.

Proposition 1 (Impact of Inefficient Institutions through Setup Cost)**.** *Assuming that the only difference between the politically connected and unconnected entrepreneurs are such that the grassroots are facing higher set-up cost I than the counterparts (e.g., $I^c < I^u$), under the same date-1 random liquidity shock profile and date-2 reinvestment output function, the unconnected entrepreneur would under-invest.*

Proof of Proposition 1:
A Sketch: To show this result, $\frac{\partial \mu}{\partial I} > 0$. That is, as a result of the difference between the two setup costs ($I^u - I^c > 0$), the liquidity constraint is more likely to bind. If the liquidity condition is binding already, the level of reinvestment (i.e., $y(x_L)$) is lower for the unconnected than the connected entrepreneur when the realization of date-1 turns out to below.

Facing the same reinvestment opportunities in date-1 for both the politically connected and unconnected entrepreneurs, the theorem tells us that

any increase in risk of expropriation (through an increase in I) would result in a higher likelihood of hitting the liquidity need in state of x_L, increases in the value of shadow price μ, and lesser efficient outcome in the second-best contract for the entrepreneur. One interpretation of this theorem in the context is that in the absence of liquidity friction the friction resulting from (perceived) risks of asset expropriation would cause further inefficiencies in the second-best scenarios for the politically unconnected. The rationalizes the importance of property rights (Johnson et al., 2002; Besley and Ghatak, 2010) to caution against risks of asset expropriation.

From equation (B.6), $\frac{\partial L^*}{\partial \mu} = -\frac{q-p}{1-p} \leq -1$ since $q \geq 1$. From the balanced budget condition, equation (B.2), plugging in optimal values from the second-best contract, $\{y(x_H), y(x_L), L^*\}$, using implicit function theorem with respect to setup cost I, taking into account $q > 1 > p$:

$$\frac{\partial \mu}{\partial I} = \frac{-p}{p + q\frac{\partial L^*}{\partial \mu}} > 0 \tag{B.7}$$

Combining $\frac{\partial L^*}{\partial \mu}$ and $\frac{\partial \mu}{\partial I}$, this completes the proof.

Proposition 2 (Political Economy Friction over Credit Allocation in a Closed Regime)**.** *Assuming that all the agents in this economy try to solve its contractual game, and the state-owned banks follow an allocative policy in favor of the connected entrepreneurs, there exist three possible outcomes. Then the following holds:*
(a) When liquidity is abundantly available ($L \geq \bar{L} \iff q=1$), every entrepreneur from each group can get financing, and the first-best outcome is available for everyone.
(b) When liquidity is insufficient ($L \leq \underline{L} \iff q \gg 1$) available only to the best (b_N) entrepreneur from the politically connected group, political economy friction has no role to play.
(c) When liquidity supply lies in between $\bar{L}$ and $\underline{L}$ ($\underline{L} < L < \bar{L} \iff q > 1$), there is at least one agent j from the connected group b_j^C and one agent i from the unconnected group i such that $b_j^C < b_i^U$. That is, an entrepreneur from

the politically connected group is given preferential liquidity at the expense of another entrepreneur with higher project returns.

Proof of Proposition 2:

Consider two extreme cases. One of these case concerns the insufficient liquidity ($\underline{L}$) in state-owned banks where only the most productive entrepreneur b_N from the politically connected type can receive. In this case, there is no inefficiency. The suboptimal results from financial underdevelopment and limited liquidity in the sense that even the b_{N-1} entrepreneur from the connected group is rejected from reinvestment in date-1. In this case, $q > 1$ and liquidity constraint does create a premium in itself as a result of underdevelopment.

The other extreme case concerns with sufficient liquidity ($\bar{L}$), so that everyone regardless of b_i can get financing through their constrained optimization program. In this case, $q = 1$ such that liquidity is so abundant that competition for date-1 liquidity is unnecessary.

Only in cases where $\underline{L} < L < \bar{L}$, some liquidity is provided to the politically connected second-best entrepreneur (b_{N-1}) at the expense of likely higher social return from the best player (b_N) of the politically unconnected group. Political and economic frictions, through the banking policy of state-owned institutions, generates an inefficiency and creates a premium for the politically connected entrepreneur when the socially valuable liquidity resource could have been given to the most productive agent from the politically unconnected group. This wedge between private allocation and socially plausible allocation is driven solely by differentiated access to finance (Song et al., 2011)[3].

An open economy provides the politically unconnected grassroots entrepreneurs a possibility of soliciting financing from foreign VCs has changed the game in theory and practice. This paper characterizes the behavior of

[3]One possible extension is to introduce the availability of rent-seeking technologies via a bidding function in the spirit of Grossman and Helpman (1992) such that even within the set of politically connected entrepreneurs $\{b_1, b_2, \ldots, b_N\}$, there is a threshold level of $\bar{b}$ such that only those entrepreneurs with productivity $b > \bar{b}$ would be willing to participate in the investment game for getting a favorable liquidity treatment.

outside VC in the following way: With a sharing θ of the private date-2 benefit, the VC is willing to provide liquidity in the low state $x_L(\equiv 0)$ up to the optimal first-best investment level $b-1$ to remove liquidity concerns.

In this model, an open economy affords the politically unconnected grassroots entrepreneurs a possibility of soliciting financing from foreign VCs, which in theory as well as in practice has changed the calculation of the game. This model characterizes the behavior of outside VC in the following way: With a sharing θ of the private date-2 benefit, the VC is willing to provide liquidity in the low state $x_L(\equiv 0)$ up to the optimal first-best investment level to remove liquidity concerns.

Proposition 3 (Possibility of Foreign VCs in an Open Economy Regime)**.** *Assume that all the agents in this economy try to solve the contractual game with the state-owned banks, which behave according to an allocative policy in favor of the connected agents. In the equilibrium, there are politically unconnected grassroots entrepreneur soliciting foreign VCs, where the threshold conditions are being pinned down by the marginal entrepreneur.*

Proof of Proposition 3:

Consider the behavior of the politically unconnected entrepreneurs in situation (iii) of Proposition 2. Let's focus on the politically unconnected entrepreneurs with zero liquidity provision from state-owned banks in date-1. So that $y(x_L)=0$ and $y(x_H)=b-1=y^{FB}$, the first-best level of reinvestment when liquidity constraint is not binding given available capital from outside VCs. Consider the marginal entrepreneur that is allowed to continue, then zero profit condition at date-0 has to be satisfied for a given set of $\{p,b,I\}$ satisfying:

$$p[x_H - \underbrace{(b-1)}_{y^{FB}}] = I. \tag{B.8}$$

This defines a "marginal" entrepreneur. Such a conditions would balance the bank's date-0 profit and the "price" of state-owned bank's liquidity is irrelevant. The expected return from the high liquidity state and subsequent first-best reinvestment has to cover at least the setup cost. κ is defined to

as the rate of return of utilizing offshore investment and that of suffering limited liquidity for that "marginal entrepreneur":

$$\kappa = \frac{(1-\theta)(by^{FB} - \frac{(y^{FB})^2}{2})}{p(by^{FB} - \frac{(y^{FB})^2}{2})} = \frac{1-\theta}{p} \tag{B.9}$$

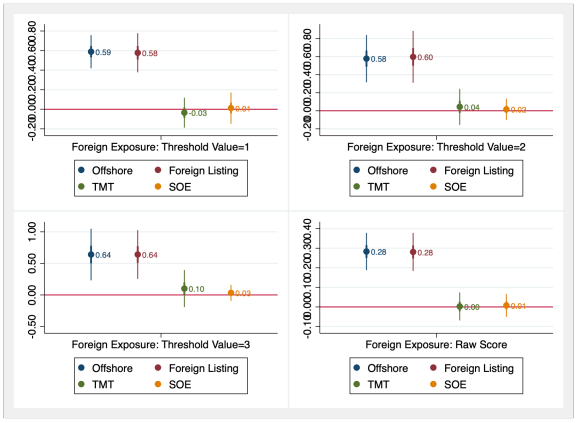
The numerator, $(1-\theta)(by^{FB} - \frac{(y^{FB})^2}{2})$, represents the return to entrepreneur when liquidity shocks are smoothed given the fact that a portion θ of the private returns goes to VCs investors. The denominator, $p(by^{FB} - \frac{(y^{FB})^2}{2})$, represent the return to private entrepreneur after deducting the success probability. For the profit-zero entrepreneur given I, $\kappa > 1 \iff 1-\theta > p$, a condition to raise foreign VCs.

Any departure from that "marginal entrepreneur" would complicate the calculations. For example, a larger b means that the first-best level of reinvestment might not be possible under the zero-profit date-0 constraints. It is possible to raise capital outside the state-owned banking system. On the other hand, when I becomes large enough such that $I > px_H$, the entrepreneur is simply refused to start the project at all. This could be socially inefficiency when date-2 productivity is high for some of the entrepreneurs operating in some industries. In the formal characterization, the only function of an outside VC is to balance liquidity needs across states. If an additional benefit is provided through the channel that reduces setup costs by decreasing the risks of asset expropriation, then the attractiveness of using this mechanism would be greatly enhanced. However, this " attractiveness" would have to be weighed against a searching cost where the entrepreneur might not be able to be as lucky as Jack Ma to get support they need outside China's state-controlled banking systems.

In fact, the model in this section is quite clear in characterizing the behaviors of foreign VCs. Further work would have to consider other aspects of the contract (Jovanovic and Szentes, 2013).

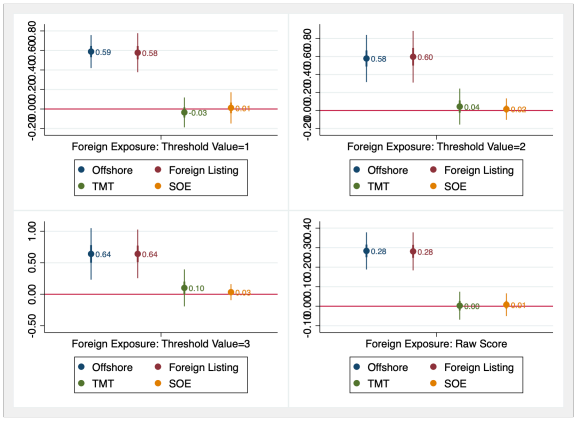
B.3 Graphical Appendix

Figure B.3.1: Linear Probability Analysis of Main Outcomes: Different Measures of Foreign Exposures



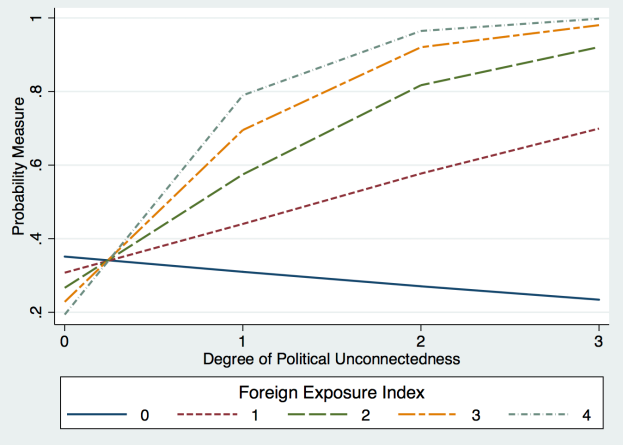
Note: These are coefficients on the measures of foreigin exposures through linear probability models, which control for sex, education, a constant, and year and headquarter fixed effects. Dataset: Forbes.

Figure B.3.2: Logistic Analysis of Main Outcomes: Different Measures of Political Unconnectedness

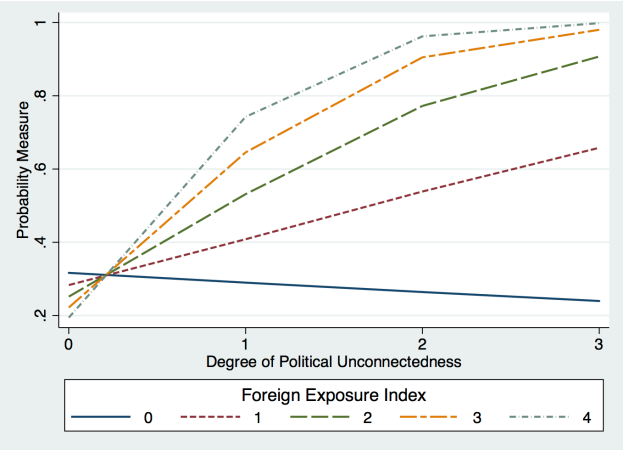


Note: These are coefficients on the measures of foreigin exposures through logistic regressions, which control for sex, education, and a constant. Dataset: Forbes.

Figure B.3.3: Predicted Measures from Triangulation: Social Origins, Foreign Exposures, and Financial Decisions



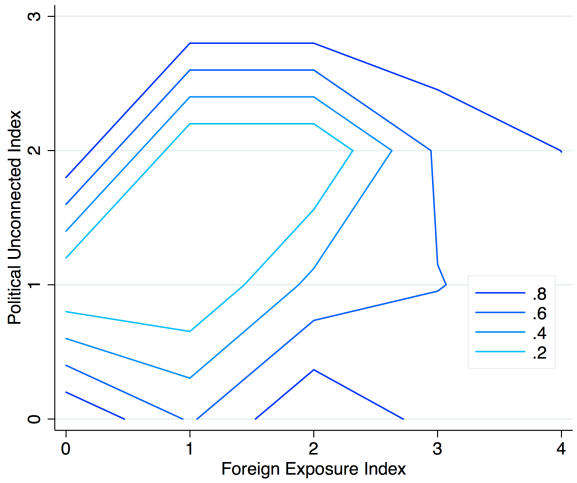
Panel A: Public Listing outside Mainland



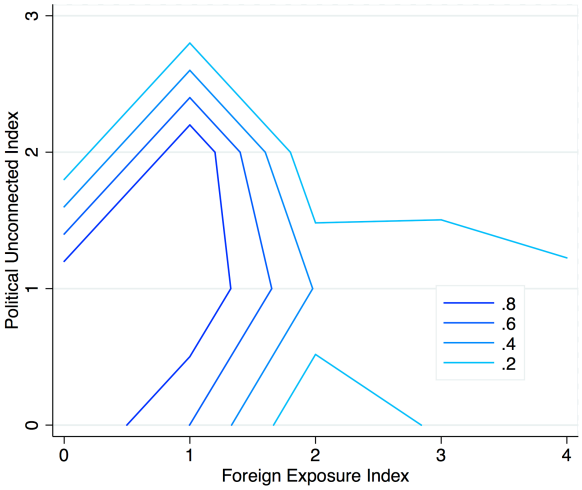
Panel B: Using Offshore Vehicles

Note: Foreign exposure and political unconnectedness are two aggregate measures. The predicted measures result from logit regressions similar in style with panel B, Table 2.3. The controls are constant term, female, and college degree.

Figure B.3.4: Contour Lines: Social Origins, Foreign Exposures, Sectoral Entry and SOE Restructuring



Panel A: Entry into TMT Sectors



Panel B: SOE Restructuring Records

Note: Contour Lines for entry into TMT sectors and historical records of SOE. Darker blue lines represents higher probability.

B.4 Table Appendix

Table B.4.1: Selected Examples of Internet Billionaire Entrepreneurs from Mainland China

Billionaire Names, Company Names, and Short Descriptions from Forbes	
Jack Ma, Alibaba and Ant Financial	"A former English teacher, Ma co-founded and chairs Alibaba Group, one of the world's largest e-commerce businesses." "Alibaba's revenue in the 12 months ending in March 2017 rose by 56% to $23 billion." "Alibaba's IPO in New York in 2014 set a record as the world's biggest public stock offering, raising $25 billion."
Pony Ma Huateng, Tencent	"Ma Huateng (also known as Pony Ma) chairs Chinese Internet giant Tencent Holdings, which ranks among the nation's largest businesses by market cap." "Tencent's popular social messaging app WeChat has nearly one billion users."
Robin Li, Baidu	"Li is CEO of Baidu, China's top search engine and one of the world's most popular websites." "Baidu is known in China as part of BAT – Baidu, Alibaba, and Tencent – the trio of companies that rank as the country's three largest."
William Ding, Netease	"William Ding is the CEO of Netease, one of the world's largest online and mobile games businesses." "Ding was China's richest man and its first Internet and gaming billionaire back in 2003."
Richard Liu, JD	"Liu Qiangdong, who also goes by the name Richard Liu, is the founder, chairman, and chief executive officer of Chinese e-commerce firm JD.com." "The Nasdaq-listed company, which has racked up losses amid fierce competition, is looking to online financial services for new growth."

Source: Author's codebook. Short descriptions came from Forbes, the World's Billionaire database.

Table B.4.2: The Impact of Foreign Exposure on Offshore Financing and Outside Listing

Sample	Forbes Only				Hurun[b]	CEO[b]	Party[b]	Hurun[b]
Cutoff[a] δ^f	1	2	3	Raw Score	2	2	2	Foreign VC
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Logistic Model; Dependent variable is $Y^{Firm}_{e,t,c}$ *: Offshore=1*								
Foreign Index	4.19	3.54	0.00[d]	2.13	2.59	1.96	5.64	3.49
	(0.81)	(0.71)	(0.00)	(0.43)	(0.65)	(0.48)	(2.41)	(0.97)
	[0.73]	[0.57]	[0.00]	[0.37]	[0.63]	[0.45]	[2.42]	[0.98]
Controls[c]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-city fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	146	146	134	146	224	199	97	224
Count R^2	0.80	0.77	0.73	0.78	0.78	0.77	0.78	0.79
Adj Count R^2	0.46	0.38	0.41	0.42	0.36	0.28	0.36	0.41
Panel B. Linear Probability Model; Dependent variable is $Y^{Firm}_{e,t,c}$ *: Foreign Listing=1*								
Foreign Index	0.68	0.71	0.70	0.28	0.69	0.69	0.76	0.69
	(0.09)	(0.10)	(0.15)	(0.03)	(0.13)	(0.15)	(0.25)	(0.09)
	[0.11]	[0.15]	[0.19]	[0.04]	[0.13]	[0.14]	[0.23]	[0.11]
Controls[c]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-city fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	301	301	301	301	375	347	240	375
Adj. R^2	0.31	0.31	0.20	0.32	0.31	0.26	0.43	0.31

Notes: This table reports regression estimates of impact of foreign exposures on the probability of using offshore vehicles and listing outside mainland China using variants of equation (2.1). Column 1-3 generates dummies given the cutoff values of the threshold. Column 4 controls the foreign index score. Fixing the threshold cutoff at 2, column 5-7 use the augmented Hurun data, CEO subsample, and Party organ subsample respectively. Column 8 considers only foreign VC financed event as a measure of exposure. Robust standard errors in parentheses are clustered at the level of current headquarters (city level). Linear regressions are weighted by billionaire net worth. For linear models, the Huber-White robust standard errors are reported in brackets. For logit models, a method suggested by Cameron et al. (2011) is reported in the bracket using both current and first headquarters as multiway clusters.

[a] *The numbers (percentage) of billionaires selected given threshold values (1-3) are 41(13.6%), 24 (8.0%), and 5 (1.7%) for Forbes sample respectively.*

[b] *The expanded dataset augmented by Hurun top 300 is used.*

[c] *Controls are binaries for female and college degree.*

[d] *Dropped from estimation.*

Table B.4.3: Political Unconnectedness and Financing Decisions

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Offshore			Foreign Listing		
Panel A. Logistic Model; Sample: Forbes Only						
Family background	-0.03			-0.63	-0.66	-1.03
	(0.60)			(0.29)	(0.35)	(0.76)
	[0.72]			[0.37]	[0.42]	[0.82]
Job ties		-0.29			0.11	-0.25
		(0.68)			(0.57)	(0.63)
		[0.66]			[0.52]	[0.63]
First gold			0.29			0.86
			(0.70)			(1.02)
			[0.75]			[1.11]
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year-city FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	146	146	146	156	156	156
Count R^2	0.72	0.73	0.75	0.76	0.76	0.77
Adj Count R^2	0.26	0.27	0.33	0.32	0.32	0.36
Panel B. Logistic Model; Sample: Expanded by Hurun Top 300						
Family background	-0.42			-0.34	-0.46	-0.93
	(0.62)			(0.45)	(0.53)	(0.96)
	[0.63]			[0.45]	[0.52]	(0.95)
Job ties		0.15	-0.05		0.45	0.07
		(0.64)	(0.71)		(0.48)	(0.61)
		[0.63]	[0.69]		[0.49]	[0.63]
First gold			0.43			0.88
			(0.60)			(1.06)
			[0.67]			[1.09]
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year-city FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	224	224	224	215	215	215
Count R^2	0.74	0.74	0.76	0.75	0.75	0.75
Adj Count R^2	0.00	0.00	0.00	0.00	0.00	0.00

Notes: Robust standard errors in parentheses are clustered at the city level for **current** headquarters. All regressions include the constant term. Controls are binaries for female and college degree. For logit models, a method suggested by Cameron et al. (2011) is reported in the bracket using both current and first headquarters as multiway clusters.

Table B.4.4: Examining the Party Subsample

Sample	Hurun Data							
Cutoff δ^f	2	2	2	2	2	2	2	2
Cutoff δ^u	2	2	2	2	2	2	2	2
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Logistic Model; $Y^{Firm}_{e,t,c}$: Foreign Listing=1				*Panel B. Logistic Model; $Y^{Firm}_{e,t,c}$: Offshore=1*				
foreign measure	6.26	6.69	2.49		5.62	5.67	2.47	
	(2.64)	(2.63)	(0.63)		(2.45)	(2.27)	(0.63)	
	[2.66]	[2.68	[0.61]		[2.44]	[2.25]	[0.61]	
political measure	1.14	0.63	0.34	1.14	0.08	-0.59	0.50	0.08
	(1.85)	(1.07)	(0.49)	(1.85)	(1.32)	(1.11)	(0.55)	(1.32)
	[1.89]	[1.11]	[0.49]	[1.89]	[1.42]	[1.20]	[0.55]	[1.42]
Interaction	0.00[b]	0.00[b]	0.00[b]	6.26	0.00[b]	0.00[b]	0.00[b]	5.62
	(.)	(.)	(.)	(2.64)	(.)	(.)	(.)	(2.45)
	[.]	[.]	[.]	[2.66]	(.)	(.)	(.)	[2.44]
Controls[a]	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Year-city fixed effects	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Observations	106	106	240	106	97	97	240	97
Count R^2	0.81	0.79	0.79	0.81	0.78	0.76	0.83	0.78
Adj Count R^2	0.49	0.44	0.49	0.49	0.36	0.30	0.18	0.36

Notes: This table reports regression estimates of impact of foreign exposures on the probability of using offshore vehicles and listing outside mainland China using variants of equation (2.1) on the subsample of firms with presence of a party organ.For logit models, a method suggested by Cameron et al. (2011) is reported in the bracket using both current and first headquarters as multiway clusters.

[a] *Controls are binaries for female and college degree.*

[b] *Dropped from estimation.*

Table B.4.5: The Interacted Effect of Foreign Elements and Social Origin on Financing Decisions

Sample	Forbes (n:301)				Hurun's Expanded Sample (n:375)			
	All				All	CEO	Party	All
δ^f	English	Education	Management	Sum Index	2	2	2	Foreign VC
δ^U	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A. Linear Probability Model; Dependent variable is $Y^{Firm}_{e,t,c}$: Offshore=1							
	0.00[a]	0.00[a]	0.52	0.09	0.23	0.15	-0.11	0.18
Family	(.)	(.)	(0.67)	(0.34)	(0.52)	(0.60)	(0.47)	(0.29)
	[.]	[.]	[0.60]	[0.30]	[0.47]	[0.49]	[0.49]	[0.39]
	0.54	0.75	0.37	0.33	0.86	0.77	1.26	0.61
Job Tie	(0.32)	(0.33)	(0.65)	(0.19)	(0.28)	(0.27)	(0.48)	(0.31)
	[0.32]	[0.40]	[0.52]	[0.15]	[0.25]	[0.27]	[0.38]	[0.32]
	0.00[a]	0.00[a]	0.27	0.06	0.66	0.57	0.00[a]	0.56
First Gold	(.)	(.)	(0.70)	(0.47)	(0.21)	(0.24)	(.)	(0.32)
	[.]	[.]	[0.54]	[0.36]	[0.25]	[0.28]	[.]	[0.33]
	0.51	0.73	0.18	0.10	0.29	0.25	0.73	0.18
Sum Index	(0.30)	(0.30)	(0.23)	(0.11)	(0.09)	(0.11)	(0.56)	(0.09)
	[0.31]	[0.39]	[0.19]	[0.08]	[0.12]	[0.13]	[0.46]	[0.13]
	Panel B. Logistic Model; Dependent variable is $Y^{Firm}_{e,t,c}$: Foreign Listing=1							
	0.00[a]	0.00[a]	85.63	1.93	3.03	2.70	0.00[a]	4.96
Family	(.)	(.)	(8.18)	(1.71)	(2.75)	(3.30)	(.)	(2.19)
	[.]	[.]	[.][a]	[1.82]	[2.89]	[3.49]	[.]	[2.39]
	15.39	16.59	36.17	3.34	3.88	2.81	93.62	5.03
Job Tie	(1.89)	(1.53)	(6.51)	(2.32)	(1.55)	(1.51)	(.)[a]	(2.16)
	[1.23]	[0.57]	[.][a]	[2.42]	[1.55]	[1.51]	[.][a]	[2.13]
	0.00[a]	0.00[a]	36.2	1.04	16.99	15.87	0.00[a]	4.62
First Gold	(.)	(.)	(6.33)	(2.59)	(1.96)	(2.52)	(.)	(2.03)
	[.]	[.]	[.][a]	[2.73]	[1.17]	[2.70]	[.]	[2.03]
	15.28	16.58	103.64	1.09	2.09	1.57	82.59	2.46
Sum Index	(1.85)	(1.51)	(.)[a]	(0.84)	(1.16)	(1.01)	(4.38)	(1.31)
	[1.18]	[0.48]	[.][a]	[0.88]	[1.17]	(1.04)	[.][a]	[1.33]

Notes: This table reports regression estimates of the interacted impact of foreign exposures and political unconnectedness on the probability of using offshore vehicles and listing outside mainland China using variants of equation (2.1). Each cell presents the estimated interacted effect from one regression. All specifications contain controls and FE. Column 1-3 uses different values of the cutoff to generate the binary measure of foreign element. Column 4 represents the effect of the foreign index score. Fixing the threshold cutoff at 2, column 5-7 use the augmented Hurun data, CEO subsample, and Party organ subsample respectively. Column (8) considers only foreign VC financed event as a measure of exposure. Robust standard errors in parentheses are clustered at the level of current headquarters (city level). For panel A, the Huber-White robust standard errors are reported in brackets. For panel B, a method suggested by Cameron et al. (2011) is reported in the bracket using both current and first headquarters as multiway clusters.

[a] *Dropped by estimation*

Table B.4.6: Means and Deviations of Major Variables for Global Billionaires in a Communist State: the World's Billionaires, Forbes, 2017

	I. Types of Entrepreneurs			II. Pooled Sample
	III	Type I	II	All
	(1)	(2)	(3)	(4)
A measure of political connection:	0.004	0.333	0.043	0.060
family background dummy	(0.066)	(0.476)	(0.208)	(0.238)
A measure of political connection:	0.183	0.896	0	0.282
job connection dummy	(0.387)	(0.309)	(0)	(0.451)
A measure of political connection:	0.030	0.938	0	0.173
first scoop of gold dummy	(0.172)	(0.245)	(0)	(0.379)
An aggregate measure:	0.213	2.188	0.043	0.515
political connection, range: [0, 3]	(0.410)	(0.394)	(0.209)	(0.831)
A measure of foreign element:	0.030	0	0.348	0.050
English speaking dummy	(0.172)	(0)	(0.487)	(0.218)
A measure of foreign element:	0.023	0	0.130	0.023
foreign education dummy	(0.131)	(0)	(0.344)	(0.151)
A measure of foreign element:	0.004	0.041	0.957	0.083
foreign financing dummy	(0.066)	(0.202)	(0.209)	(0.276)
A measure of foreign element:	0.022	0.062	0.783	0.086
foreign management dummy	(0.146)	(0.244)	(0.422)	(0.281)
An aggregate measure:	0.074	0.104	2.217	0.242
foreign element, range: [0, 4]	(0.308)	(0.371)	(0.850)	(0.686)
A measure of education:	0.500	0.500	0.870	0.528
college education dummy	(0.501)	(0.505)	(0.344)	(0.500)
A measure of education:	0.261	0.208	0.522	0.272
elite college dummy	(0.440)	(0.410)	(0.511)	(0.446)
A measure of financing decisions:	0.817	0.708	0.739	0.794
listing dummy	(0.387)	(0.459)	(0.449)	(0.405)
A measure of financing decisions:	0.213	0.229	0.696	0.252
foreign listing dummy	(0.410)	(0.425)	(0.470)	(0.435)
A measure of financing decisions:	0.104	0.500	0	0.159
SOE restructuring dummy	(0.306)	(0.505)	(0)	(0.366)
A measure of financing decisions:	0.209	0.188	0.870	0.255
offshore vehicle dummy	(0.407)	(0.394)	(0.344)	(0.437)
A measure of innovation industry:	0.335	0.271	0.826	0.362
TMT sector dummy	(0.473)	(0.449)	(0.388)	(0.481)
N:	230	48	23	301

Notes: Statistics in column 1 to 3 are based on the type of the billionaire entrepreneur, consistent with our conceptual framework outlined in the paper. For the total number of 319 global billionaires on the the World's Billionaire List, Forbes, 2017 from mainland China, the missing rate is around 5 percent (18/319) for the fact that we cannot identify the type of the entrepreneur as a result of the lack of sufficient information from public sources.

Table B.4.7: Variable Descriptions

Measures of Political (un)Connectedness/Social Origins	
Family background	A dummy variable which equals to one if the billionaire entrepreneur comes from a family unconnected with communist party elites, and zero otherwise.
Job (un)connectedness	A dummy variable which equal to one if the billionaire entrepreneur's prior occupation has limited linkages with the party-state (e.g., senior managers at a state-owned enterprise), zero otherwise.
The first scoop of gold	A dummy variable which equal to one if the billionaire entrepreneur's first scoop of gold has limited linkages with the party-state (e.g., senior managers at a state-owned enterprise), zero otherwise.
Political unconnectedness index	An aggregate measure by summation of three measures above.
Measures of Foreign Exposures	
English speaking	A dummy variable which equal to one if the billionaire entrepreneur is capable of speaking fluent English, zero otherwise.
Foreign education	A dummy variable which equal to one if the billionaire entrepreneur has college degrees from universities outside mainland China, zero otherwise.
Foreign financing	A dummy variable which equal to one if the company has been backed up by venture capitalists outside mainland China before its IPO, zero otherwise.
Foreign management	A dummy variable which equal to one if the company (as of 2017) has non-Chinese names on the senior management or the board of directors, zero otherwise. Source: Orbis.
Foreign exposure index	An aggregate measure by summation of four measures above.
Main Outcome Variables	
Public Listing	A dummy variable which equal to one if one of the companies controlled by the billionaire entrepreneur is a public company, zero otherwise.
Foreign listing	A dummy variable which equal to one if one of the listed company controlled by the billionaire entrepreneur is floated outside mainland China (e.g., New York Stock Exchange), zero otherwise.
SOE restructuring	A dummy variable which equal to one if the company has a record of state-owned enterprise restructuring before its IPO, zero otherwise.
Offshore vehicle	A dummy variable which equal to one if the company (as of 2017) uses an offshore vehicle, zero otherwise. Source: Orbis.
TMT sector entry	A dummy variable which equal to one if party organ is found within the company, zero otherwise.
Control and Other Variables	
College education	A dummy variable which equal to one if the entrepreneur has a college degree, zero otherwise.
Elite college	A dummy variable which equal to one if the entrepreneur has an elite college degree, zero otherwise. (Rule: Key universities using 211 or 985 projects.)
Party	A dummy variable which equal to one if a party organ is identified within the company, zero otherwise.
CEO	A dummy variable which equal to one if the entrepreneur is the founding CEO, zero otherwise.
Female	A dummy variable which equal to one if the entrepreneur is a female, zero otherwise.
Founding year	This comes from the company's website for each of the billionaire.
Founding headquarter	The unit: city level. The company's website.
Current headquarter	The unit: city level. The company's website.

Source: Author's codebook and database unless stated otherwise. Most of the data collection work is done by gathering public information and building a detailed profile.

B.5 Case Studies: Three Short Personal Biographies

In this section, I will provide a case study via the proposed conceptual framework to sketch three personal biographies of billionaire entrepreneurs in the history of wealth creation from mainland China.

Connected with Bank Loans (type I): **Wang Jianlin**, Company Name: Wanda. Net worth: 31.3 Billion USD (Feb. 2017 version, Forbes). Global Rankings: 18.

Mr. Wang Jianlin, the founder of Dalian Wanda Group, is one of the most prominent real estate developers in China. His early career was profiled in a 2013 Bloomberg article, *Property Mogul Emerges as China's Richest Person*, which summarizes Mr. Wang's early career before the establishment of Wanda Group[4]:

> Wang joined the People's Liberation Army as a teenager and served for 16 years before he was honorably discharged as an officer. He later took a job at an indebted residential construction company affiliated with the Northern port city of Dalian, changed the company's name to Dalian Wanda after turning around its performance and became the general manager in 1992.

The company, Wanda group, was founded when he was a civil servant at Xigang District, Dalian, where the later infamous and disgraced politician Bo Xilai once served. From an early stage of his career, Mr. Wang Jianlin has showcased his business talent and acumen by transforming dilapidated neighborhoods into residential buildings through deals with local governments.

Apart from the official story of Wanda's success, the Chinese media later revealed the political history of Wang Jianlin and his wife. Their fathers fought together during the Chinese revolutionary war and civil war as veteran Long March soldiers. After retiring from the People's Liberation Army

[4] Bloomberg News (2013, Aug.19). *Property Mogul Emerges as China's Richest Person.*

(PLA), Mr. Wang first joined the government and then worked as a manager for a state-owned construction firm for four year. It was not until Deng Xiaoping's Southern Talks and his famous speech on market socialism that he had the opportunity to reorganize the SOE into a joint-stock company. Starting from a small and regional company, Wanda made its nationwide expansions from 1997. Meanwhile, Mr. Wang and his insider, Sun Xishuang, a billionaire business partner, who was also featured on the Forbes 2017 billionaire list, began a process of privatization program through which stocks of employees were bought and transferred into his own hands. As China's business registration record showed, it took more than ten years until Mr. Wang finalized his internal control of Wanda and settled the state-owned equities and shares for employees.

While Mr. Wang's business skills must be rated as first-class among his peers, he benefited greatly from first-mover advantage on housing reconstruction projects as a state-owned manager. Due to the waves of market socialism and privatization, his net worth soared. However, without his political connection, information and the ability to restructure an SOE initially and privatize it throughout more than ten years, he would never have the opportunity of becoming a global billionaire in less than two decades from a Maoist soldier in his youth. In his case, the part from rent-seeking and the part from contributions from his genuine business skills are inseparably solidified onto the growth path of Wanda Group, a multinational conglomerate that started from scratch thirty years ago. One of his famous slogans - "stay close to the government, yet stay away from politics"[5] - precisely reveals the type of his entrepreneurship and the philosophy behind Wanda's business model.

Unconnected with Foreign Financing (type II): **Li Yanhong, also known as Robin Li**, Company Name: Baidu (Listed on NASDAQ, ticker: BIDU). Net worth: 13.3 Billion USD (Feb. 2017 version, Forbes). Global

[5]There are many versions of the same phrase, [yuanli zhengzhi, qinjin zhengfu]. This is also available from one of the English sources, South China Morning Post (2014, Dec. 20). *Dalian Wanda's Wang Jianlin avoids politics, stays close to government.*

Rankings: 87.

Robin Li, as the name itself would speak, has deep linkages with the western world. He was smart in his early years even though his parents were only factory workers in a chemical plant in Shanxi province, inland of China. Mr. Li aced the college exam and was admitted to Peking University, a leading institution in Beijing, where he graduated with B.S in information management. Early on, he was seen as a reticent person with an early passion for computer science and technology. To further his education, Robin went to pursue his Ph.D. degree in computer science at the University at Buffalo, The State University of New York, where he resigned and joined the private sector after a Master's degree. As an early expert in search engine, Robin developed algorithms for site-sorting and was awarded a U.S patent while working at IDD Information Services[6], which was later applied to his site sorting company, Baidu, the largest Chinese search engine was operating in Mainland China, as of 2017.

Obtaining initial financing to implement his technology in Mainland China has become the most critical part of Robin's story and the driving mechanism of the conceptual framework. In his published book (Tsinghua University Press, 1999), Robin introduced the innovation game popular among entrepreneurs in the Silicon Valley to his native audience, *Business Warfare in Silicon Valley*[7], Robin painted an eye-dazzling picture to his audience of the business tactics used in Silicon Valleys, writing that VCs were the financial backers of technology driven start-ups. At the end of 1999, Robin and his partner, were able to receive 1.2 million USD seed money from two VCs firms, Integrity Partners and Peninsula Capital, on their own advice. Just as an article from New York Times reported after Robin Li became one of the youngest billionaires from mainland China,

> The partners raised $1.2 million from two Silicon Valley venture capital firms, Integrity Partners, and Peninsula Capital, and with

[6]Robin Li's patent information: "Hypertext document retrieval system and method", USA Publication number: US5920859 A. Also Robin's publication: Yanhong Li, "Toward a Qualitative Search Engine," IEEE Internet Computing, vol. 2, no. 4, pp. 24-29, July/August 1998.

[7]Guigu Shangzhan

> their seed money in hand flew to China and founded Baidu in a hotel room overlooking Beijing University's campus. Nine months later, in September 2000, two other venture capital firms, Draper Fisher Jurvetson and IDG Technology Venture, pumped another $10 million into the startup[8].

With two rounds of capital injection from the west, the rest was then history. The company Baidu was listed on NASDAQ after five years of its original inception, making Robin Li one of the youngest self-made billionaires and household names in China. Robin Li and Jack Ma have become classic examples of politically unconnected Chinese entrepreneurs leveraging their business intuitions and entrepreneurs skills on the shoulders of foreign VCs. Considering the proposed conceptual framework, the politically unconnected entrepreneurs with foreign capital are the driving force of innovations with the flavor of real American entrepreneurs, Silicon Valley-style.

Unconnected with Internal Financing (type III): **Liu Yonghao**, Company Name: New Hope. Net worth: 4.6 Billion USD (Feb. 2017 version, Forbes). Global Rankings: 359.

Unlike Mr. Wang Jianlin, Mr. Liu Yonghao's personal story from poverty to wealth cannot be more different. Mr. Liu, the founder of New Hope, is a self-made billionaire businessman in China. Along with his three brothers, the Liu's family is one of the richest business families among which one of Liu's brothers, Mr. Liu Yongyan (6.6 Billion USD, Global Rankings: 215), was also in the billionaire list of Feb. 2017, Forbes. Although the business of New Hope, the company, has expanded into multiple sectors, its creation does not enjoy the luxury of an SOE restructuring. Tracing Mr. Liu's initial occupation as a teacher at a technical school in Sichuan province, a Financial Times article titled *Liu Yonghao: from chicken farmers to billionaire*, wrote[9]:

> In 1982, he and his three brothers quit their government jobs and sold their bicycles and watches to raise $120 in start-up capital. They invested in breeding quails and chickens to sell to

[8]New York Times (2006, Sept.17). *The Rise of Baidu (That's Chinese for Google).*
[9]Financial Times (2011, June 6). *Liu Yonghao: from chicken farmer to billionaire.*

other farmers near their home in rural Sichuan province and soon branched out into the animal-feed business.

By 1992, Mr. Liu and his brothers' agribusiness company had become one of the largest animal-feed groups in the country. With enormous wealth, the brothers were disagreeing over firm policies and equity shares. That is why, between 1995-1996, the brothers had no choice but to delineate the property rights of the company among themselves after which each of the four brothers settled into their own ventures. That was the beginning of development of New Hope Group to what the company is today. Mr. Liu was profiled in Forbes as early as 1995 when he was named to be the richest man in China with 600 Million RMB. Despite his much-diversified investments today (including a stake in China Minsheng Bank, the first privately-owned bank in China under CPC leadership), this man was the epitome of a self-made global billionaire as low as a chicken farmer. As of 2018, the company remained private under Liu's management. In terms of the conceptual framework, Mr. Liu represents the indigenous entrepreneurs bootstrapping themselves upon retained earnings, which helped finance their investments along the accumulation path.

Appendix C

Serving the People or the People's Note

C.1 Graphical and Table Appendix

Figure C.1.1: Southern Talks: An Event Flow

C.2 Additional Information

This section provides additional information on things: (a) the origin of Chen Yun's cage theory view of market socialism and (b) how CPC counteracted the rise of private sector with a "grabbing big and letting go of small" strategy.

(a) The origin of Chen Yun's cage theory of market socialism

Historians have attributed Chen Yun's original idea of a cage theory to his role in formulating the economic policies of 1961-1962 when he was quickly sidelined by Mao and his supporters in preference to a more radical approach to socialization. Gradually, this idea went further into the reformist era, as one New York Times article reported after Chen Yun's death[1]

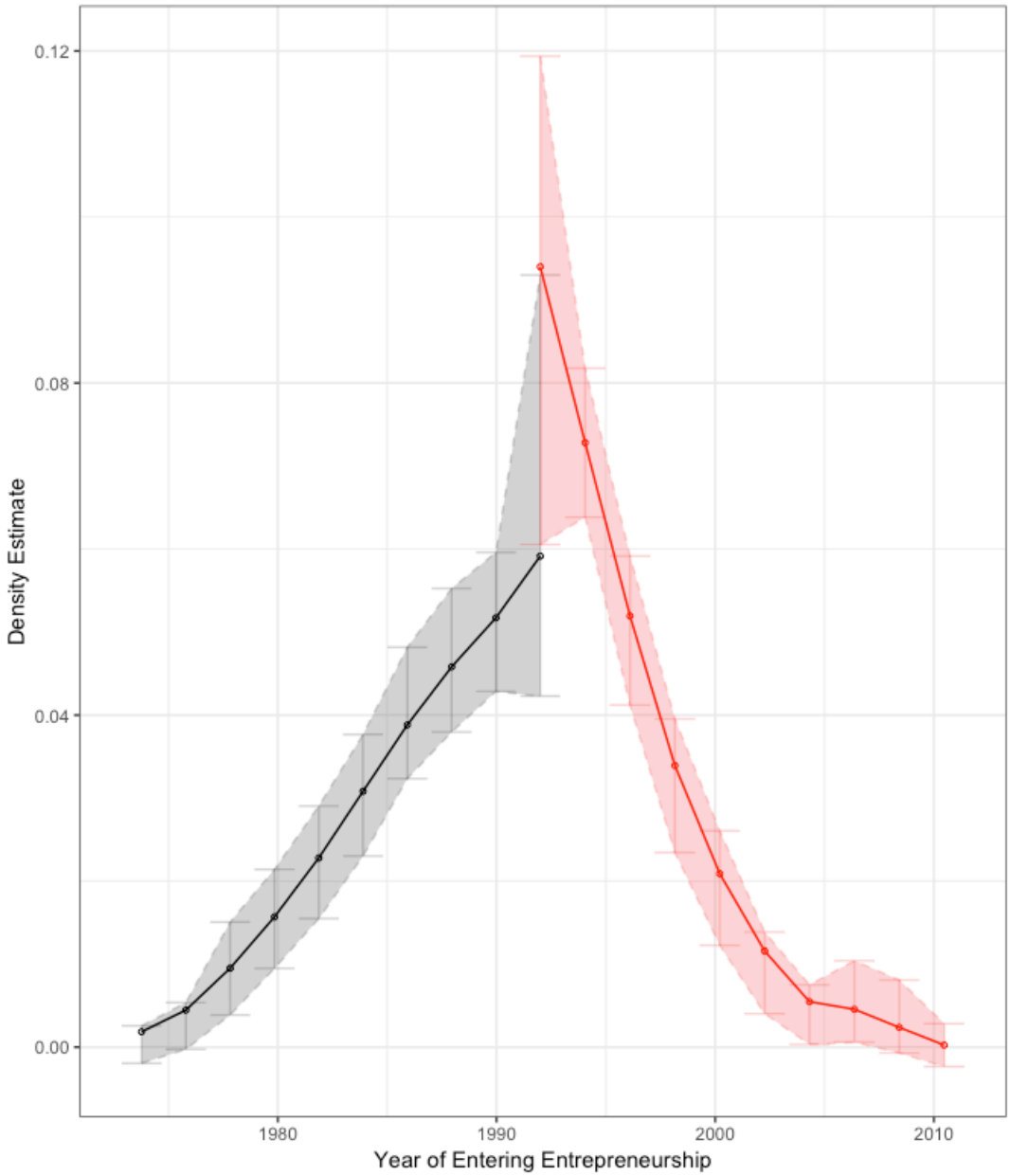
> He was perhaps best known for his vision of a "bird-cage economy." He argued that the market in China should operate like a bird in a cage. The cage must not be too small, lest the bird suffocate, but there had to be a cage to contain the bird, otherwise it would fly away.

(b) How CPC counteracted the rise of private with a "grabbing big and letting go of small" strategy.

In the main text, the formal treatment of the proposed framework relates to Shirk (1993), a critique that hinges on the compatibility of CPC's political survival with marketization and privatization of the economy. While Deng's ST has spurred a massive wave of privatization and further marketization of the economy, the state-sector responded with a number of strategic policy packages, known as "grabbing big and letting go of small", to which Hsieh and Song (2015) provides an analysis.

[1] The New York Times (1995, April.11). *Chen Yun, a Chinese Communist Patriarch Who Helped Slow Reforms, Is Dead at 89.* Retrieved from https://www.nytimes.com/1995/04/11/obituaries/chen-yun-a-chinese-communist-patriarch-who-helped-slow-reforms-is-dead-at-89.html.

Figure C.1.2: A Falsification Test



This figure constructs a density plot around the cutoff (i.e, ST), based on Cattaneo et al. (2018, 2019). Dataset: CSRP (Lu et al.)

Table C.1.1: Non-Parametric Estimates: Data Driven Techniques

variables	(1) college	(2) partymember	(3) stateemploy	(4) FAcollege	(5) partymemberfa	(6) FAstateemploy
Conventional	-0.046	0.001	-0.059	0.000	-0.013	-0.013
	(0.029)	(0.028)	(0.035)	(0.023)	(0.026)	(0.028)
Bias-corrected	-0.014	-0.001	-0.023	0.045	0.015	0.044
	(0.029)	(0.028)	(0.035)	(0.023)	(0.026)	(0.028)
Robust	-0.014	-0.001	-0.023	0.045	0.015	0.044
	(0.065)	(0.061)	(0.081)	(0.040)	(0.038)	(0.055)
Observations	373	430	395	430	430	430

Notes: Standard errors in parentheses. This is based on Calonico et al. (2014).

C.3 Anecdotal Evidence: The 1992 Cohort

Using the watershed year of 1992 as a cutoff threshold in this paper has not been chosen for random. There are at least two practical reasons underlying this. First, the visit Deng made to the south induced many young officials in the bureaucratic promotion game to join the wave of founding their own business. This greatly altered the educational level and social composition of money-making entrepreneurs.

In an article from *Bloomberg*[2], the author clearly understood the key message of this paper:

> In the early 90s, a number of government officials inspired by Deng's "Southern Visit" left their government roles and ventured into businesses. This was a rather speculative move that required great courage. If they failed, the "iron rice bowl" they had abandoned would not welcome them back with open arms. At this time, these people were considered foolish by many for leaving these highly desired positions of stability and prosperity. The majority of this cohort were quite successful in their entrepreneurial pursuits and some of them eventually became industry leaders.

The phrase, *the 1992 cohort*, was coined by Mr. CHEN Dongsheng, a billionaire entrepreneur, who later married the granddaughter of Mao. Before plunging into business, Mr. Chen worked as deputy editor of Management World, a publication of the Development Research Center of China's State Council. This phrase captures a cohort of entrepreneurs leaving the state sector and becoming global billionaires by founding their businesses, inspired by Deng's Southern Talks. A book titled, *The 1992 Cohort* (see below the picture), was published to characterize this cohort of business entrepreneurs. The dedication of this book was given to the twentieth anniversary of Deng Xiaoping's Southern Talks.

[2] Bloomberg News (2016, April.5). *The Rise of Entrepreneurship in China*. Retrieved from https://www.forbes.com/sites/tseedward/2016/04/05/the-rise-of-entrepreneurship-in-china/.

Figure C.3.1: A Book on the 1992 Cohort of Entrepreneurs

Source: Book Page from Douban, retrieved from https://book.douban.com/subject/10785591/

Bibliography

E. Abrahamian. *A history of modern Iran*. Cambridge University Press, 2008.

D. Acemoglu and J. A. Robinson. Political losers as a barrier to economic development. *American Economic Review*, 90(2):126–130, 2000.

D. Acemoglu and J. A. Robinson. *Economic origins of dictatorship and democracy*. Cambridge University Press, 2005.

D. Acemoglu, S. Naidu, P. Restrepo, and J. A. Robinson. Democracy does cause growth. *Journal of Political Economy*, 127(1):47–100, 2019.

P. Aghion and P. Howitt. A model of growth through creative destruction. *Econometrica*, 60(2), 1992.

P. Aghion, P. Howitt, and D. Mayer-Foulkes. The effect of financial development on convergence: Theory and evidence. *The Quarterly Journal of Economics*, 120(1):173–222, 2005.

P. Aghion, U. Akcigit, A. Hyytinen, and O. Toivanen. The social origins of inventors. Technical report, National Bureau of Economic Research, 2017.

M. Aguiar and M. Amador. Growth in the shadow of expropriation. *The Quarterly Journal of Economics*, 126(2):651–697, 2011.

U. Akcigit, S. Baslandze, and F. Lotti. Connecting to power: political connections, innovation, and firm dynamics. Technical report, National Bureau of Economic Research, 2020.

F. Allen, J. Qian, and M. Qian. Law, finance, and economic growth in china. *Journal of financial economics*, 77(1):57–116, 2005.

A. H. Amsden. *Asia's next giant: South Korea and late industrialization*. Oxford University Press on Demand, 1992.

J. Angrist and J.-S. Pischke. *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press, 2008.

M. Arbetman-Rabinowitz, A. Fisunoglu, J. Kugler, M. Abdollahian, K. Johnson, K. Kang, and Z. Yang. Replication data for: Relative political capacity dataset, 2013.

M. Arellano and S. Bond. Some tests of specification for panel data: Monte carlo evidence and an application to employment equations. *The review of economic studies*, 58(2):277–297, 1991.

M. Arellano and O. Bover. Another look at the instrumental variable estimation of error-components models. *Journal of econometrics*, 68(1):29–51, 1995.

M. D. Bachman. *Chen Yun and the Chinese political system*. Number 29. Berkeley. Center for Chinese Studies, 1985.

S. Bagchi and J. Svejnar. Does wealth inequality matter for growth? the effect of billionaire wealth, income distribution, and poverty. *Journal of Comparative Economics*, 43(3):505–530, 2015.

C.-E. Bai, C.-T. Hsieh, and Z. M. Song. Crony capitalism with chinese characteristics. *University of Chicago, working paper*, 2014.

R. J. Barro. Democracy and growth. *Journal of economic growth*, 1(1):1–27, 1996.

R. J. Barro and X. Sala-i Martin. Convergence. *Journal of political Economy*, pages 223–251, 1992.

R. Baum. *Burying Mao: Chinese politics in the age of Deng Xiaoping*. Princeton University Press, 1996.

W. J. Baumol. Entrepreneurship: Productive, unproductive, and destructive. *Journal of Political Economy*, 98(5 Part 1):893–921, 1990.

A. Bell, R. Chetty, X. Jaravel, N. Petkova, and J. Van Reenen. Who becomes an inventor in america? the importance of exposure to innovation. *The Quarterly Journal of Economics*, 134(2):647–713, 2019.

M. Bertrand and S. Mullainathan. Enjoying the quiet life? corporate governance and managerial preferences. *Journal of political Economy*, 111(5): 1043–1075, 2003.

M. Bertrand, E. Duflo, and S. Mullainathan. How much should we trust differences-in-differences estimates? *The Quarterly journal of economics*, 119(1):249–275, 2004.

T. Besley and M. Ghatak. Property rights and economic development. In *Handbook of development economics*, volume 5, pages 4525–4595. Elsevier, 2010.

T. Besley and M. Kudamatsu. Making autocracy work. *Institutions and economic performance, edited by Helpman Elhanan*, pages 452–510, 2008.

T. Besley and T. Persson. *Pillars of Prosperity: The Political Economics of Development Clusters*. Princeton University Press, 2011.

R. Blundell and S. Bond. Initial conditions and moment restrictions in dynamic panel data models. *Journal of econometrics*, 87(1):115–143, 1998.

L. Brandt and T. G. Rawski. *China's great economic transformation*. Cambridge university press, 2008.

C. W. Calomiris, R. Fisman, and Y. Wang. Profiting from government stakes in a command economy: Evidence from chinese asset sales. *Journal of Financial Economics*, 96(3):399–412, 2010.

S. Calonico, M. D. Cattaneo, and R. Titiunik. Robust data-driven inference in the regression-discontinuity design. *The Stata Journal*, 14(4):909–946, 2014.

A. C. Cameron, J. B. Gelbach, and D. L. Miller. Robust inference with multiway clustering. *Journal of Business & Economic Statistics*, 29(2): 238–249, 2011.

D. Card, D. S. Lee, Z. Pei, and A. Weber. Inference on causal effects in a generalized regression kink design. *Econometrica*, 83(6):2453–2483, 2015.

M. D. Cattaneo, M. Jansson, and X. Ma. Manipulation testing based on density discontinuity. *The Stata Journal*, 18(1):234–261, 2018.

M. D. Cattaneo, M. Jansson, and X. Ma. Simple local polynomial density estimators. *Journal of the American Statistical Association*, (just-accepted): 1–11, 2019.

J. A. Cheibub, J. Gandhi, and J. R. Vreeland. Democracy and dictatorship revisited. *Public choice*, 143(1-2):67–101, 2010.

T. Chen and J. K.-s. Kung. Busting the 'princelings': The campaign against corruption in china's primary land market. *The Quarterly Journal of Economics*, 2018.

F. Cingano and P. Pinotti. Politicians at work: The private returns and social costs of political connections. *Journal of the European Economic Association*, 11(2):433–465, 2013.

R. Dallaire. *Shake hands with the devil: The failure of humanity in Rwanda*. Vintage Canada, 2009.

B. B. De Mesquita, A. Smith, J. D. Morrow, and R. M. Siverson. *The logic of political survival*. MIT press, 2005.

A. Deaton. *The analysis of household surveys: a microeconometric approach to development policy*. The World Bank, 1997.

M. Dell. The persistent effects of peru's mining mita. *Econometrica*, 78(6): 1863–1903, 2010.

M. Dell, N. Lane, and P. Querubin. The historical state, local collective action, and economic development in vietnam. *Econometrica*, 86(6):2083–2121, 2018.

X. Deng. Selected works of deng xiaoping, vol. 3. *Beijing: People's Publishing House*, 35, 1993.

B. J. Dickson et al. *Red capitalists in China: The party, private entrepreneurs, and prospects for political change*. Cambridge University Press, 2003.

X. L. Ding. Informal privatization through internationalization: The rise of nomenklatura capitalism in china's offshore businesses. *British Journal of Political Science*, 30(1):121–146, 2000.

S. Djankov, Y. Qian, G. Roland, and E. Zhuravskaya. Who are china's entrepreneurs? *American Economic Review*, 96(2):348–352, 2006.

G. Egorov and K. Sonin. Dictators and their viziers: Endogenizing the loyalty–competence trade-off. *Journal of the European Economic Association*, 9(5):903–930, 2011.

M. Evans and J. Phillips. *Algeria: Anger of the dispossessed*. Yale University Press, 2007.

M. Faccio. Politically connected firms. *The American economic review*, 96 (1):369–386, 2006.

X. Fan and P. Lu. The social composition of china's private entrepreneurs: Class and cohort differences (siyin qiyezhu de shehui goucheng: jieceng yu tongqi qunchayi). *Social Sciences in China (zhongguo shehui kexue)*, 40 (1):42–62, 2019 (2017).

R. Fisman. Estimating the value of political connections. *The American economic review*, 91(4):1095–1102, 2001.

B. Geddes. What do we know about democratization after twenty years? *Annual review of political science*, 2(1):115–144, 1999.

B. Geddes, J. Wright, and E. Frantz. Autocratic breakdown and regime transitions: A new data set. *Perspectives on Politics*, 12(02):313–331, 2014.

F. Giavazzi and G. Tabellini. Economic and political liberalizations. *Journal of monetary economics*, 52(7):1297–1330, 2005.

P. Gillis. Variable interest entities in china, 2012. URL http://www.chinaaccountingblog.com/vie-2012septaccountingmatte.pdf.

P. Giuliano, P. Mishra, and A. Spilimbergo. Democracy and reforms: evidence from a new dataset. *American Economic Journal: Macroeconomics*, 5(4):179–204, 2013.

Y. Gorodnichenko and G. Roland. Culture, institutions, and the wealth of nations. *Review of Economics and Statistics*, 99(3):402–416, 2017.

G. M. Grossman and E. Helpman. Protection for sale. Technical report, National Bureau of Economic Research, 1992.

A. Guichaoua. *From war to genocide: Criminal politics in Rwanda, 1990–1994*. University of Wisconsin Pres, 2015.

S. H. Haber, D. C. North, and B. R. Weingast. *Political institutions and financial development*. Stanford University Press, 2008.

R. E. Hall and C. I. Jones. Why do some countries produce so much more output per worker than others? Technical report, National Bureau of Economic Research, 1999.

G. He, S. Wang, and B. Zhang. Watering down environmental regulation in china. *The Quarterly Journal of Economics*, 135(4):2135–2185, 2020.

M. Henrekson and T. Sanandaji. Billionaire entrepreneurs: A systematic analysis. Technical report, IFN Working Paper, 2013.

B. Holmström and J. Tirole. Lapm: A liquidity-based asset pricing model. *the Journal of Finance*, 56(5):1837–1867, 2001.

C.-T. Hsieh and Z. M. Song. Grasp the large, let go of the small: the transformation of the state sector in china. Technical report, National Bureau of Economic Research, 2015.

C.-T. Hsieh, E. Hurst, C. I. Jones, and P. J. Klenow. The allocation of talent and us economic growth. *Econometrica*, 87(5):1439–1474, 2019.

Y. Huang. *Capitalism with Chinese characteristics: Entrepreneurship and the state*. Cambridge University Press, 2008.

R. Jia, M. Kudamatsu, and D. Seim. Political selection in china: The complementary roles of connections and performance. *Journal of the European Economic Association*, 13(4):631–668, 2015.

R. Jia, X. Lan, and G. P. i Miquel. Doing business in china: Parental background and government intervention as determinants of entrepreneurship. 2019.

J. Jiang. Making bureaucracy work: Patronage networks, performance incentives, and economic development in china. *American Journal of Political Science*, 62(4):982–999, 2018.

S. Johnson, J. McMillan, and C. Woodruff. Property rights and finance. *American Economic Review*, 92(5):1335–1356, 2002.

B. F. Jones and B. A. Olken. Do leaders matter? national leadership and growth since world war ii. *Quarterly Journal of Economics*, 2005.

B. F. Jones and B. A. Olken. Hit or miss? the effect of assassinations on institutions and war. *American Economic Journal: Macroeconomics*, 1(2): 55–87, 2009.

B. Jovanovic and B. Szentes. On the market for venture capital. *Journal of Political Economy*, 121(3):493–527, 2013.

A. I. Khwaja and A. Mian. Do lenders favor politically connected firms? rent provision in an emerging financial market. *The Quarterly Journal of Economics*, 120(4):1371–1411, 2005.

R. G. King and R. Levine. Finance and growth: Schumpeter might be right. *The quarterly journal of economics*, 108(3):717–737, 1993.

A. O. Krueger. The political economy of the rent-seeking society. *The American economic review*, 64(3):291–303, 1974.

N. R. Lardy. *Markets over Mao: The rise of private business in China*. Columbia University Press, 2014.

L. J. Lau, Y. Qian, and G. Roland. Reform without losers: An interpretation of china's dual-track approach to transition. *Journal of Political Economy*, 108(1):120–143, 2000.

D. S. Lee. Randomized experiments from non-random selection in us house elections. *Journal of Econometrics*, 142(2):675–697, 2008.

K. Lee and C. Lim. Technological regimes, catching-up and leapfrogging: findings from the korean industries. *Research policy*, 30(3):459–483, 2001.

C. Leuz and F. Oberholzer-Gee. Political relationships, global financing, and corporate transparency: Evidence from indonesia. *Journal of financial economics*, 81(2):411–439, 2006.

R. Levine. Financial development and economic growth: views and agenda. *Journal of economic literature*, 35(2):688–726, 1997.

R. Levine. Finance and growth: theory and evidence. *Handbook of economic growth*, 1:865–934, 2005.

S. Levitsky and L. A. Way. *Competitive authoritarianism: Hybrid regimes after the Cold War*. Cambridge University Press, 2010.

H. Li, Z. Yang, X. Yao, H. Zhang, and J. Zhang. Entrepreneurship, private economy and growth: Evidence from china. *China Economic Review*, 23 (4):948–961, 2012.

P. Lu, X. Fan, D. Han, and K. Xiao. China's super rich persons (csrp): A new dataset on emerging private wealth.

J. A. F. Machado and J. S. Silva. Quantiles for counts. *Journal of the American Statistical Association*, 100(472):1226–1237, 2005.

A. Mattozzi and A. Merlo. Political careers or career politicians? *Journal of Public Economics*, 92(3-4):597–608, 2008.

J. McCrary. Manipulation of the running variable in the regression discontinuity design: A density test. *Journal of econometrics*, 142(2):698–714, 2008.

J. McDougall. *History and the Culture of Nationalism in Algeria*. Cambridge University Press, 2006.

R. McGregor. *The Party: the secret world of China's communist rulers*. Penguin UK, 2010.

E. Meyersson. Political man on horseback: Military coups and development. Technical report, working paper, http://erikmeyersson. com/research, 2015.

G. P. Miquel. The control of politicians in divided societies: the politics of fear. *The Review of Economic Studies*, 74(4):1259–1274, 2007.

R. B. Myerson. The autocrat's credibility problem and foundations of the constitutional state. *American Political Science Review*, 102(1):125–139, 2008.

V. Nee. A theory of market transition: From redistribution to markets in state socialism. *American sociological review*, pages 663–681, 1989.

S. Nickell. Biases in dynamic models with fixed effects. *Econometrica: Journal of the Econometric Society*, pages 1417–1426, 1981.

M. Olson. *Power and prosperity: Outgrowing communist and capitalist dictatorships*. Number 338.9 Ol84p Ej. 1 025107. Basic Books,, 2000.

E. Papaioannou and G. Siourounis. Democratisation and growth. *The Economic Journal*, 118(532):1520–1551, 2008.

M. Pei. *China's trapped transition*. Harvard University Press, 2009.

M. Pei. *China's crony capitalism*. Harvard University Press, 2016.

T. Persson and G. Tabellini. Democratic capital: The nexus of political and economic change. *American Economic Journal: Macroeconomics*, 1(2): 88–126, 2009.

G. Prunier. *The Rwanda crisis: History of a genocide*. Columbia University Press, 1997.

A. Przeworski, F. Limongi, and S. Giner. Political regimes and economic growth. In *Democracy and Development*, pages 3–27. Springer, 1995.

R. G. Rajan and L. Zingales. Financial dependence and growth. *American Economic Review*, pages 559–586, 1998.

R. G. Rajan and L. Zingales. The great reversals: the politics of financial development in the twentieth century. *Journal of financial economics*, 69 (1):5–50, 2003.

D. Rodrik and R. Wacziarg. Do democratic transitions produce bad economic outcomes? *The American economic review*, 95(2):50–55, 2005.

A. Schedler. Elections without democracy: The menu of manipulation. *Journal of democracy*, 13(2):36–50, 2002.

D. Shambaugh. *China's future*. John Wiley & Sons, 2016.

S. L. Shirk. *The political logic of economic reform in China*, volume 24. Univ of California Press, 1993.

Z. Song, K. Storesletten, and F. Zilibotti. Growing like china. *The American Economic Review*, 101(1):196–233, 2011.

J. E. Stiglitz. *Whither socialism?* MIT press, 1996.

M. W. Svolik. *The politics of authoritarian rule*. Cambridge University Press, 2012.

K. S. Tsai. *Capitalism without democracy: The private sector in contemporary China*. Cornell University Press, 2007.

E. F. Vogel. *Deng Xiaoping and the transformation of China*, volume 10. Belknap Press of Harvard University Press Cambridge, MA, 2011.

R. Wade. *Governing the market: Economic theory and the role of government in East Asian industrialization*. Princeton University Press, 1990.

M. Woo-Cumings. *The developmental state*. Cornell University Press, 1999.

K. Xiao. Becoming global billionaires from mainland china: Theory and evidence. *Ph.D. Dissertation, the Department of Economics, London School of Economics and Political Science*, 2019a.

K. Xiao. Serving the people or the people's note: Political economy of talent allocation. *Unpublished Ph.D. Dissertation, Department of Economics, London School of Economics and Political Science*, 2019b.

C. Xu. The fundamental institutions of china's reforms and development. *Journal of economic literature*, 49(4):1076–1151, 2011.

G. Xu. The colonial origins of fiscal capacity: Evidence from patronage governors. *Journal of Comparative Economics*, 47(2):263–276, 2019.

Y. Yao and N. Zhong. Unions and workers' welfare in chinese firms. *Journal of Labor Economics*, 31(3):633–667, 2013.

L. Yueh. China's entrepreneurs. *World Development*, 37(4):778–786, 2009.

L. Zingales. The "cultural revolution" in finance. *Journal of financial economics*, 117(1):1–4, 2015.